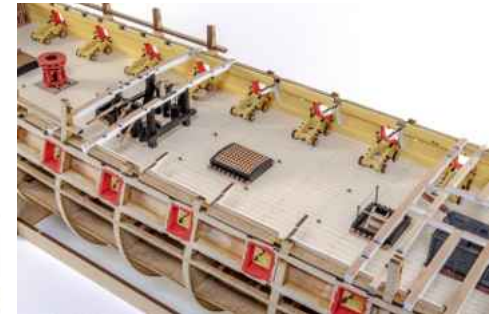


HMS Surprise
1796
Building Manual



PART NUMBER - VM-18



VANGUARD MODELS
BY CHRIS WATTON



5 060778 340208

THE 28-GUN FRIGATE
SURPRISE - 1796
HISTORY

HMS Surprise was the name the Royal Navy gave to the French Navy's corvette Unité after its capture in 1796. Unité was launched on 16 January 1794. Surprise gained fame in 1799 for the recapture of HMS Hermione. In 1802 Surprise was sold out of the service.

Pierre-Alexandre Forfait designed Unité, the name ship for a class of corvette. Although the French initially rated Unité as a corvette, the ships of her class bridged a gap between smaller warships and frigates, and at various times were rated as frigates.

Class & type - Unité-class corvette
Displacement - 657 tons
Length (Gundeck) 126 ft 0 in (38.4 m)
Beam 31 ft 8 in (9.7 m)
Complement - 172 (peace) & 220 (war)
Armament
As Unité:
24 × 8-pounder long guns
8 × 4-pounder long guns

As HMS Surprise:
Gun deck: 24 × 32-Pounder carronades
14 x 18-pounder carronades + 2x6-pounder chase guns

Fiction – (Main gun deck) - 24 x 9-pounder long guns
Fiction (Upper deck)– 14 x 18-pounder carronades + 2x6-pounder chase guns (40 guns in total)

French service

On 20 March 1794, lieutenant de vaisseau Jean le Drézénec, who was 41 years old and had entered the naval service soon after the revolution from a career in the merchant service, arrived to take command of Unité. He supervised the fitting out of the ship, and found the long guns were too large to be easily reloaded, and the lower sails were also too large. He notified the authorities, who urged him to finish fitting out the ship because a major naval operation was imminent. Soon afterwards, Unité took part in the battle of the Glorious First of June by escorting the dismasted Révolutionnaire as she was towed by the Audacieux.

In June 1794 Unité completed repairs in Saint-Malo and Brest to damage she had sustained in the battle. In the following months she escorted merchant vessels along the coasts of France. On 28 September, with the corvette Bergere and under the command of Lieutenant de Vaisseau Gouley, the two ships left Brest to sail northwest in between Ireland and the islands of the Hebrides and St Kilda to intercept enemy merchant ships. On 17 October, the ships captured a 200-ton merchant ship Dianne. The next day the weather turned foul and the two ships were separated. Unwilling or unable to continue the mission alone, Unité searched for Bergere fruitlessly for sixteen days before finally returning to Brest on 1 November.

Capture by the Royal Navy

After repairs, Unité was ordered to join the Mediterranean fleet at Toulon, and arrived there in March 1795. She spent the remainder of the year either blockaded in port or serving as a courier. In April 1796, she was ordered on one such courier mission to North Africa to deliver personnel and messages to the port of Bône. At the time, Le Drézénec, who had been recently promoted to capitaine de frégate, was suffering from smallpox and was incapacitated. Consequently, her first lieutenant, Lieutenant Le Breton, commanded Unité.

Captain Thomas Fremantle in command of the frigate HMS Inconstant had heard there was a French frigate in Bône, and sailed to intercept her. When Unité arrived in the afternoon of 20 April 1796, the watch aboard Unité wrongly identified Inconstant as a neutral vessel and Le Breton did not clear the ship for action. About an hour later, Inconstant sailed alongside, boarded and captured Unité intact. Recapture of HMS Hermione

Surprise gained fame for the cutting-out expedition on 25 October 1799, of HMS Hermione. Hermione's crew had mutinied, and had sailed her into the Spanish possession of Puerto Cabello. Captain Edward Hamilton of Surprise led a boarding party to retake Hermione and, after an exceptionally bloody action, sailed her out under Spanish gunfire. The Spanish casualties included 119 dead; 231 were taken prisoner, while another 15 jumped or fell overboard. Hamilton had 11 injured, four seriously, but none killed.

In January 1801 Captain Christopher Laroche assumed command of Surprise. Captain James Oswald replaced Laroche in August.

After the Treaty of Amiens, the Royal Navy sold Surprise out of the service at Deptford in February 1802 and she was broken up.

Surprise in fiction

HMS Surprise was the ship chosen by author Patrick O'Brian to restore Captain "Lucky" Jack Aubrey of the Aubrey–Maturin series to his place as a captain, and eventually see him raise his flag as an admiral of the Royal Navy. Surprise is an important element of the series, both because of her importance to the running plotline, and because of the emotional attachment she has earned among the characters in the book and real-life fans of the series.

In the late 1990s, publisher W. W. Norton & Company rented the replica of HMS Rose in New York for a pier-side party to celebrate the publication of Patrick O'Brian's latest novel. O'Brian himself was present, and he casually mentioned to the frigate's captain, Richard Bailey, that if the Rose were painted in an 1805 colour scheme, she would be a "dead ringer" for the frigate Surprise that appeared in his books. Bailey quickly ordered his crew to get out the paint and make the changes. O'Brian was so impressed that he changed his mind about his prohibition of having any of his books converted into film, and Norton immediately started looking for a Hollywood production company. For the 2003 film Master and Commander: The Far Side of the World, the role of Surprise was filled by the same replica of HMS Rose, which was purchased by the film studio and extensively modified at Baja Studios to resemble the original Surprise for the role.

The book HMS Surprise by O'Brian also mentions Aubrey being a midshipman aboard Surprise. The

series has the Surprise in service until O'Brian's extended fictional year of 1812, using the latitude of fiction in The Reverse of the Medal. In that era, the Royal Navy commissioned a 38-gun frigate by this name in September 1812.

The fictional Surprise is sold out of the service in The Reverse of the Medal, being purchased by Stephen Maturin and employed first as a letter of marque and later as His Majesty's hired ship Surprise under Aubrey's command. Maturin agrees to sell the Surprise to Aubrey in The Nutmeg of Consolation, though later novels suggest that never transpired and Maturin continued to own the ship. Surprise's ultimate fictional fate is unknown although she was still at sea in 1817 when Aubrey receives news of his promotion to Rear-Admiral of the Blue in her great cabin at the end of Blue at the Mizzen, the last completed novel in the series.

The Surprise public house in Chelsea, London, established in 1853, is named after the ship with the pub sign containing an image of the ship.

Our kit version of Surprise has been developed to depict first and foremost the Surprise in Patrick O'Brian novels and not the film version. The film version is much smaller than the real (and fictional) Surprise, as this was based on a 20-gun Seaford Class ship from the 1750's, with a gun deck length around 20 foot shorter than the real Surprise with less main deck gun port piercings and substantially fewer upper deck guns. (Although Surprise was classed as a 28-gun frigate, she actually carried up to 40 guns in total).

References

The Frigate Surprise: The Complete Story of the Ship Made Famous in the Novels of Patrick O'Brian
ISBN:1844860744, 9781844860746

H.M.S. Surprise by Patrick O'Brian
ISBN:9780393088465, 0393088464

Wikipedia



THE KIT

Although this kit has many parts, this does not mean it is more complicated than standard/legacy kits you may be used to. It simply means that more parts are pre-made/cut than most other kits of this class, meaning you do not have to manufacture the parts yourself from wood stock supplied in the kit. This model kit is designed to be as accurate as possible for a commercial kit in both scale and detail. Although HMS Surprise is as easy to build as we can make it, very basic woodworking skills (and patience) are still required. Estimated build time is around 350 hours, so a work space will have to be put aside for the job. Do not remove parts from the laser cut sheets until actually required for fitting, as they can be easily damaged or lost. We recommend all planks and laser cut parts that require bending, are 'pre-bent' before gluing.

PLEASE NOTE - This is very important.

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 advanced modeller in mind. We cannot advocate such a build for anyone who is only on a learning journey or never built a ship before. By advanced, we mean for modellers who have built numerous other ships/boats and mastered many of those skills required to succeed with a ship kit of this complexity. HMS Surprise has been designed to be as intuitive and absorbing as a model kit can be, at all stages of construction. An eye for detail is required at all stages, despite us planning the sequence to be as logical as it can be.

A reasonable sized work space will need to be put aside for the assembly. Do not remove parts from the laser cut sheets until required for fitting, as they can be easily damaged or lost. With a model of this complexity, that is most definitely the best strategy.

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 more 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/prime most of the photo-etched parts before removing them from their sheets. They can be touched up again once in place on the model.

We will occasionally suggest that parts need to be soaked in water to that they curves can safely be formed without the risk of breakage. Where this is the case, we ALWAYS suggest that the modeller should let the part thoroughly dry out before fitting to the model. Pear wood expands a lot when soaked, and a part can expand by several millimetres in those critical areas. Patience is a byword when assembling such a model, and your patience will be rewarded.

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. As much of the outside of this model is under the black/ochre paint scheme, we advise the use of sanding sealer coats in preparation for paint. With laser etched parts, if you need to sand the surface, do this very lightly so as not to erase the etching.

Disclaimer

In our continuing effort to improve our product we reserve the right to change plans, features, specifications, prices and materials without notice or obligation.

Wood is a natural material and whilst we try hard to attain an even colour/shade in each batch, this cannot always be guaranteed, even with the highest quality materials Vanguard Models uses. Where there is colour variation, for example, planks, try to utilise these appropriately (darker/lighter planks below the waterline etc.)

Recommended tool list

(All items listed were used to build the HMS Surprise 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 (We recommend a slim one that can be mounted into an X-Acto handle)
- 4: Small wood plane (for rough tapering of masts and yards before sanding smooth)
- 5: Pin vice or small electric drill.
- 6: Selection of drill bits from 0.5mm to 1mm
- 7: Selection of abrasive paper and sanding block (typically 120 – 400 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. We recommend having a good number of 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 our web store.
- 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
- 18: Palm sander (mouse) with 80 grade grit pads
- 19: Rotary tool. We used a Dremel to quickly shape and pre-bevel parts of the hull.

Paints, stains and adhesives

- 1: White PVA wood glue or Titebond.
- 2: Cyanoacrylate (superglue) gel.
- 3: Natural colour wood filler.
- 4: Matt polyurethane varnish (Not satin or gloss)
- 5: Light grey or white wood primer (brush applied)
- 6: Black and Ochre paints for the main scheme.
- 7: Spray Mount glue for gluing thin laminate areas (bulkhead screens etc.)

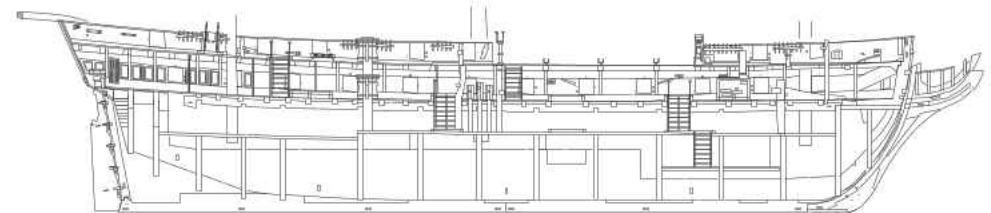
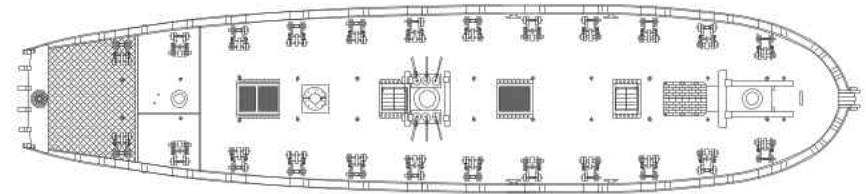
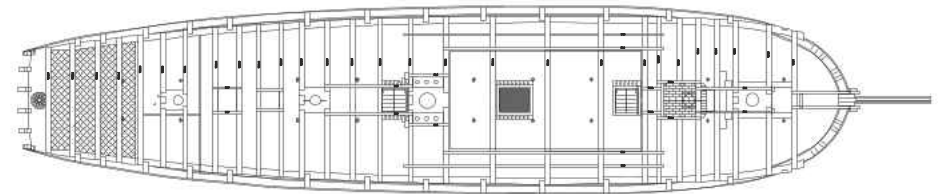
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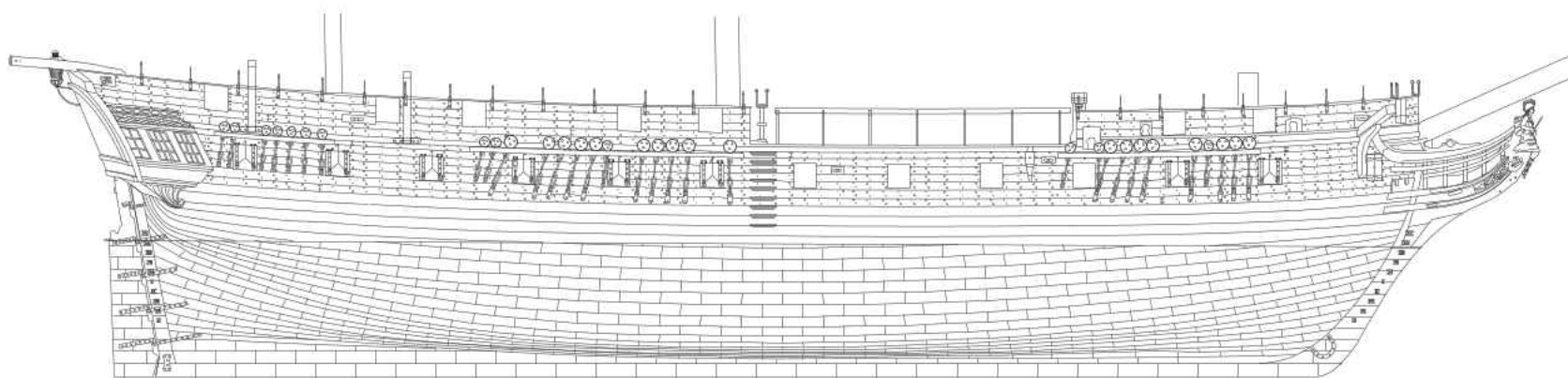
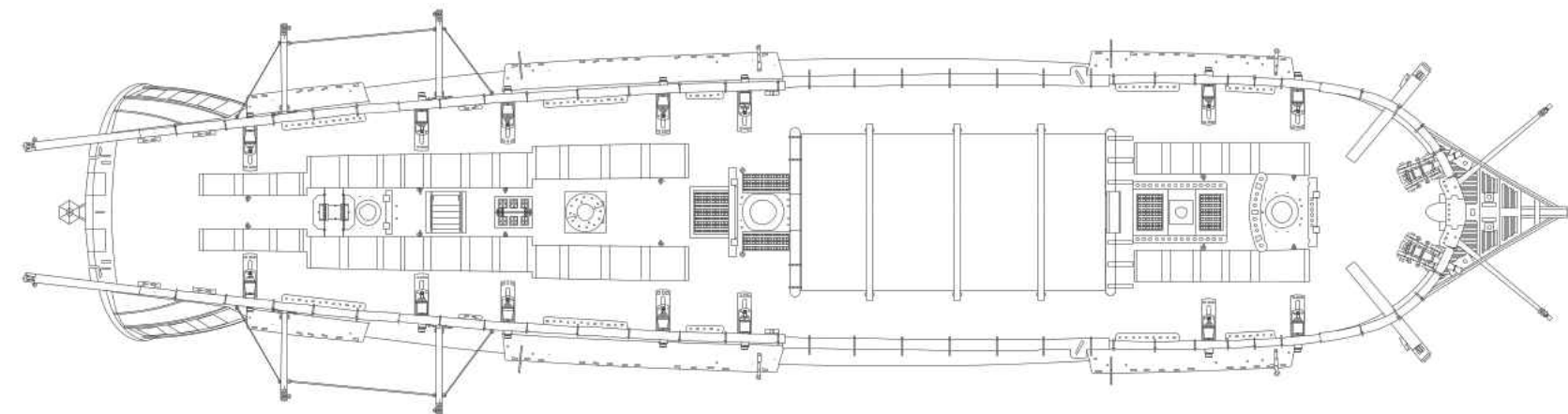
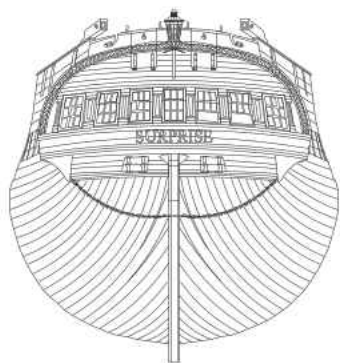
It is recommended that a face mask is used whilst sanding any timber and MDF, and also if spraying paint in a confined area. You get one set of lungs, so protect them! Safety glasses are also recommended if you are using a rotary sanding tool.



IMPORTANT:

HMS Surprise is a 'Master Level' kit, and even though we need to assume that a modeller's skills will match this, we must reiterate that you should READ THE TEXT that accompanies each photo and not just work by taking a quick glance at a photo. Very often, the text will indicate something critical to a stage that you will need to look more closely at the photo to see. Not following chronology in sequence may cause problems with subsequent building stages, and we cannot be held accountable for that. As standard, the kit comes with 4 x 3-D printed boat hulls, but we do have the equivalent boats in more traditional wood form on our website to purchase separately if desired.







HULL CONSTRUCTION

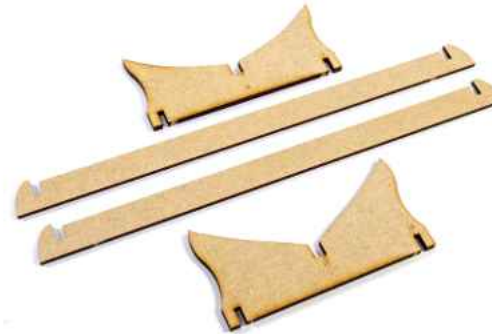
1. To remove parts from the many sheets in this kit, we recommend either a strong, sharp craft knife, or as shown, a Stanley knife.



2. When you remove any part from a sheet, you will have a small tag remaining on the part. Either sand these to remove them, or trim with a knife as shown.



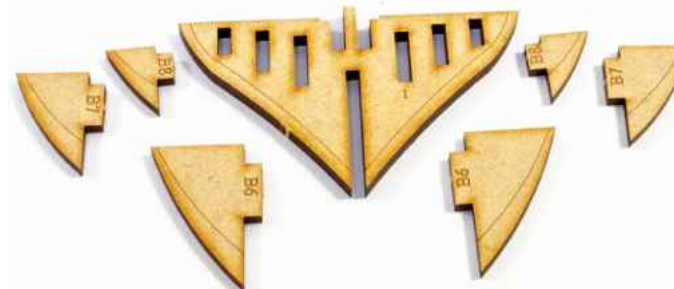
3. You will need some good quality glue and filler for your HMS Surprise. We recommend a quality wood glue such as Titebond, and also CA gel for other wood and metal parts. We definitely recommend a quality matt clear varnish too.



5. Glue the parts together as shown here. This completes the cradle.



4. With our kits, we always start with the cradle. HMS Surprise is no exception. From the 4mm MDF sheet, remove parts 16 & 17. From the 3mm MDF sheets, remove both parts 20.



6. From the 4mm MDF sheet, remove part 1. From the 3mm MDF sheet, remove parts B6, B7, and B8. Notice the parts have lines engraved on them. Those are bevel guides, and bevelling is the next task.

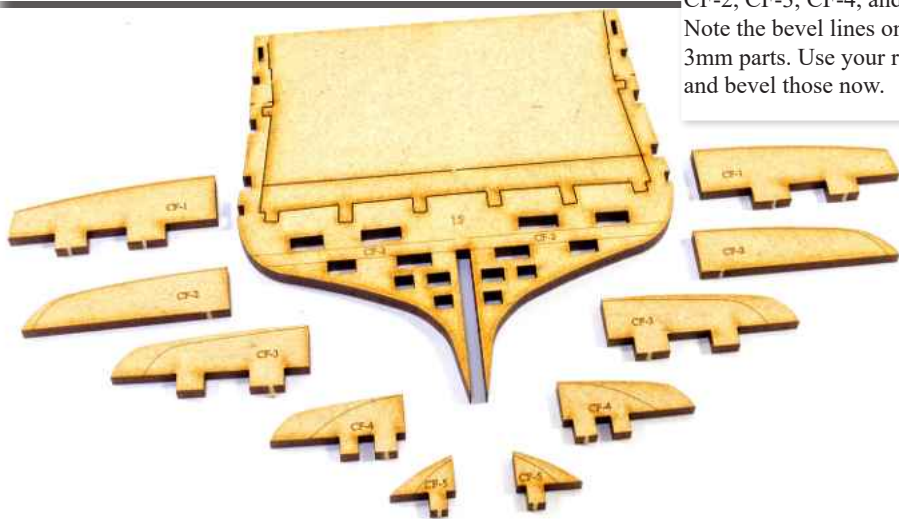
7. For bevelling, we recommend using a rotary tool, such as the Dremel shown here. However, you can use your own preferred method. Remember that if you use the guides, you won't remove too much material. More will be removed during construction.



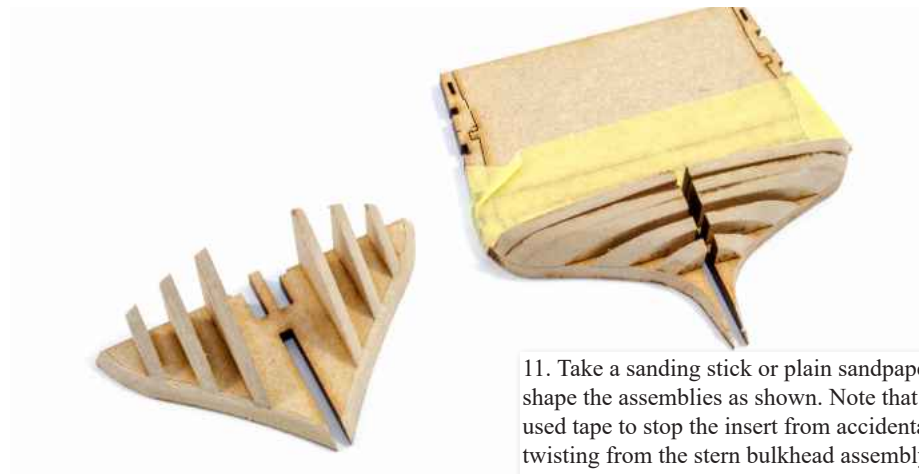
8. Glue together the parts to create this bow assembly. We'll sand this more accurately soon.



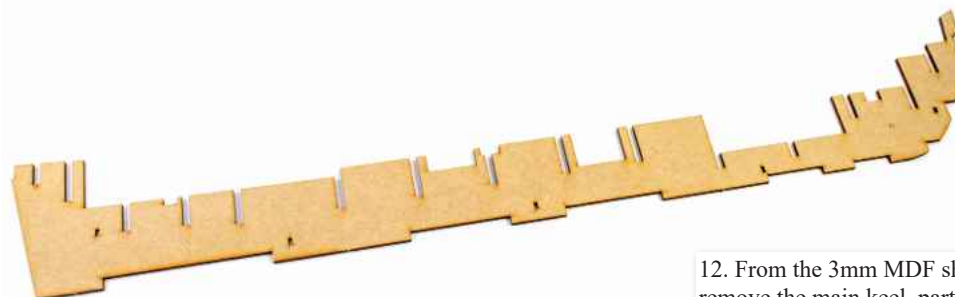
9. From the 4mm MDF sheet, remove part 15. From the 3mm MDF sheet, remove parts CF-1, CF-2, CF-3, CF-4, and CF-5. Note the bevel lines on the 3mm parts. Use your rotary tool and bevel those now.



10. Glue the parts as shown to create the stern bulkhead assembly.

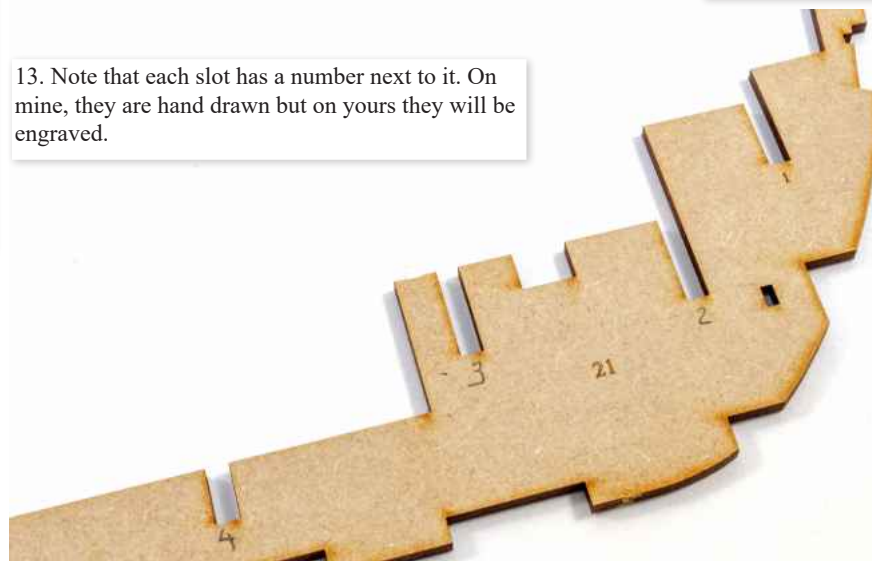


11. Take a sanding stick or plain sandpaper and shape the assemblies as shown. Note that we've used tape to stop the insert from accidentally twisting from the stern bulkhead assembly.

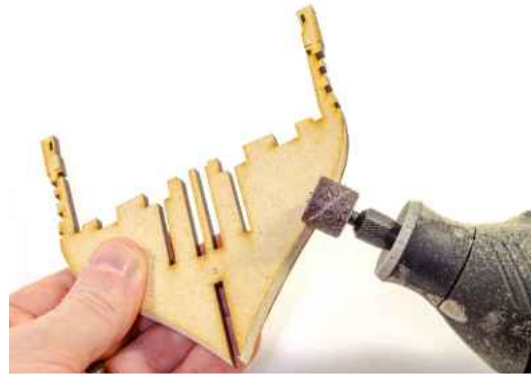
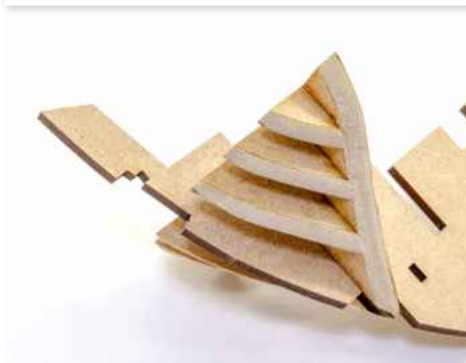


12. From the 3mm MDF sheet, remove the main keel, part 21.

13. Note that each slot has a number next to it. On mine, they are hand drawn but on yours they will be engraved.



14. Take the bow assembly and slot it into the main keel, into slot 1. DO NOT GLUE!



15. From the 4mm MDF sheet, remove part 2. Use your rotary tool to bevel to the engraved lines.

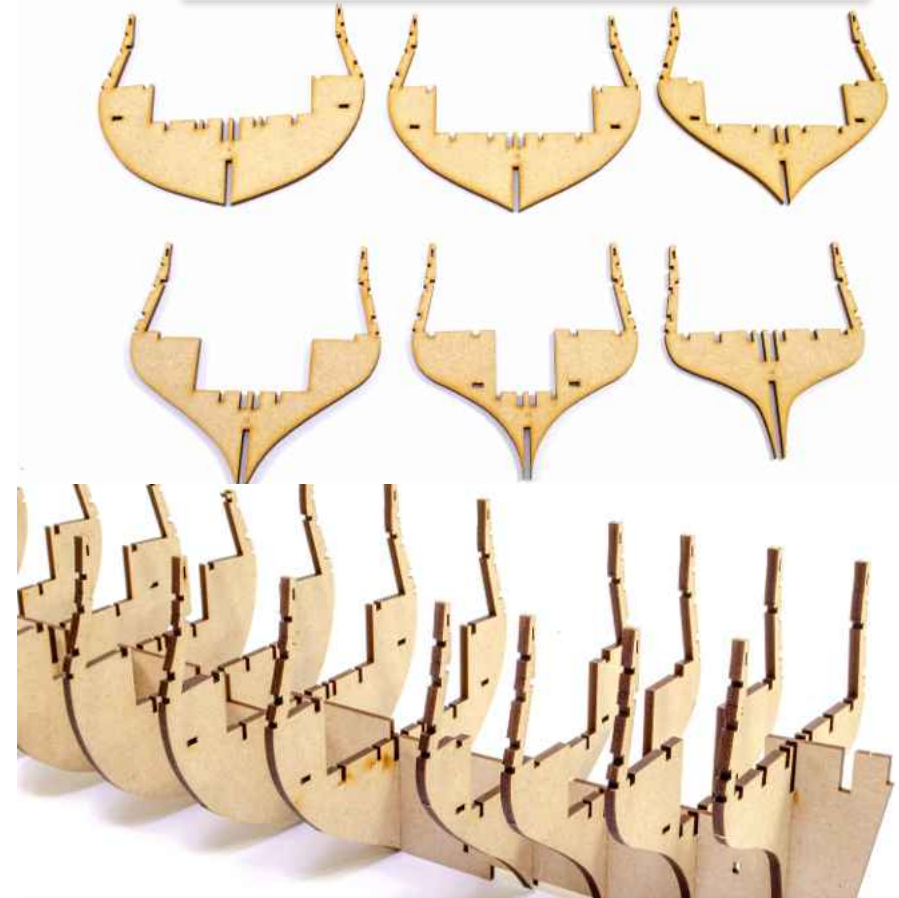


16. From the 4mm MDF sheet, remove parts 3, 4, 5, 6, 7, and 8. No bevelling is required on any of these.



17. Take each bulkhead in turn and fit fully into their corresponding slots on the main keel. DO NOT GLUE!

18. From the 4mm MDF sheet, remove parts 9, 10, 11, 12, 13, and 14.

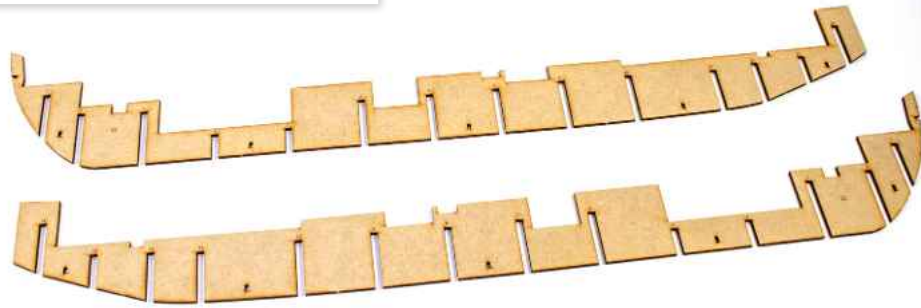


19. Take each bulkhead in turn and fit fully into their corresponding slots on the main keel. DO NOT GLUE!

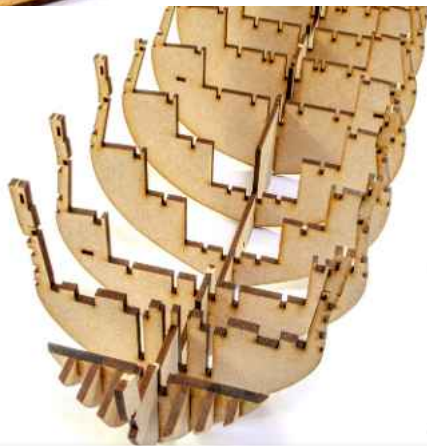
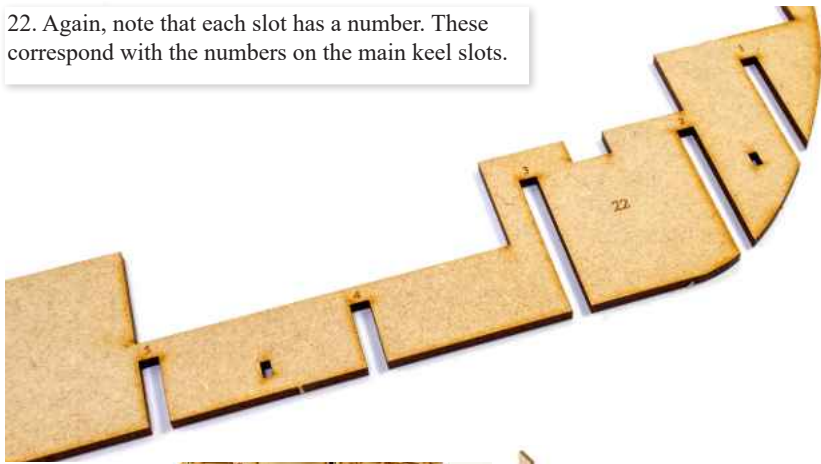


20. You can slot the stern assembly into the final slot on the main keel. DO NOT GLUE!

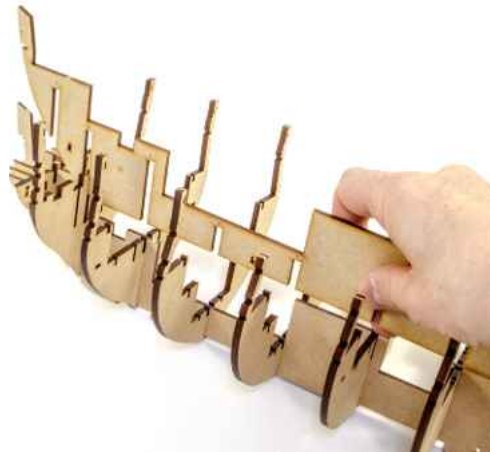
21. From the 3mm MDF sheet, remove both parts 22.



22. Again, note that each slot has a number. These correspond with the numbers on the main keel slots.



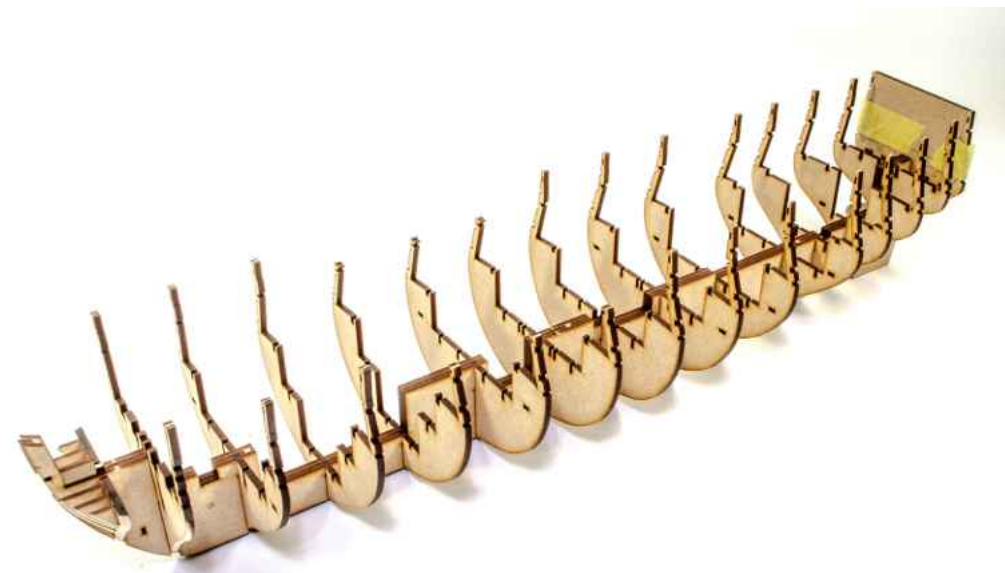
23. Slot these parts, either side of the main keel, and sitting up against it. Ensure the slot numbers correspond with those on the main keel/bulkheads. In the first picture, you can see the slots before fitting. **DO NOT GLUE!**



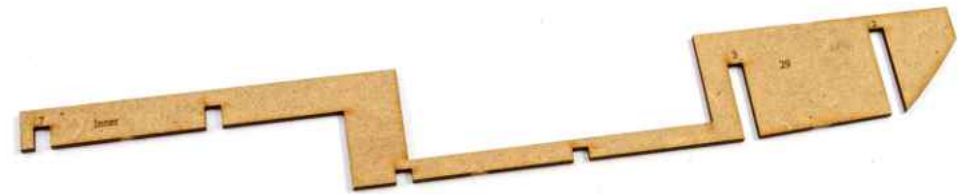
24. Here you can see both parts slotted either side of the main keel.



25. From the 2mm MDF sheet, remove parts K1. These are the pegs which will align the parts you have just fitted, pinning through the main keel. These can now be pushed through those holes. No need to glue at this stage as we ideally want to be able to joggle everything later in assembly.



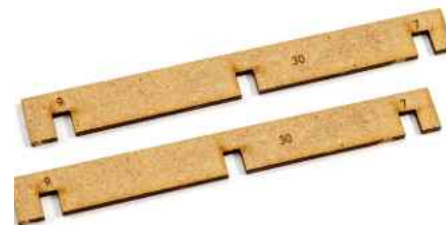
26. HMS Surprise should currently look like this.



27. From the 2mm MDF sheet, remove both parts 29. Note the slot numbers on these. These will correspond with the bulkhead numbers.



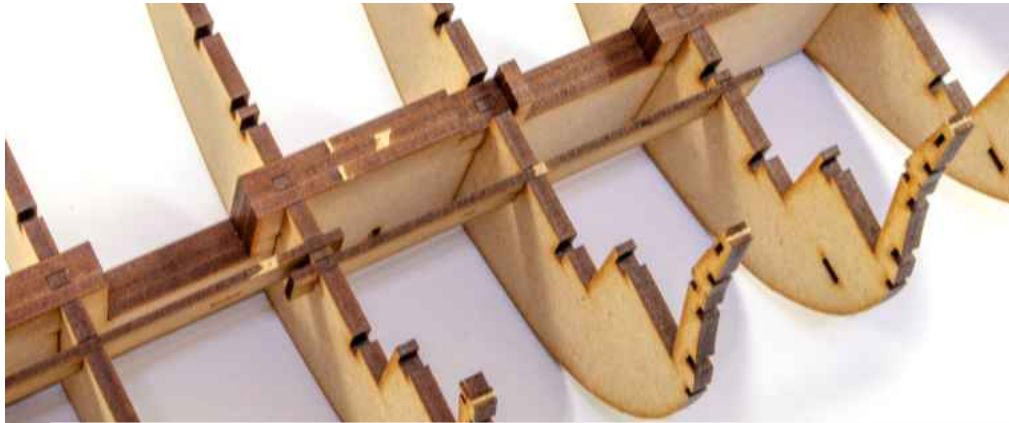
28. Slot these into place in the next set of slots adjacent to the large parts you recently fitted. You will see that the first bulkhead these will slot into is #2 and ending and bulkhead #7. Fit one part either side of the main keel. **DO NOT GLUE!**



29. From the 2mm MDF sheet, remove both parts 30. Note that these also have numbers adjacent to the slots, corresponding with the bulkhead numbers. Here, these are 7, 8, and 9.



30. Fit these into the next outboard slots which of course are in bulkheads 7, 8, and 9. **DO NOT GLUE!**



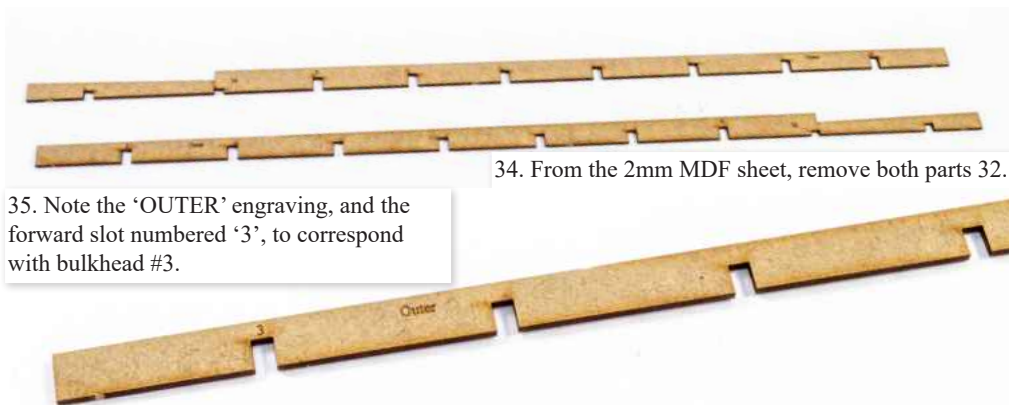
31. From the 2mm MDF sheet, remove both parts 31. Note that one slot is labelled with '9', corresponding to bulkhead #9.



32. Slot this as shown here, running from bulkhead 9, moving towards the stern and slotting into each bulkhead in turn. DO NOT GLUE!



33. HMS Surprise will now look exactly like this.

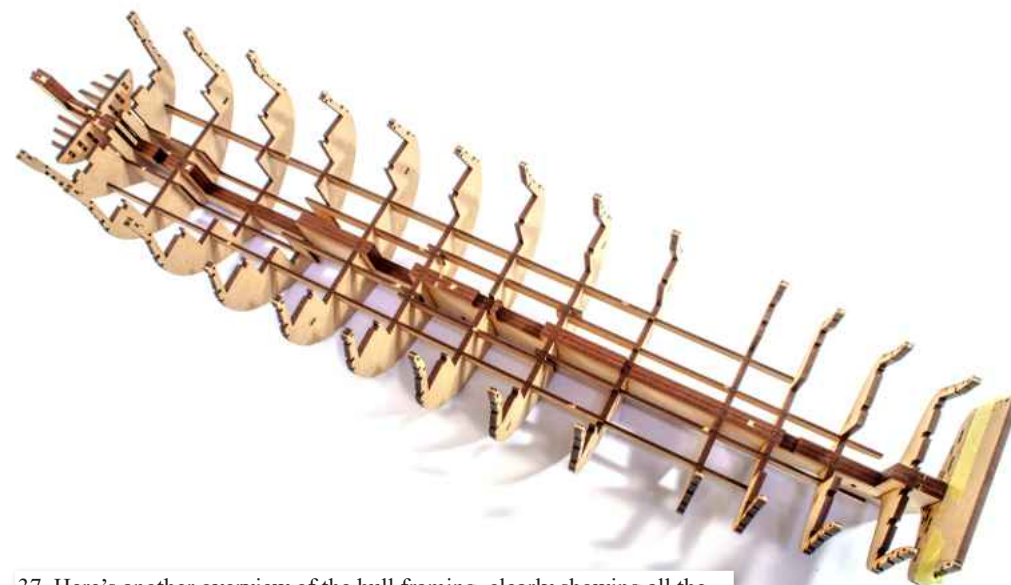


34. From the 2mm MDF sheet, remove both parts 32.

35. Note the 'OUTER' engraving, and the forward slot numbered '3', to correspond with bulkhead #3.



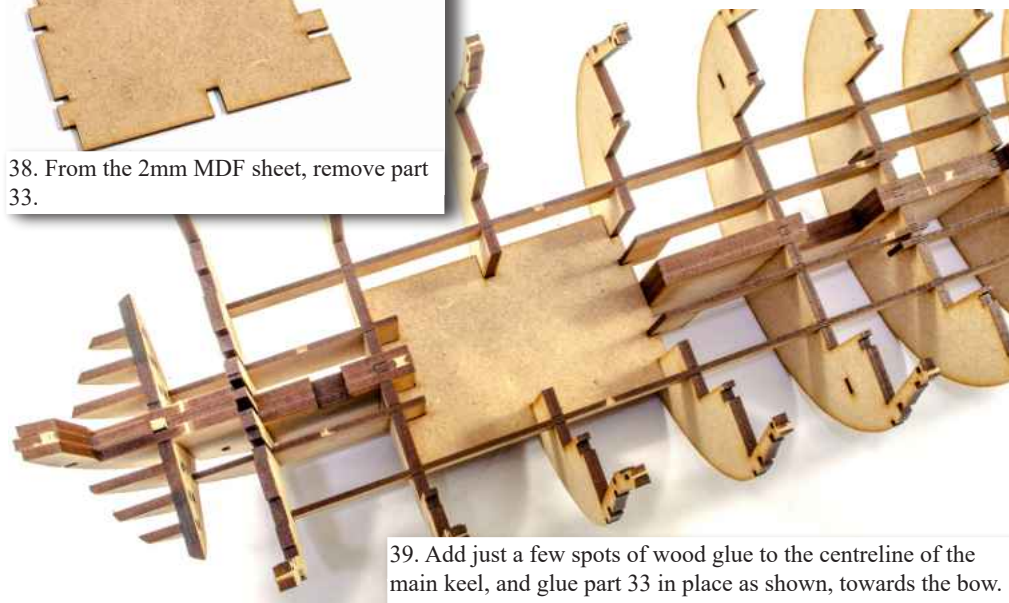
36. Slot these into the next set of bulkhead slots, starting with bulkhead #3 and working towards the stern, slotting into each bulkhead along the way. DO NOT GLUE!



37. Here's another overview of the hull framing, clearly showing all the parts you have recently fitted.



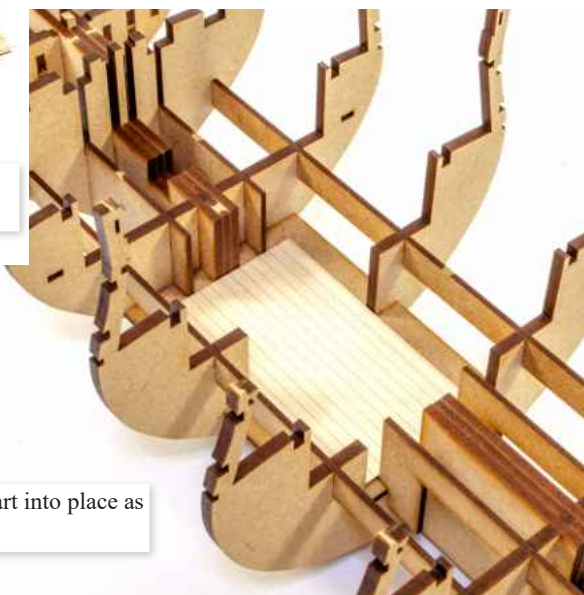
38. From the 2mm MDF sheet, remove part 33.



39. Add just a few spots of wood glue to the centreline of the main keel, and glue part 33 in place as shown, towards the bow.



40. From Limewood sheet 1, remove part SLD-1.

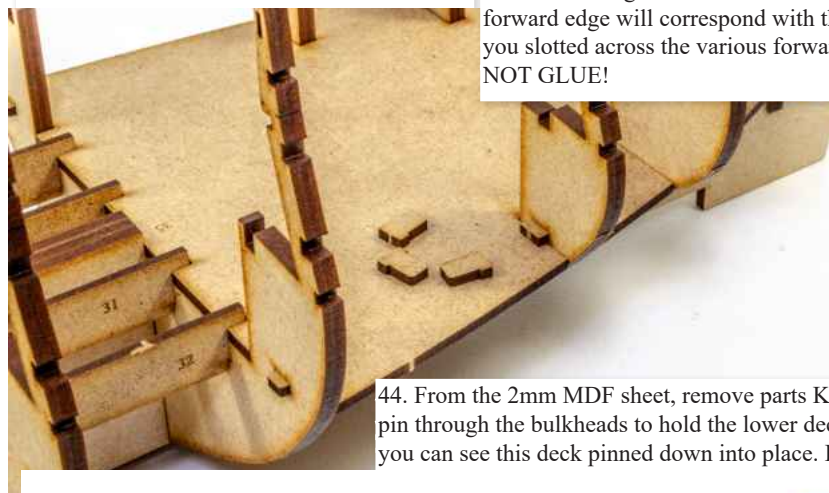


41. Glue this part into place as shown here.



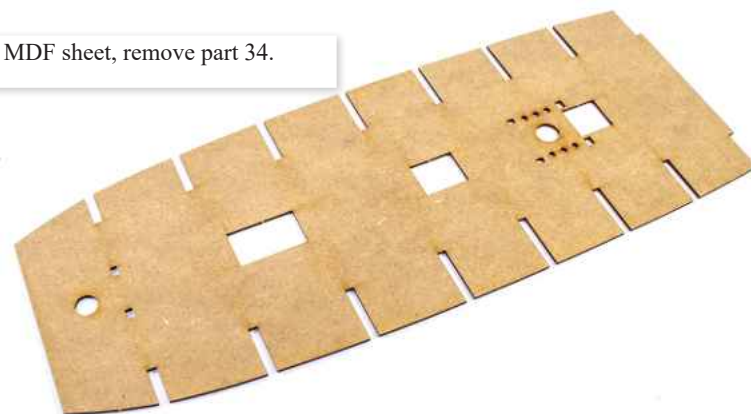
42. From the 2mm MDF sheet, remove part 35. Note that the rearmost slot is numbered #13. This corresponds with bulkhead #13.

43. Slot this part into position as shown with the rearmost slot sitting across bulkhead #13 as mentioned. The forward edge will correspond with the various pieces you slotted across the various forward bulkheads. DO NOT GLUE!



44. From the 2mm MDF sheet, remove parts K2. These are used to pin through the bulkheads to hold the lower decks in place. Here you can see this deck pinned down into place. DO NOT GLUE!

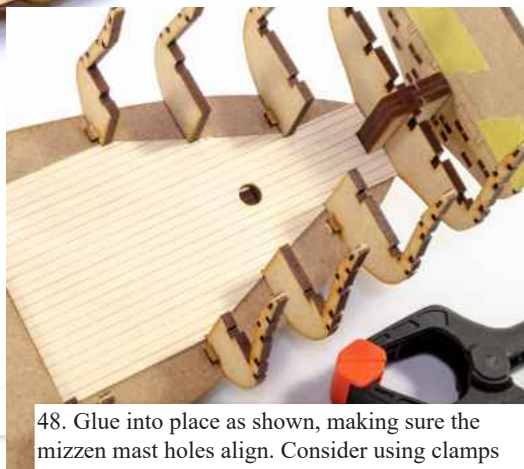
45. From the 2mm MDF sheet, remove part 34.



46. Slot this into position as shown. The forward deck slot is numbered '3' and will sit over bulkhead #3. Use pins K2 to hold this deck into place as you did with the previous deck part. DO NOT GLUE!



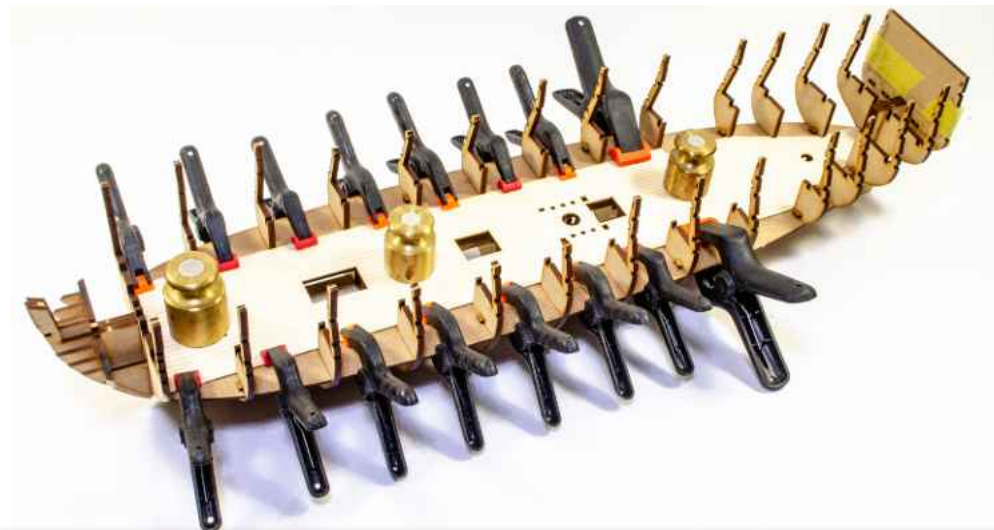
47. From Limewood sheet 1, remove part SLD-3.



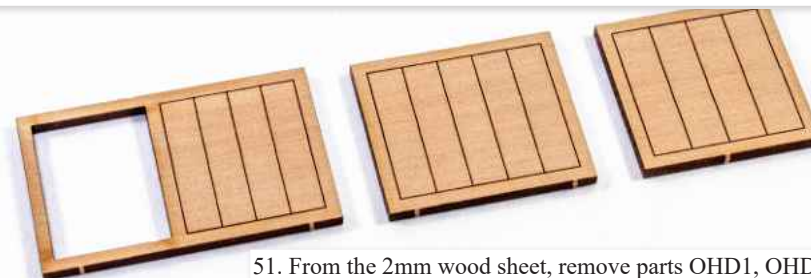
48. Glue into place as shown, making sure the mizzen mast holes align. Consider using clamps around the edges to prevent the lime deck curling.



49. From Limewood sheet 1, remove part SLD-2.

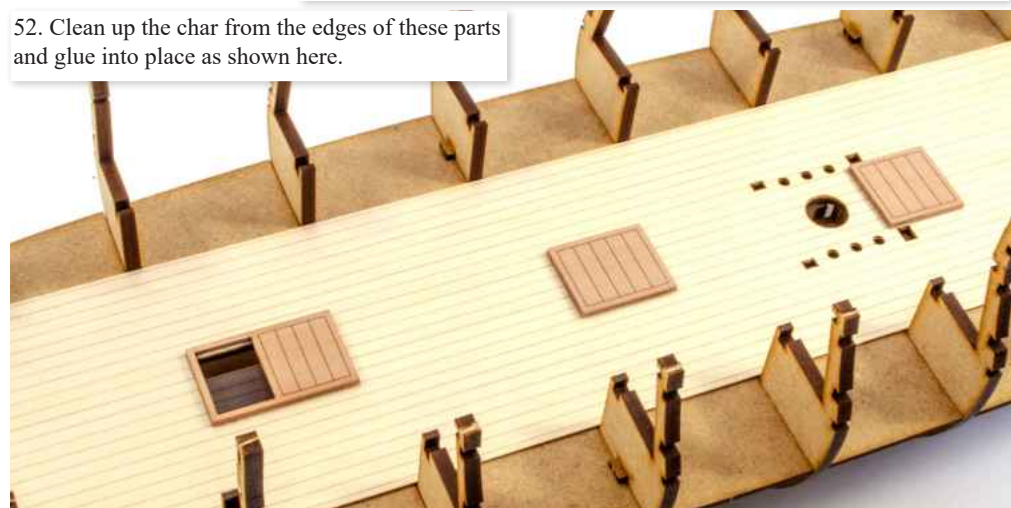


50. Glue into place as shown, again using clamps around the edges. Applying weights to the middle areas is also recommended.



51. From the 2mm wood sheet, remove parts OHD1, OHD2, and OHD3.

52. Clean up the char from the edges of these parts and glue into place as shown here.





53. From the 0.6mm wood sheet, remove parts 257, 257a, 257b, and 257c.



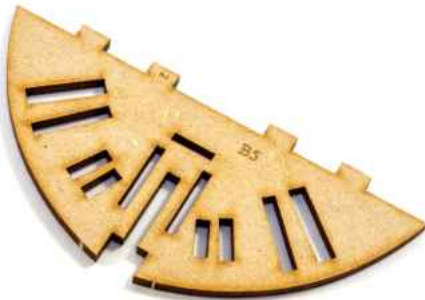
54. Assemble the individual stairs onto parts 257, as shown here. Leave to dry.



55. When dry, glue parts 257a and 257b to the outside of the ladders.



56. Glue the ladders into place as shown, taking note of orientation.

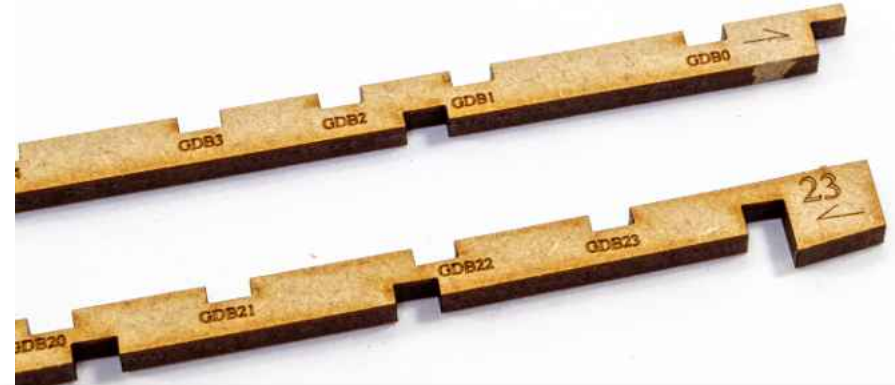


57. From the 3mm MDF sheet, remove part B5.

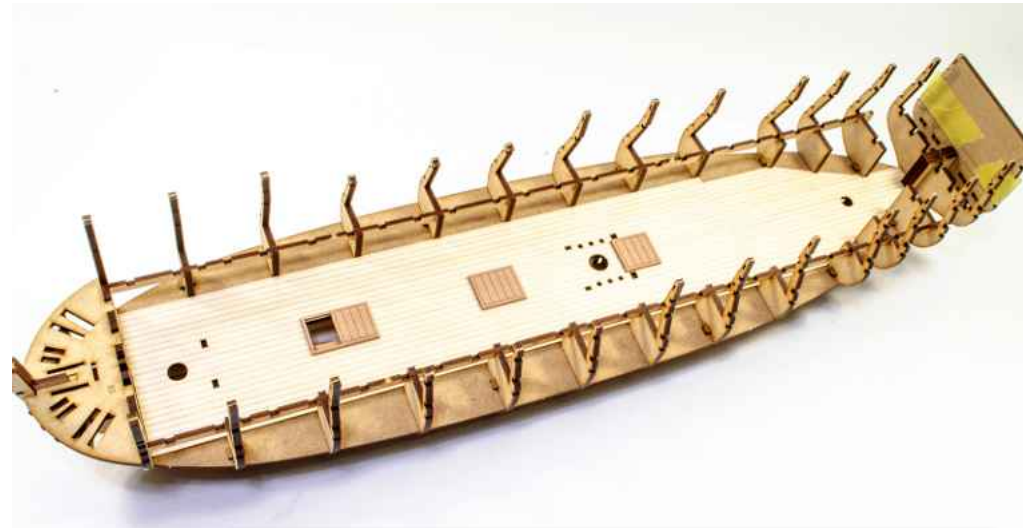


58. Glue into place as shown.

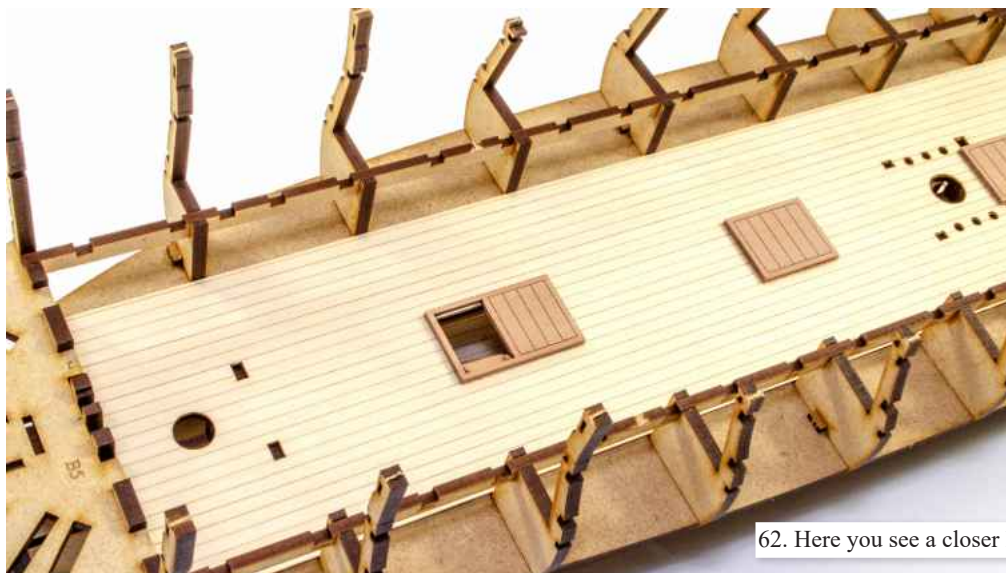
59. From the 2mm MDF sheet, remove both parts GLD1.



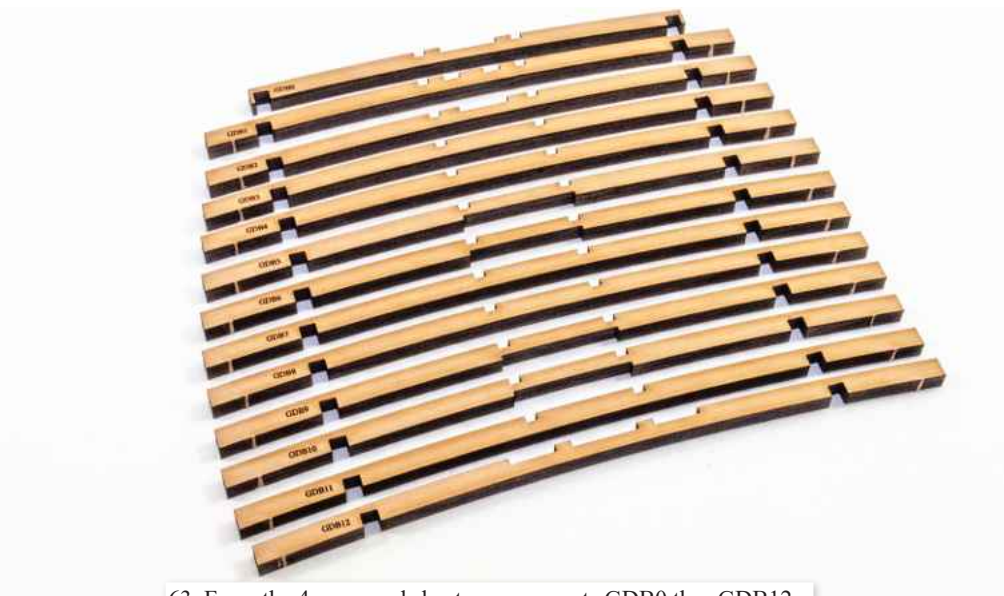
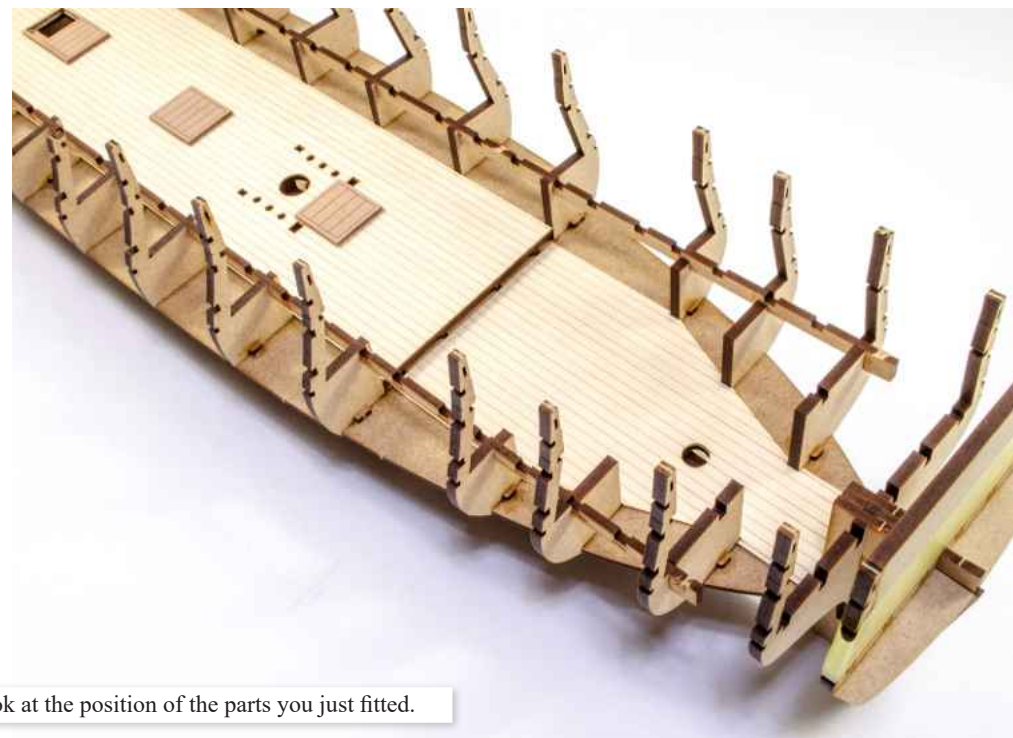
60. Note that each part is engraved with an arrow that points towards the bow (front) of the ship.



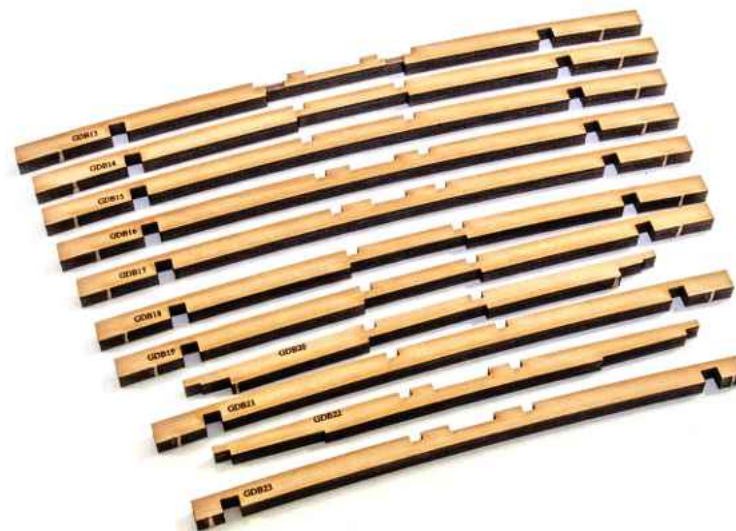
61. Fit both strips in place along the top of the bulkheads. DO NOT GLUE!



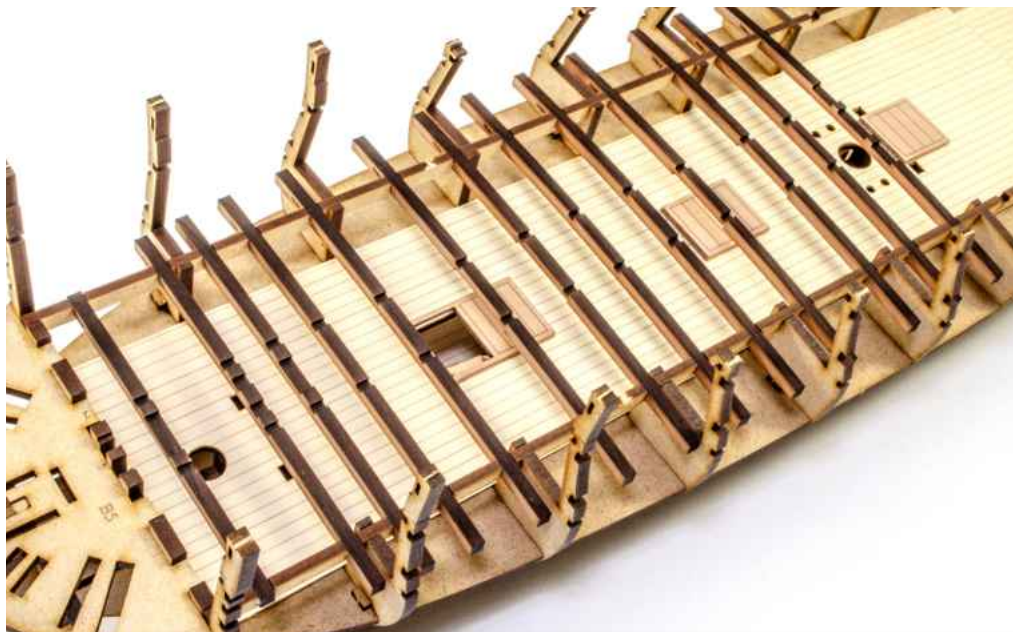
62. Here you see a closer look at the position of the parts you just fitted.



63. From the 4mm wood sheet, remove parts GDB0 thru GDB12.

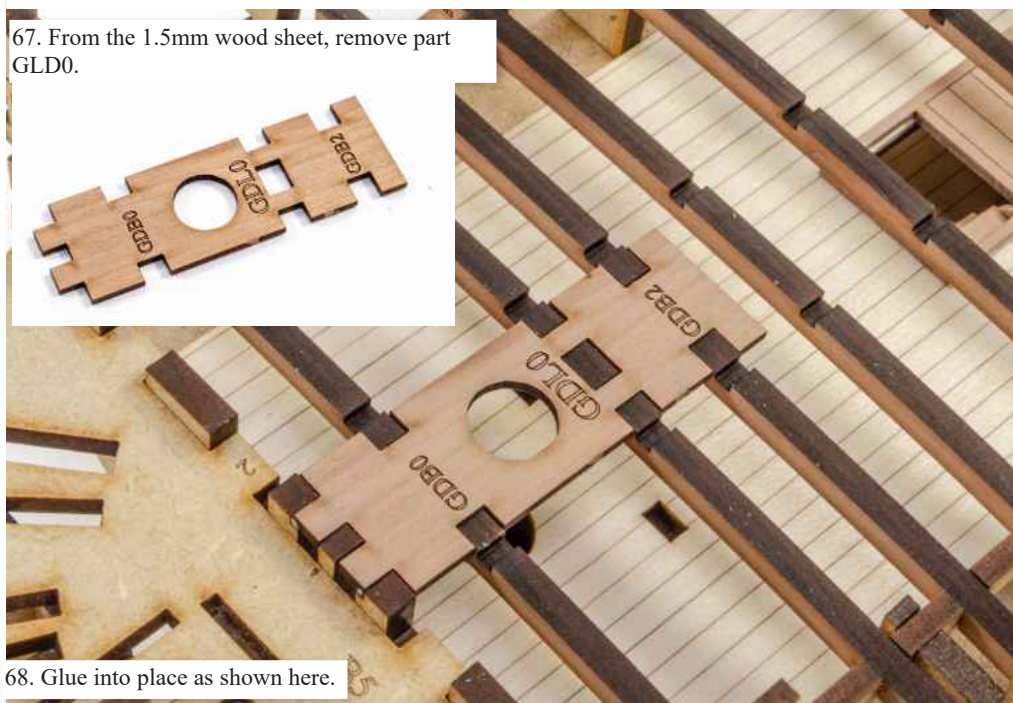


64. From the 4mm wood sheet, remove parts GDB13 thru GDB23.



65. Glue these into position between the two strips you just fitted, ensuring the parts match the notches on those strips.

67. From the 1.5mm wood sheet, remove part GLD0.

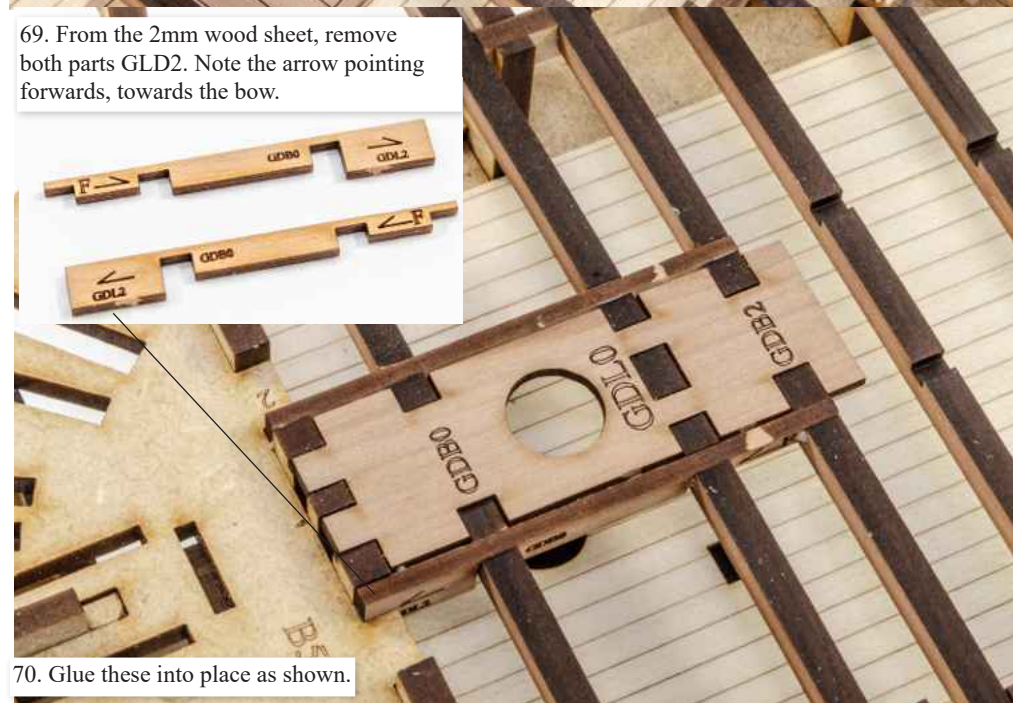


68. Glue into place as shown here.

66. Please note the orientation of GDB12. Enlarge the forward notches to about half the depth of the part.



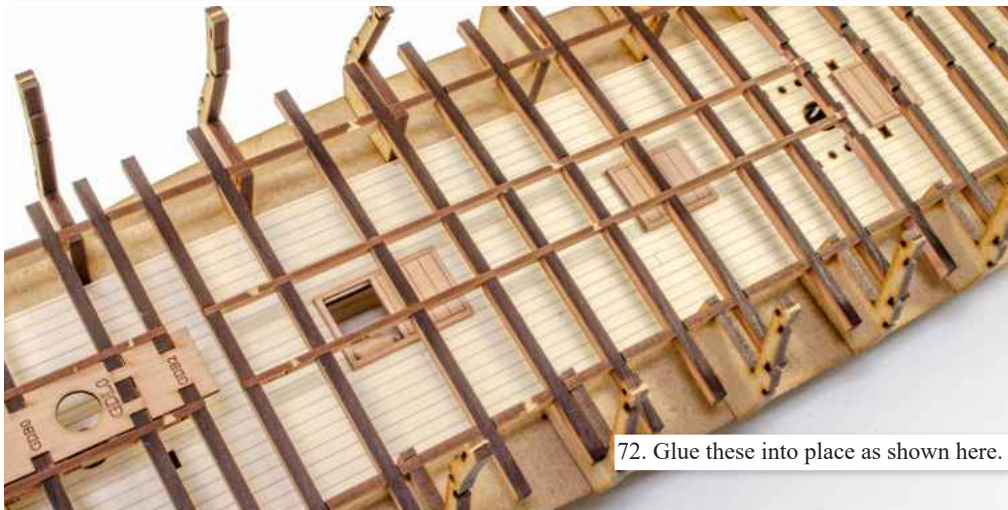
69. From the 2mm wood sheet, remove both parts GLD2. Note the arrow pointing forwards, towards the bow.



70. Glue these into place as shown.



71. From the 2mm wood sheet, remove both parts GDL2a. Again, note the arrows pointing forward.



72. Glue these into place as shown here.

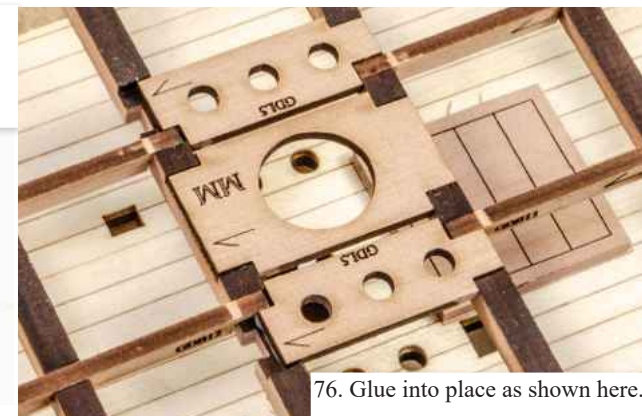


73. From the 2mm wood sheet, remove both parts GDL3.



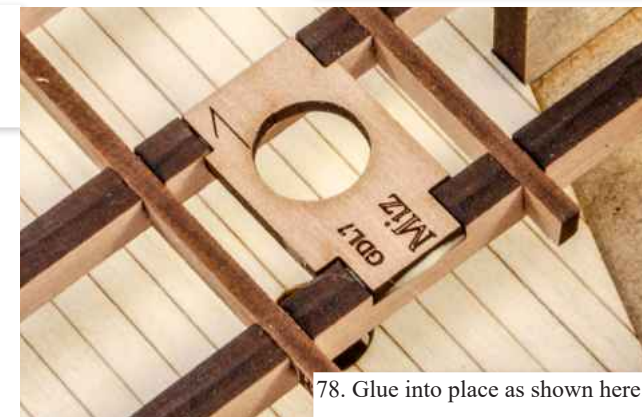
74. Glue these into place as shown here.

75. From the 1.5mm wood sheet, remove part GDL4 and both parts GDL5. Note the arrows pointing forward.



76. Glue into place as shown here.

77. From the 1.5mm wood sheet, remove part GDL7. Note the arrow again.

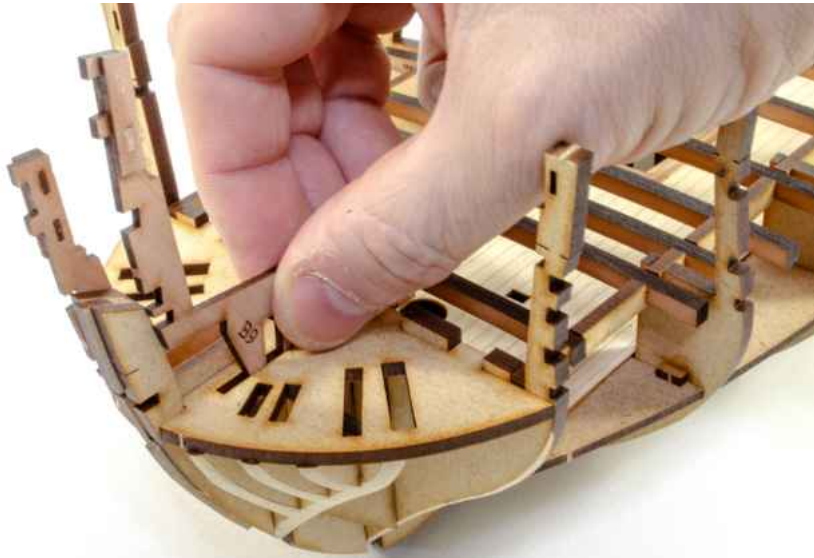


78. Glue into place as shown here.

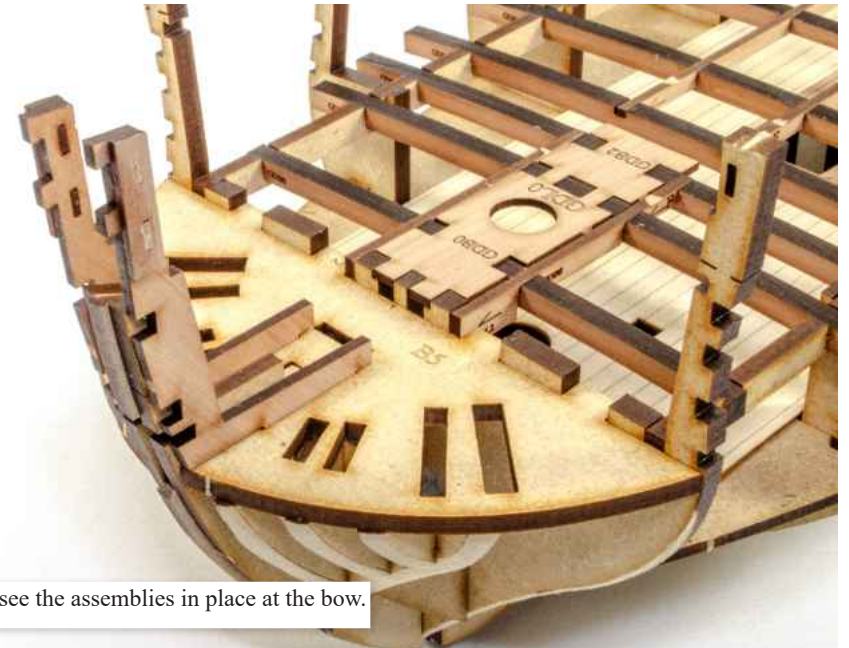


79. From the 2mm wood sheet, remove both parts B9, one part B10 (one is a spare). From the 1.5mm wood sheet, remove both parts 119. From the 1mm wood sheet, remove four parts K3.

80. Assemble as shown, and trim down parts K3 so they're flush with the surfaces.



81. Glue the assemblies into position as shown, making sure that the parts B9 are on the outside face.



82. Here you can see the assemblies in place at the bow.



83. Glue B10 into place as shown. Don't remove the oval infill at this point.



84. From the 4mm MDF sheet, remove parts B1. From the 3mm MDF sheet, remove parts B2, B3, and B4.

85. Glue both parts B4 in place.



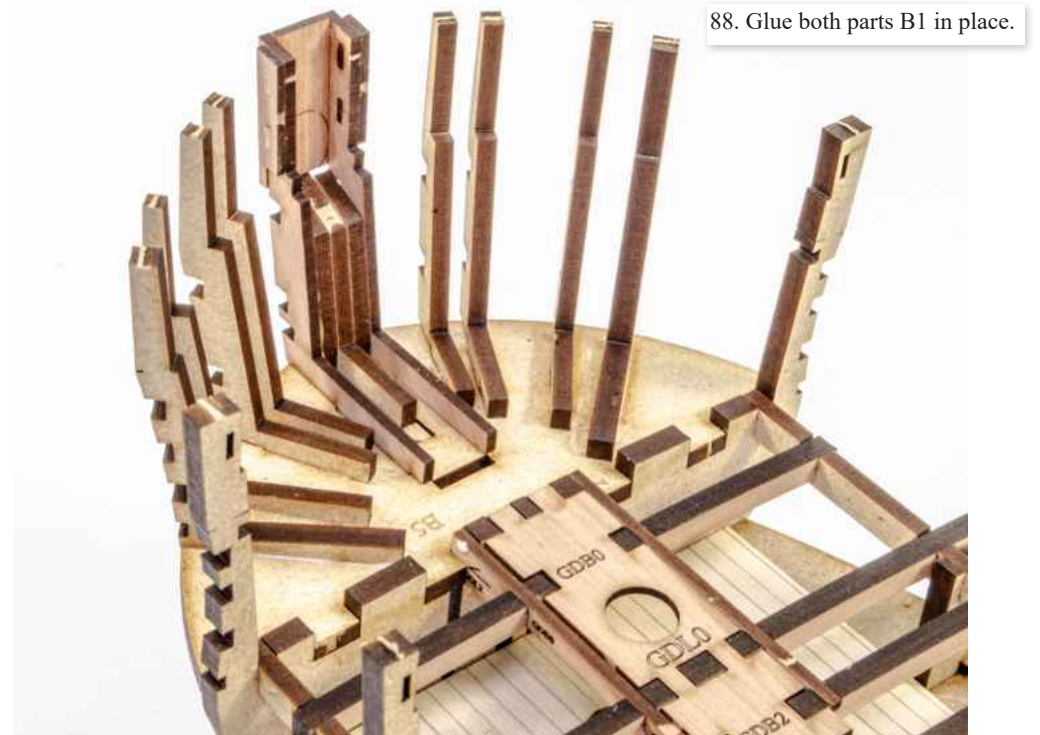
86. Glue both parts B3 in place.



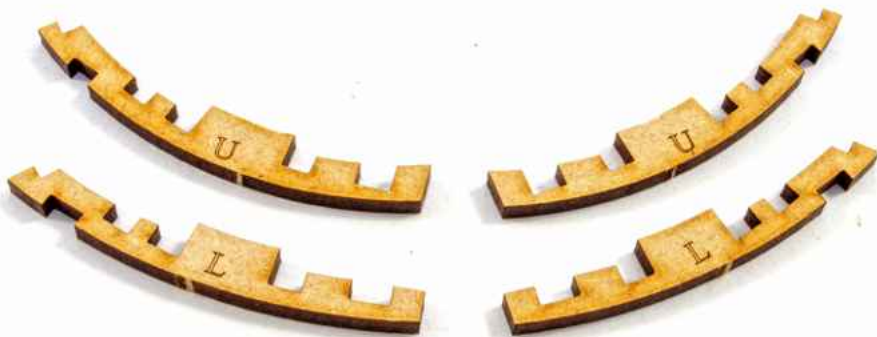
87. Glue both parts B2 in place.



88. Glue both parts B1 in place.

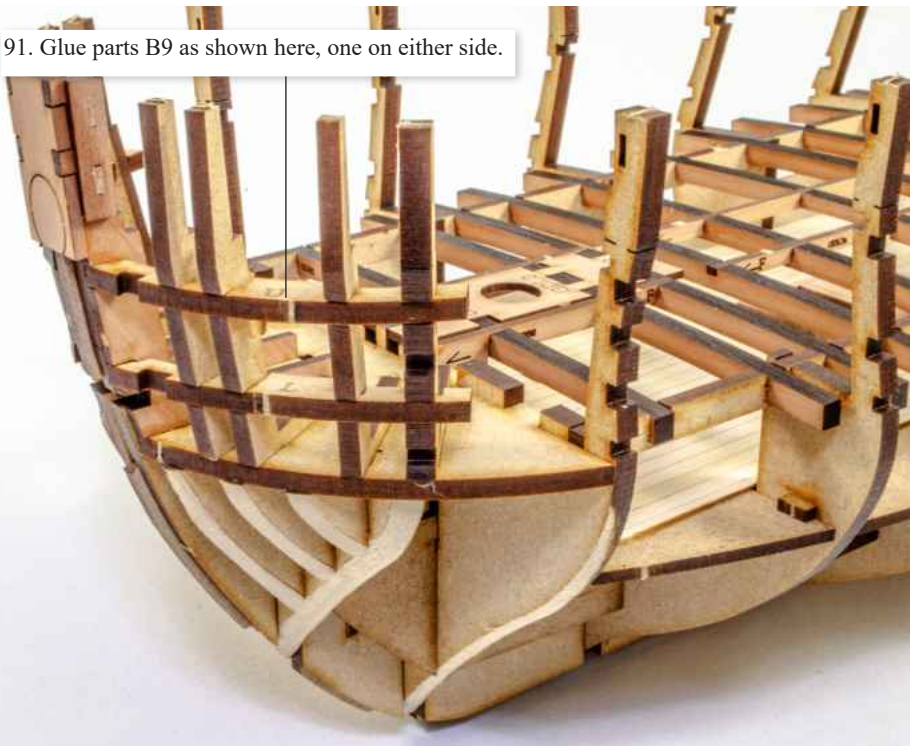


89. From the 3mm MDF sheet, remove parts B9 (UPPER BOW), and B10 (LOWER BOW).



90. Glue parts B10 as shown here, one on either side.

91. Glue parts B9 as shown here, one on either side.



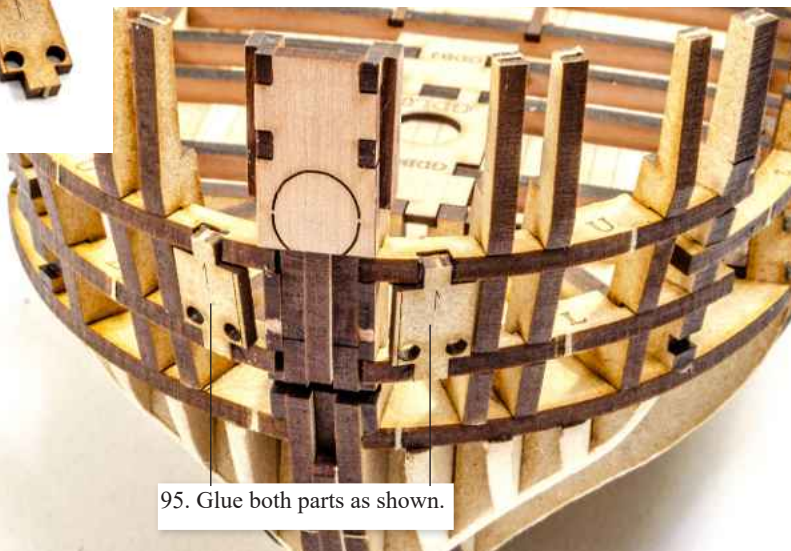
92. From the 3mm MDF sheet, remove both parts B11. Note that one slot is numbered '2'.



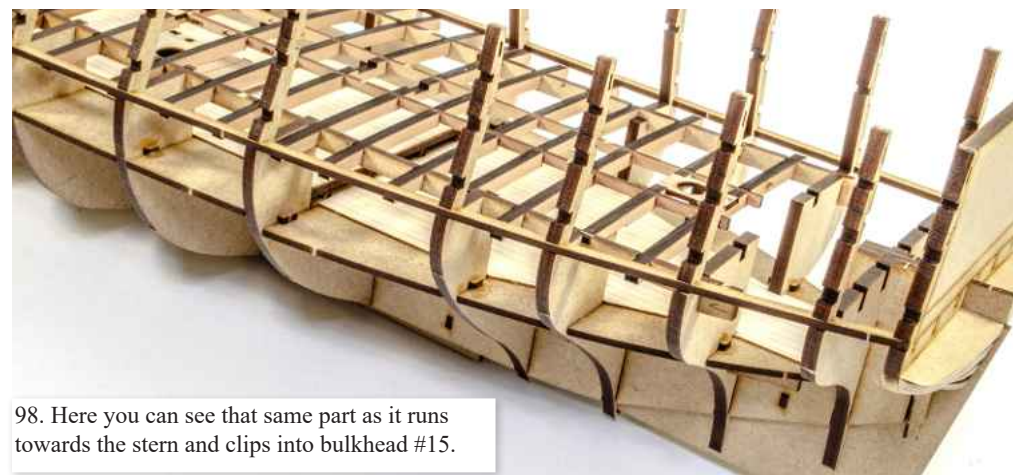
93. Glue the parts as shown, with slot '2' clipping into bulkhead #2.



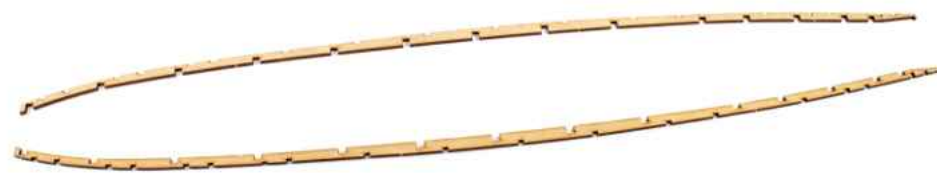
94. From the 2mm MDF sheet, remove both parts B12.



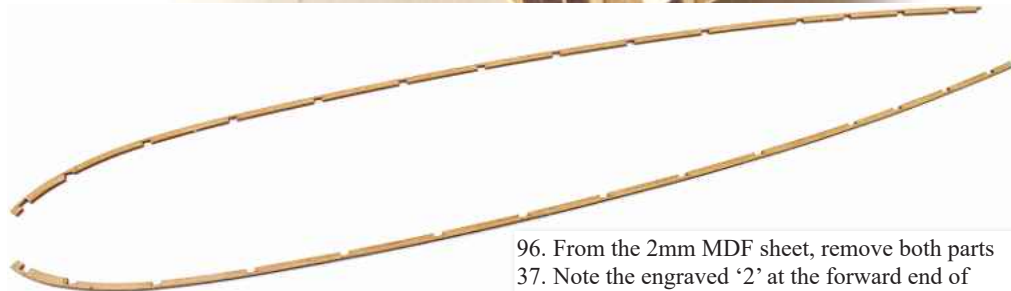
95. Glue both parts as shown.



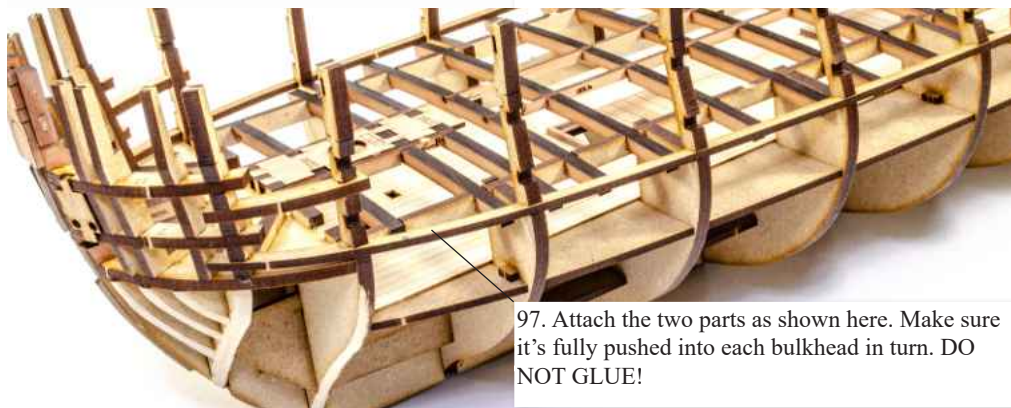
98. Here you can see that same part as it runs towards the stern and clips into bulkhead #15.



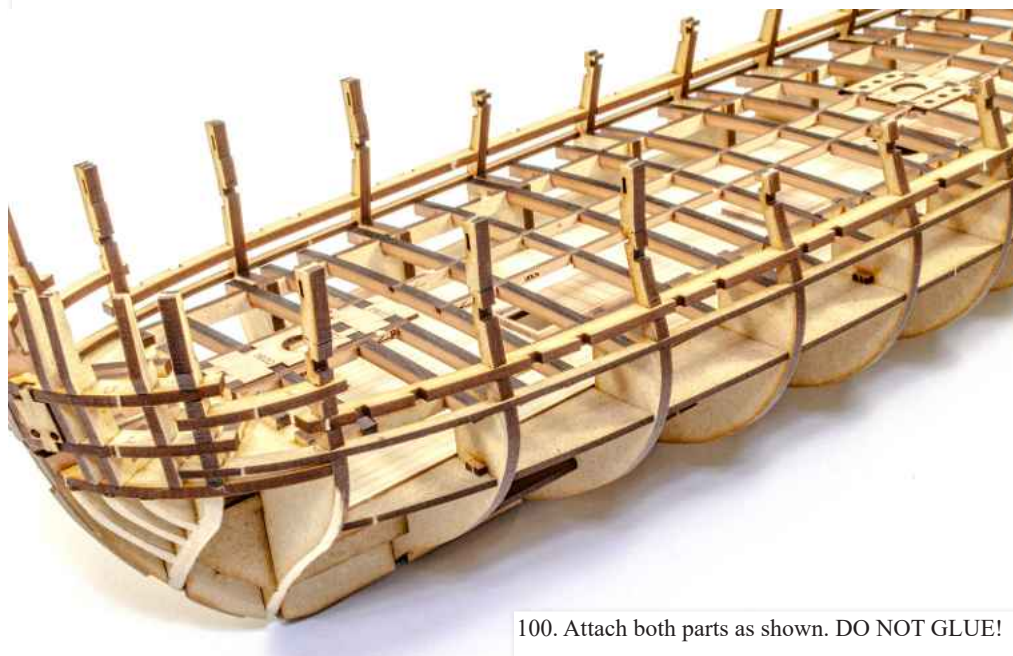
99. From the 3mm MDF sheet, remove both parts 27-LOWER. This will form the lower sill edge for the gun ports.



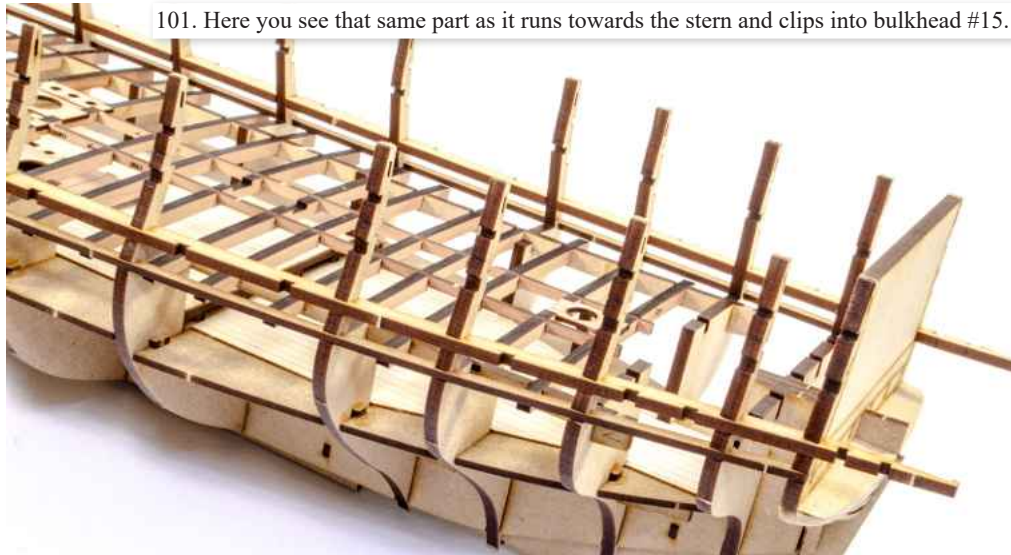
96. From the 2mm MDF sheet, remove both parts 37. Note the engraved '2' at the forward end of each part.



97. Attach the two parts as shown here. Make sure it's fully pushed into each bulkhead in turn. DO NOT GLUE!



100. Attach both parts as shown. DO NOT GLUE!

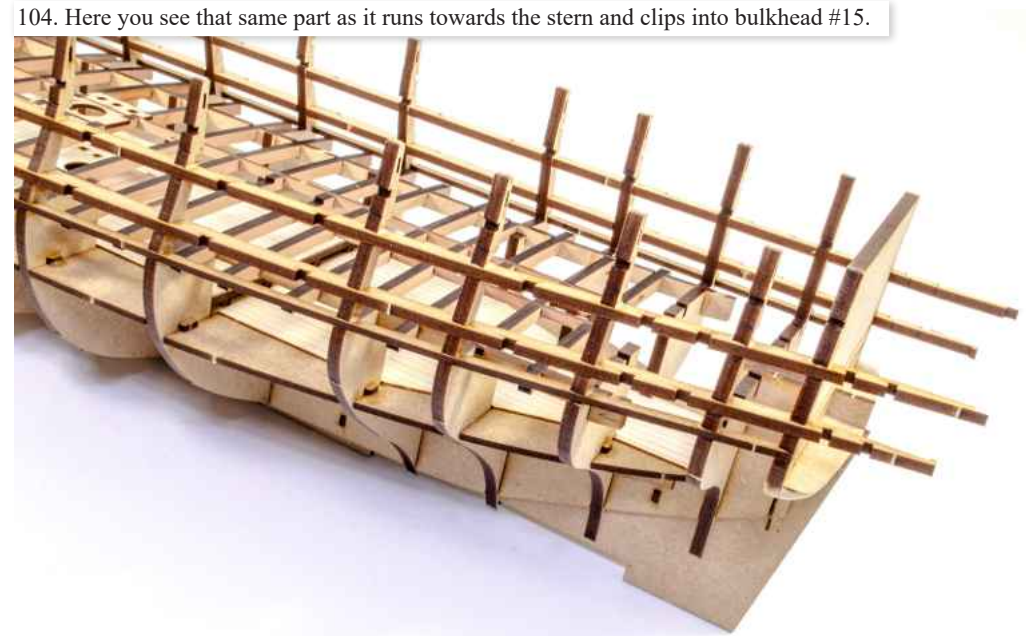


101. Here you see that same part as it runs towards the stern and clips into bulkhead #15.



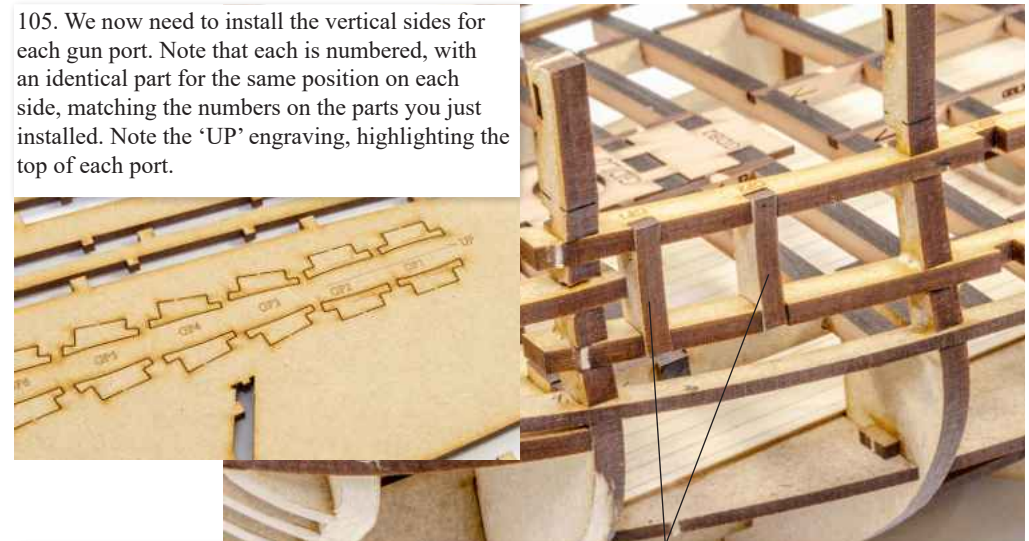
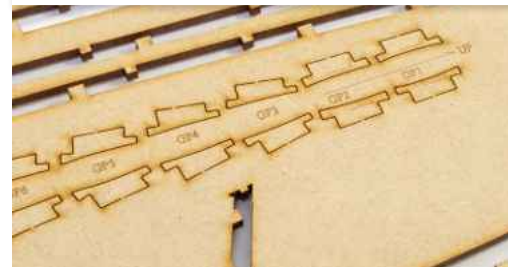
102. From the 3mm MDF sheet, remove both parts 28-UPPER.

103. Attach both parts as shown. DO NOT GLUE!



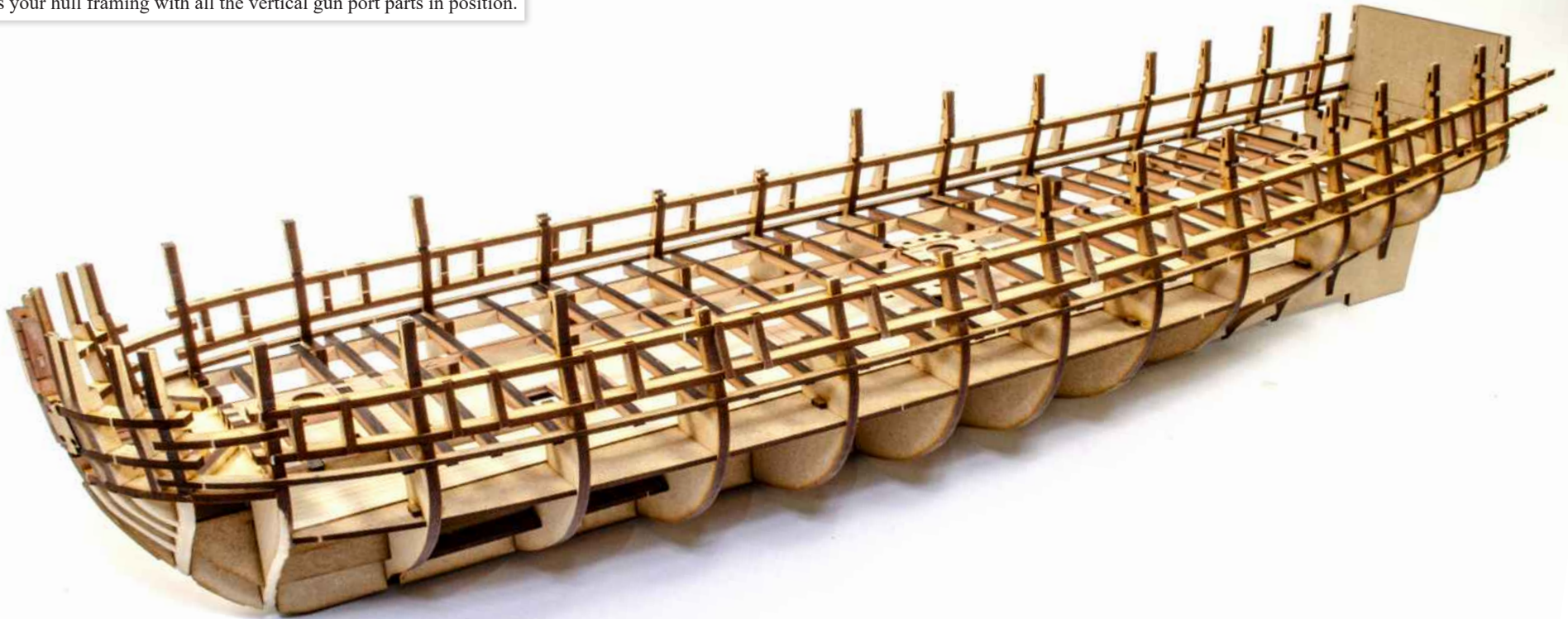
104. Here you see that same part as it runs towards the stern and clips into bulkhead #15.

105. We now need to install the vertical sides for each gun port. Note that each is numbered, with an identical part for the same position on each side, matching the numbers on the parts you just installed. Note the 'UP' engraving, highlighting the top of each port.

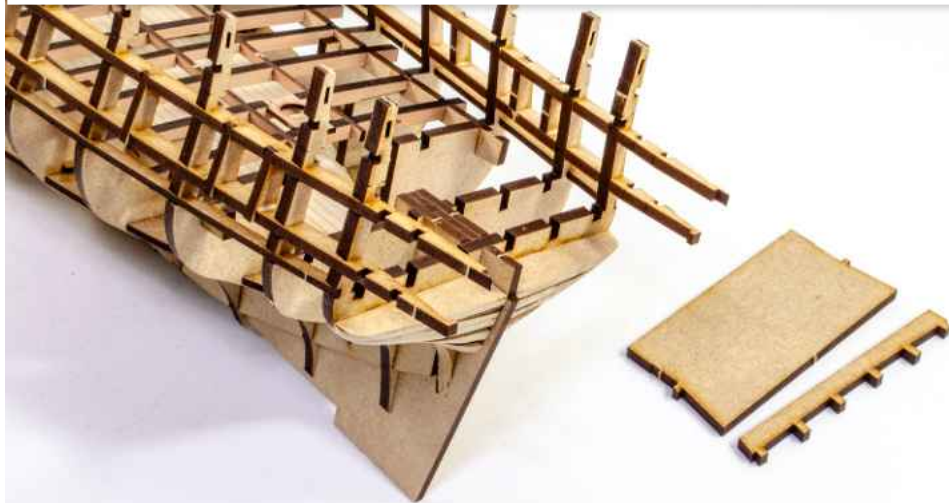


106. Start at the bow with GP1, install all parts in turn so you don't mix them up. Each part is specific to its position. Work your way towards the stern as you install them. DO NOT GLUE!

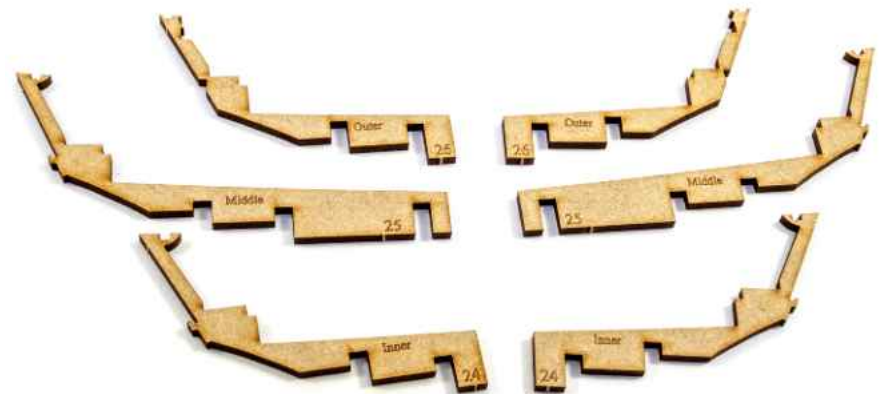
107. Here is your hull framing with all the vertical gun port parts in position.

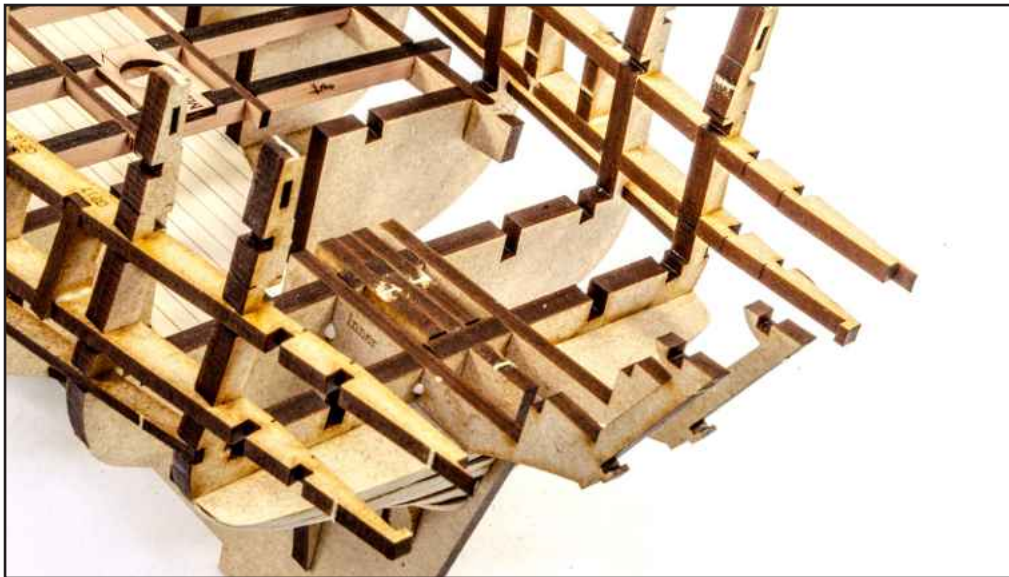


108. At this point, you may remove the infill parts on bulkhead #15. Carefully twisting will accomplish this, or you may carefully use a knife or razor saw.



109. From the 3mm MDF sheet, remove parts 24 (Inner), 25 (Middle), and 26 (Outer).

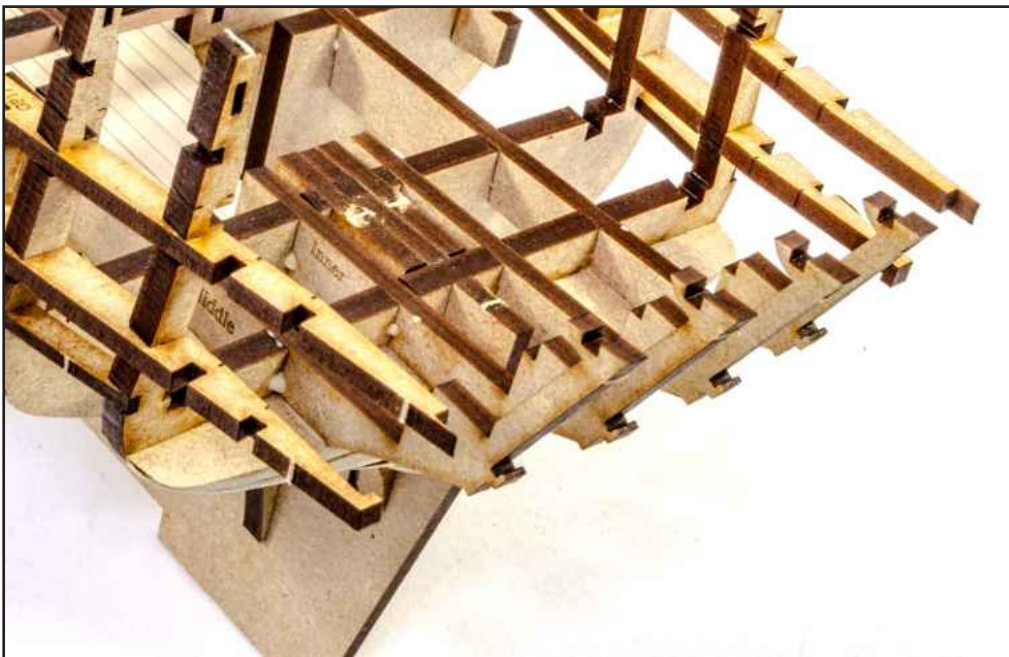




110. Slot the inner parts #24 into position, either side of the centre line. DO NOT GLUE!



112. Slot the outer parts #26 into position, to the outside of the previous parts. Ensure the ends of the two gun port strips sit correctly against the parts you just fitted. DO NOT GLUE!



111. Slot the middle parts #25 into position, to the outside of the previous parts. DO NOT GLUE!

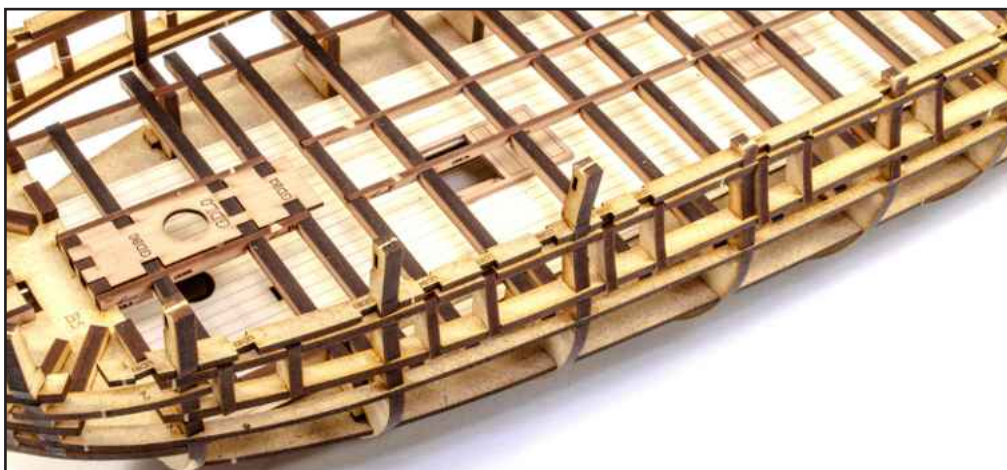


113. Here you see how those gun port strips sit against the outer stern parts #26.

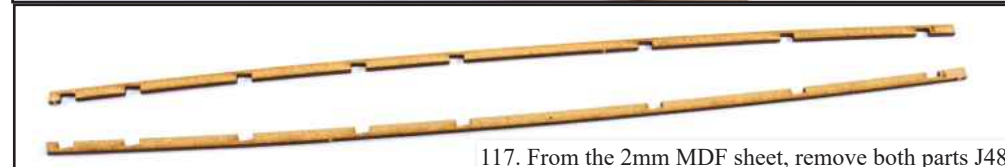
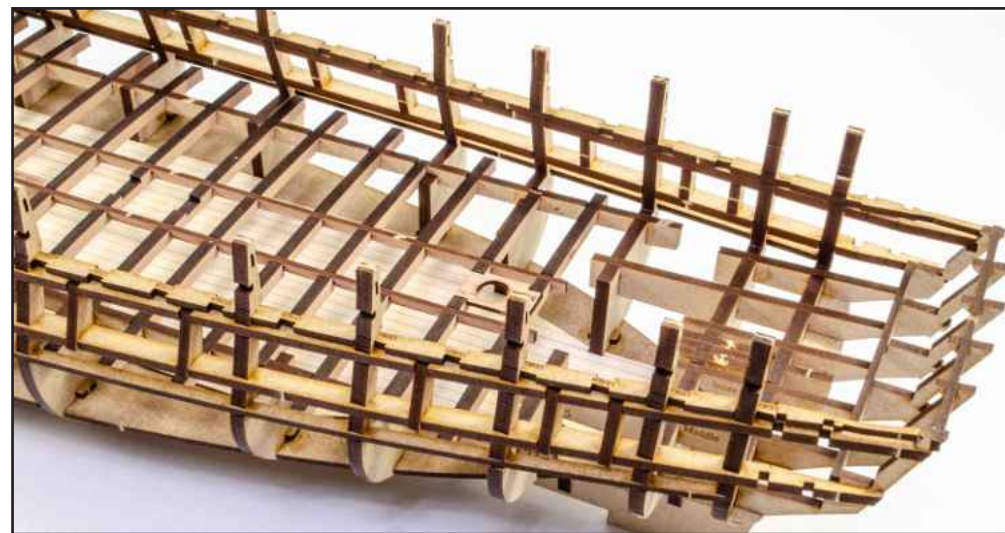
114. From the 2mm MDF sheet, remove parts 38 & 39 and glue into position at the top of the stern pieces, as shown.



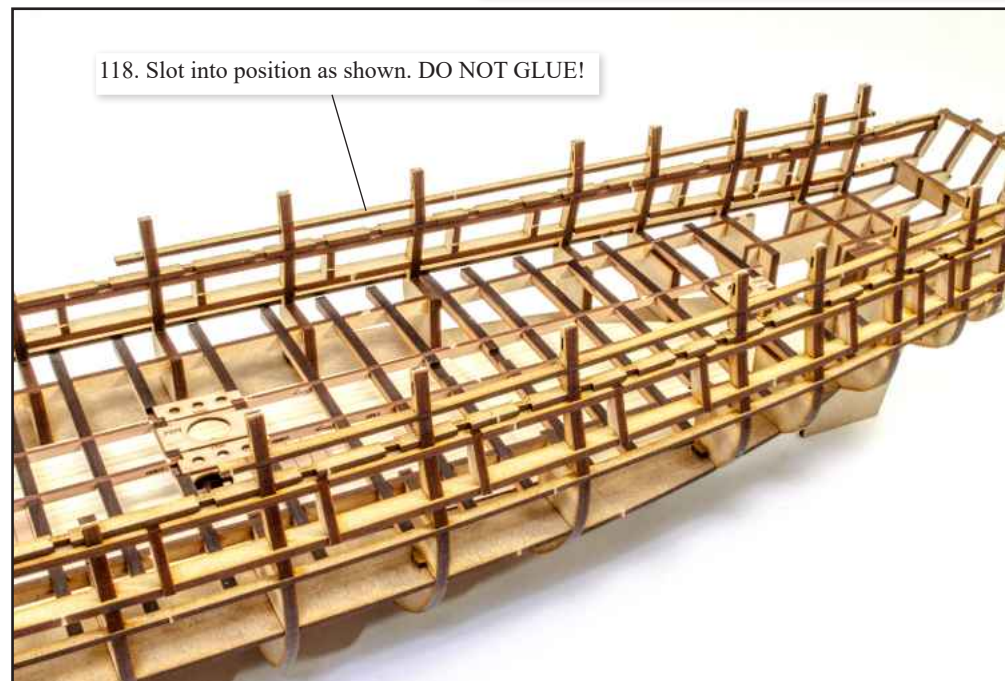
115. From the 2mm MDF sheet, remove both parts 36. Note the engraved numbers. These need to be installed with the number side facing upwards.



116. Slot these into position as shown here. DO NOT GLUE!



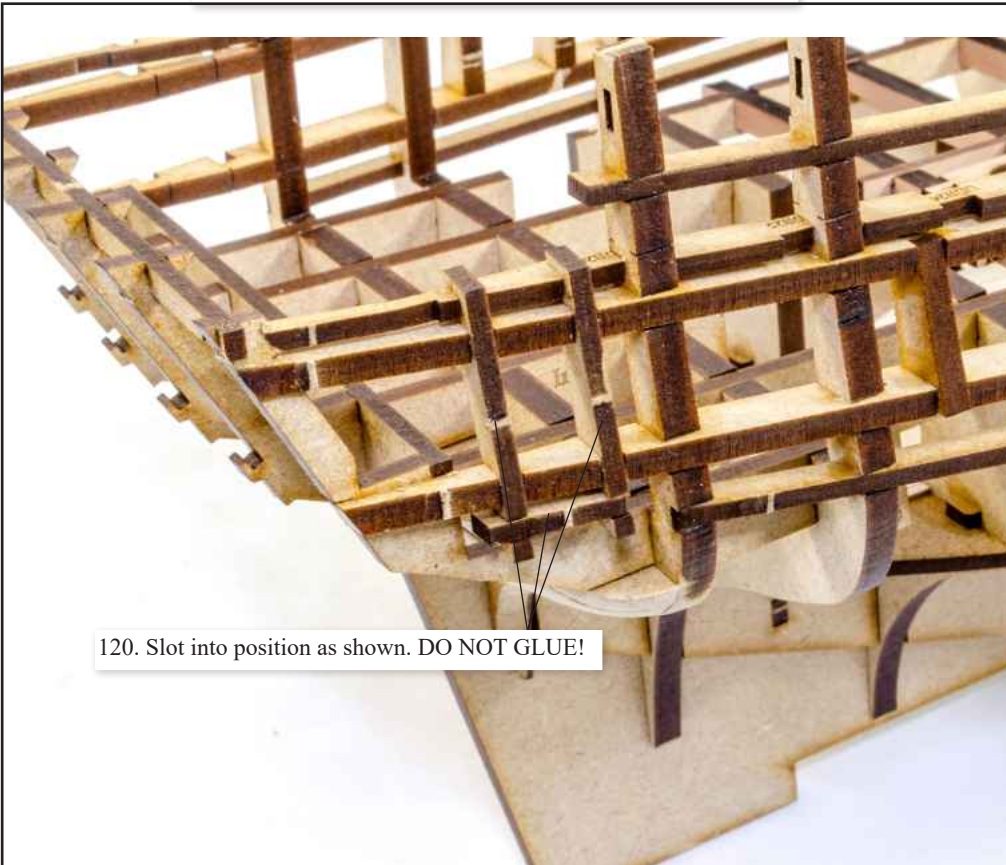
117. From the 2mm MDF sheet, remove both parts J48.



118. Slot into position as shown. DO NOT GLUE!



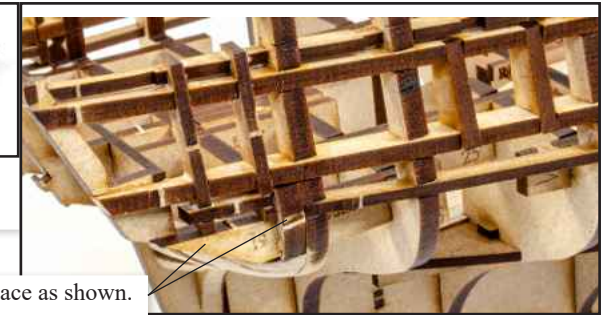
119. From the 2mm MDF sheet, remove parts 40, 41, and 42.



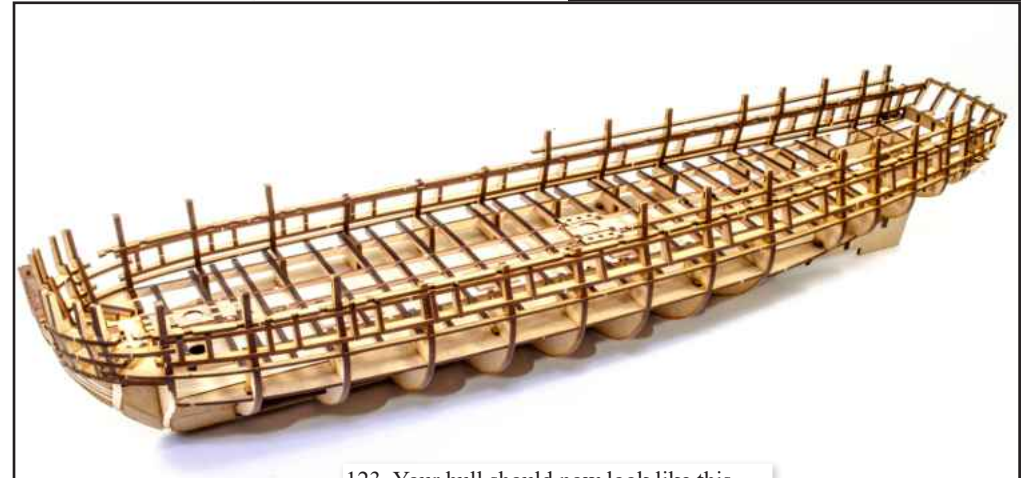
120. Slot into position as shown. DO NOT GLUE!



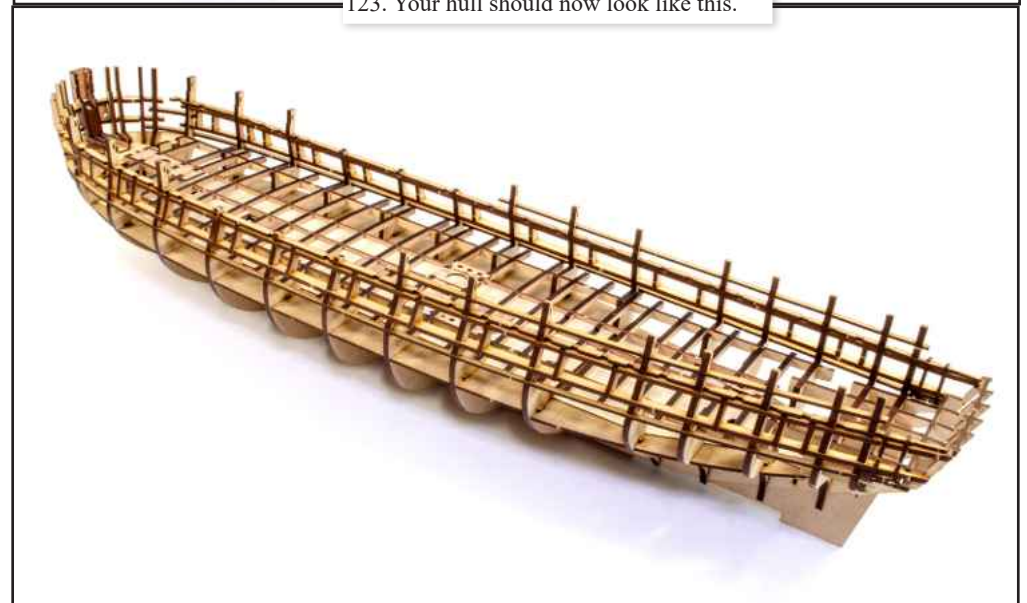
121. From the 4mm MDF sheet, remove parts 18 and 19.



122. Glue into place as shown.



123. Your hull should now look like this.





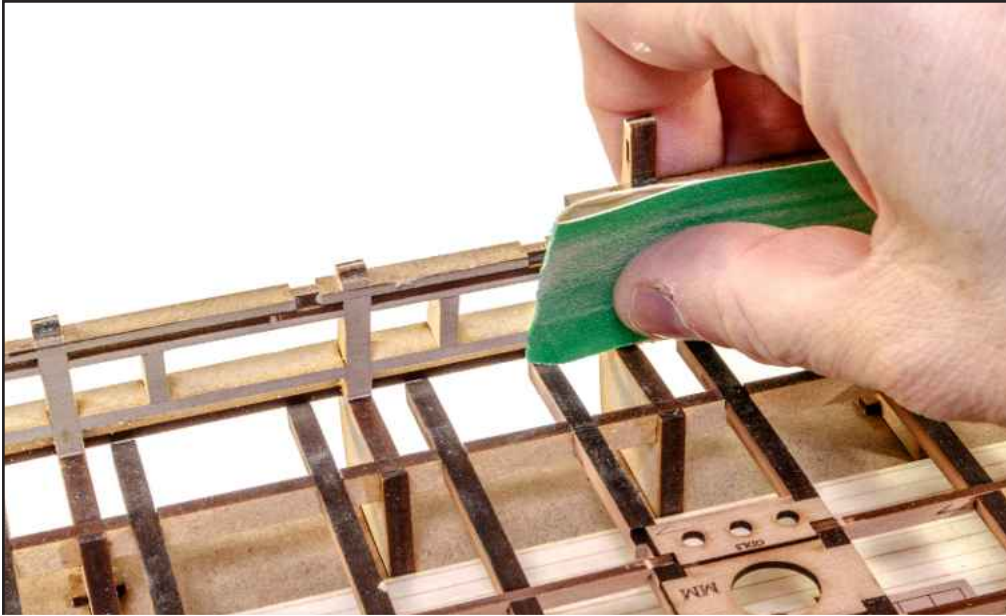
124. Turn your hull over and check down the keel to ensure everything is straight. If not, joggle the hull a little and check that all parts are fully seated. If necessary, retrace some of your steps to correct any issue. Once you are happy with your work, brush slightly diluted wood glue into all joints and pegs to finalise this part of construction. Leave the hull to dry for 24hrs.



125. Whoops! There was one part we forgot to add. From the 1.5mm wood sheet, remove part GDL6. Note the arrow pointing forward.



126. Glue into position as shown.



127. Use sandpaper or a sanding stick to smooth the inner bulwark (wall) areas, and level them out.



128. From the 4mm MDF sheet, remove parts J2 thru J15. From the 2mm MDF sheet, remove parts J2a thru J15a (2 of each). From the 1mm wood sheet, remove all parts K5.

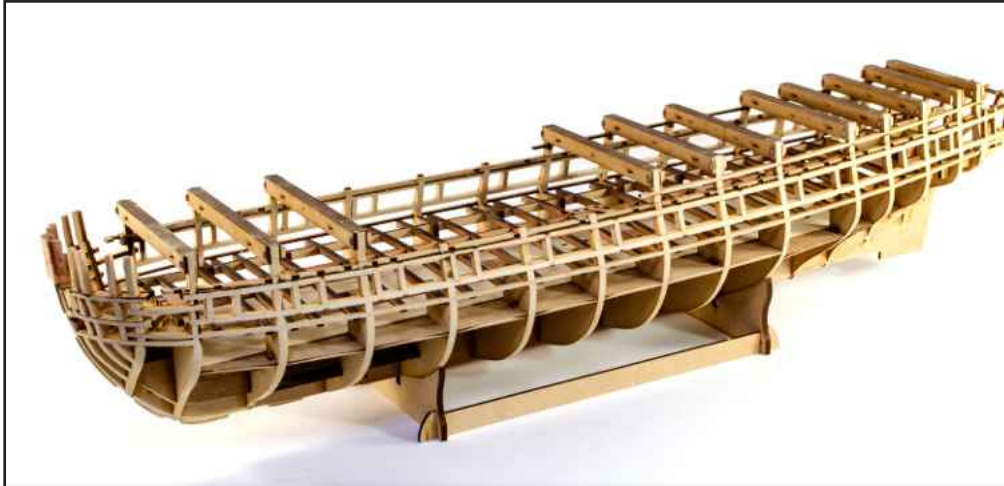


129. Here you see how these jigs assemble. There's no need to glue the large parts together. The pegs are only pushed into place.



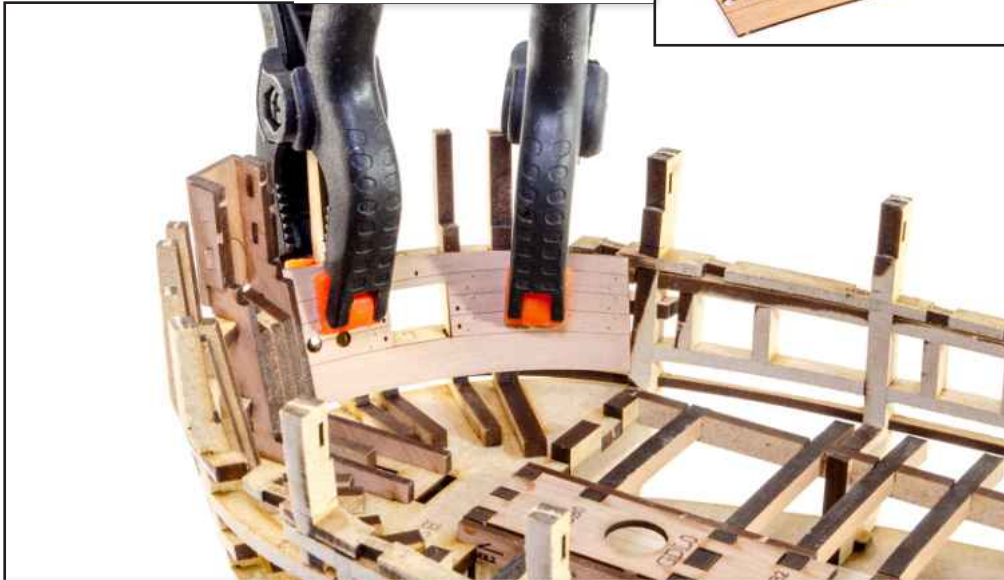
130. Here is jig 2a in position. If you wish, you can add a tack spot of glue to the pegs, once pushed through the bulkhead ears. Remember though that these will be removed later and reinstated later in the build.



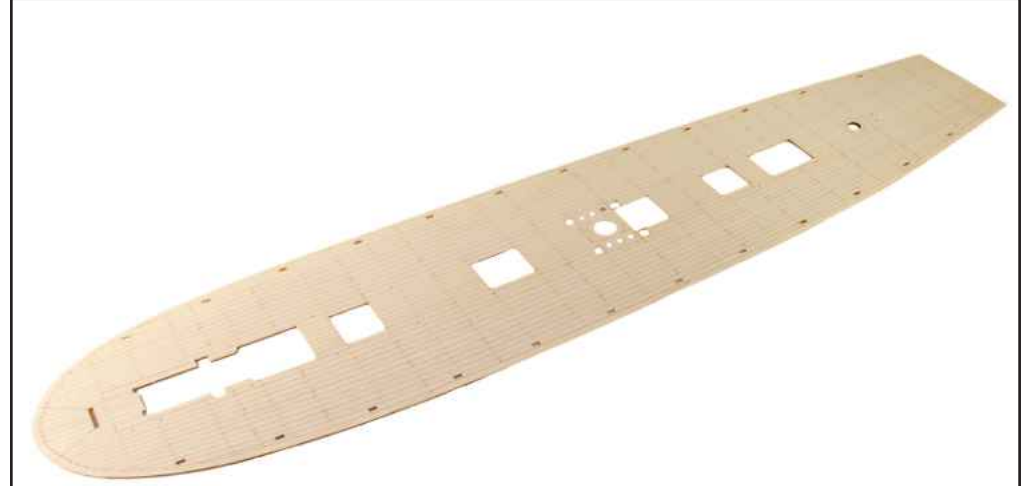


131. Install all of the jigs as shown here. You must now fair the outside of the hull so that it's smooth and planks will lay evenly upon it. Use a length of lime strip to check that the sanded hull lines flow nicely.

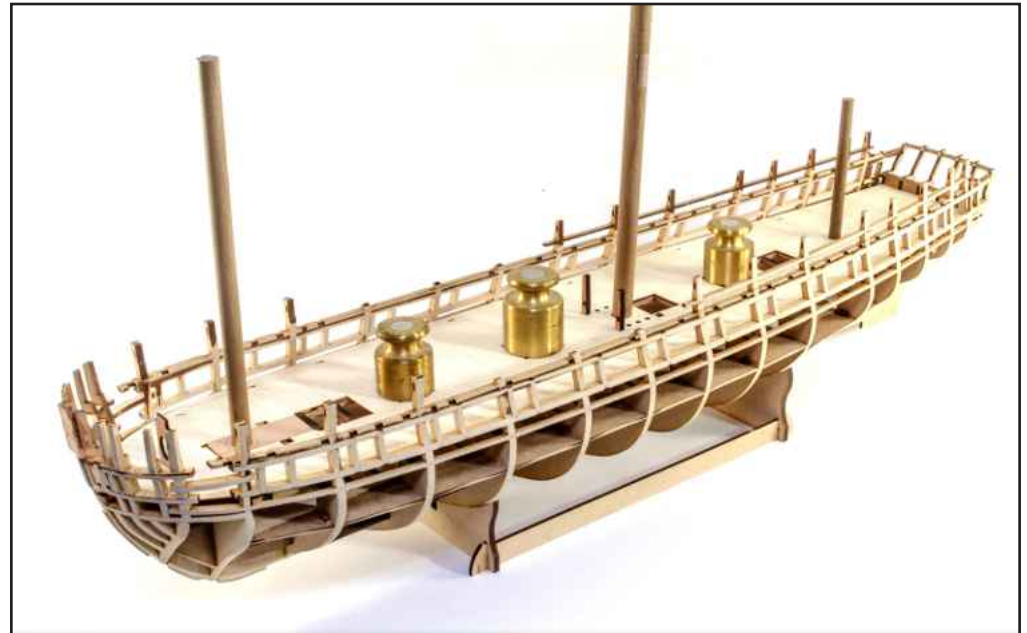
132. From the 0.8mm wood sheet, remove parts 222 and 225. Part 225 is shown here



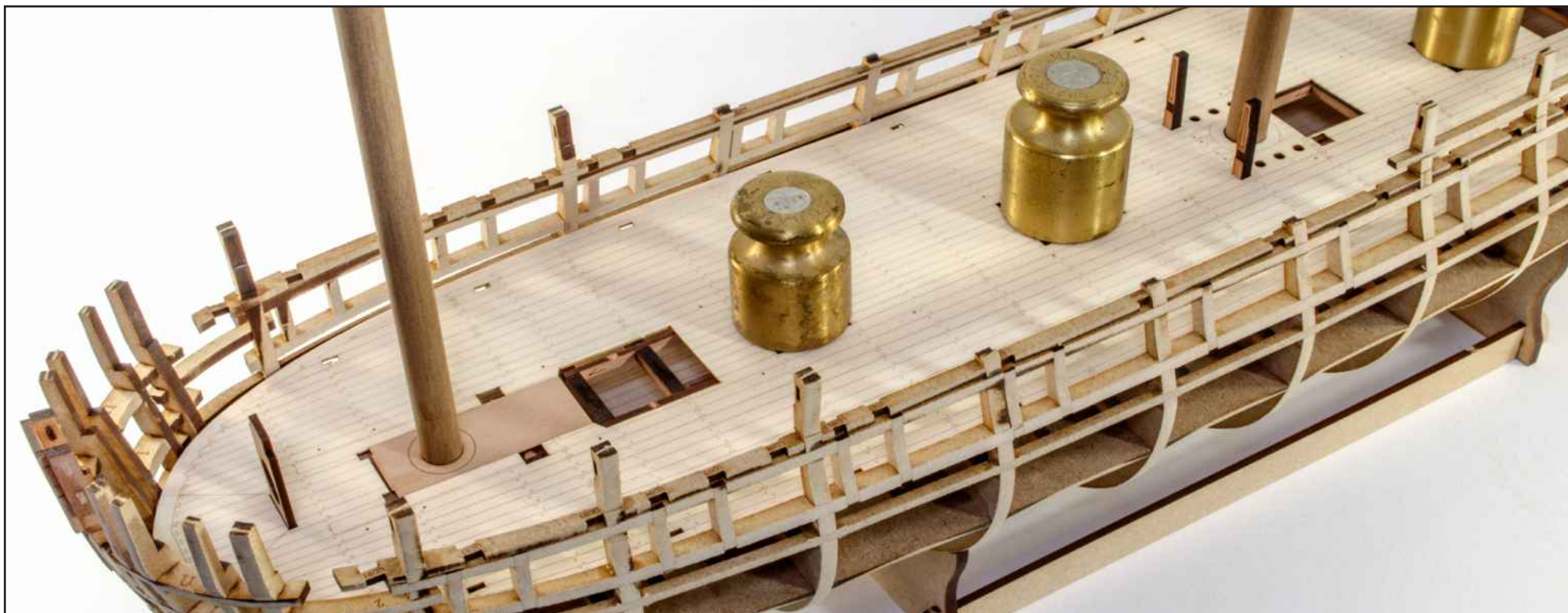
133. Soak each part in hot water for 30 minutes and whilst wet, clamp into place as shown with part 225. NOTE: Any soaked part MUST be left to thoroughly dry for 24hrs so that it will shrink back to its original size. Pear holds LOTS of water when soaked.

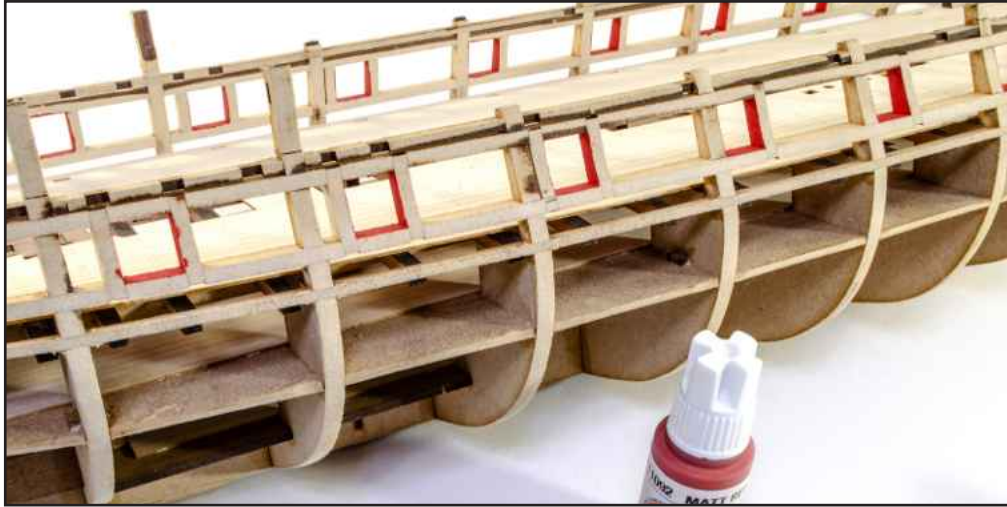


134. Remove the large, engraved deck from Limewood sheet 2.

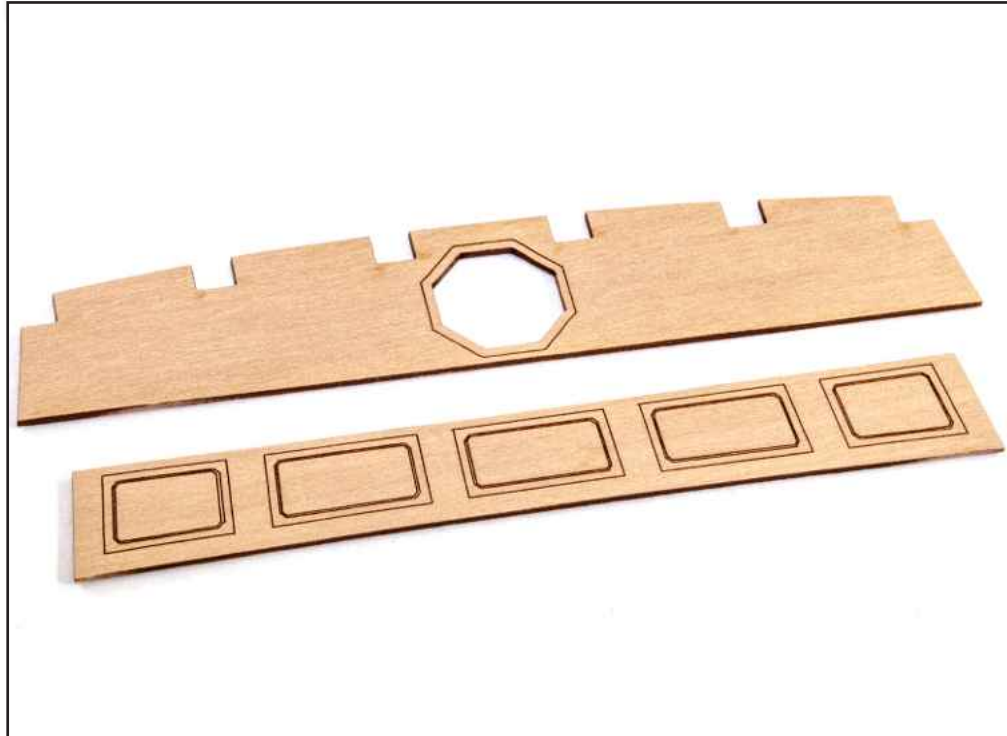


135. Run a bead of wood glue down the centre of the hull deck and sit the lime deck in situ. Alignment of the deck can be helped by inserting the mast dowels and a few other components, as shown. Use something to weight down the deck to the frame, along the centre line, until the glue is dry.





136. Use a matt red paint to finish the gun port inner walls. You may do this before laying the deck, if you aren't comfortable with using paint around it



137. From the 1mm wood sheet, remove parts 166 and 167.



138. Install part 166 as shown here. Ideally, you need to paint these parts before assembly. For our prototype, we created an ivory colour by mixing matt white with a touch of ochre paint.

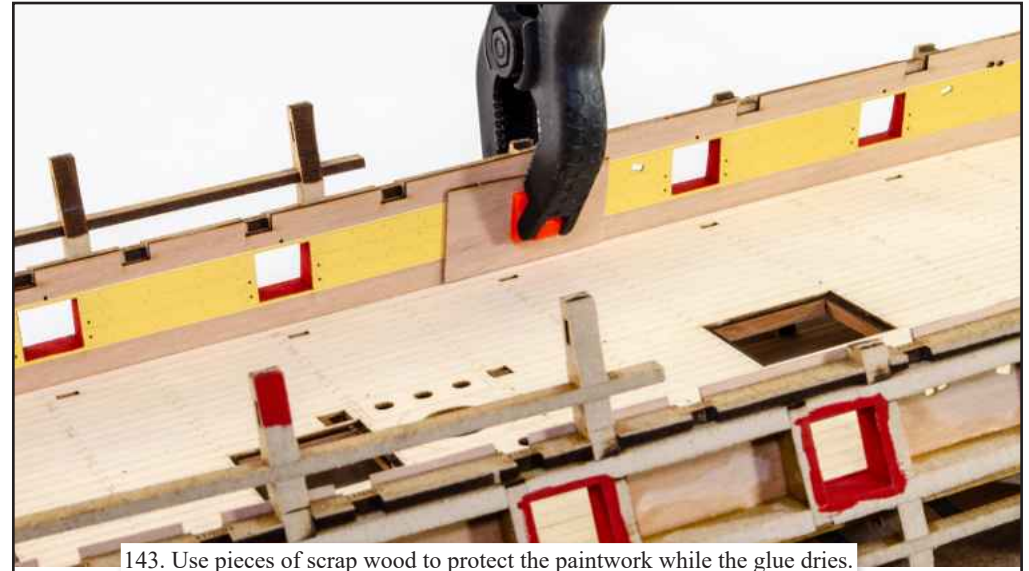
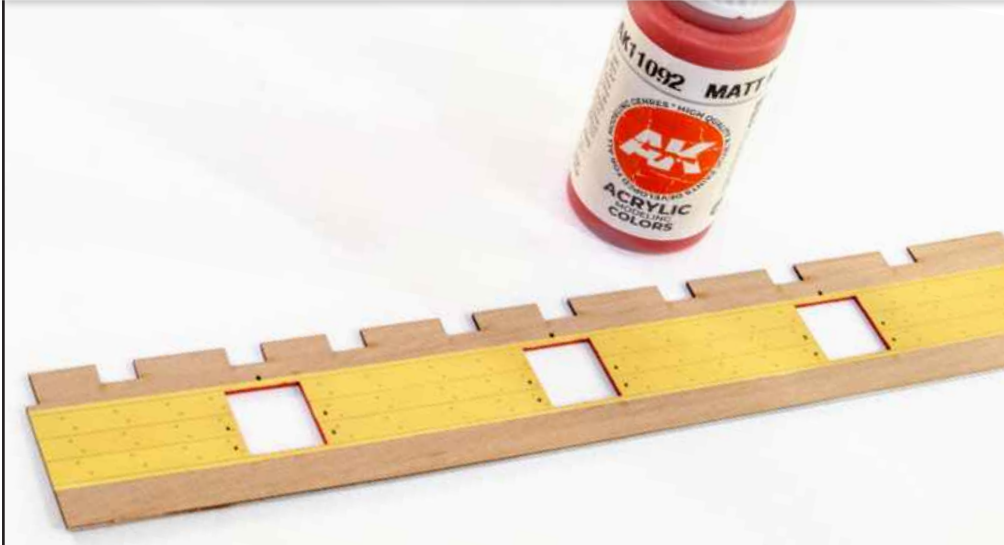


139. Now install part 167. You will need to reduce the height of this to suit your build. The parts sit between the lime deck and the underside lip of part 166 that you just installed.

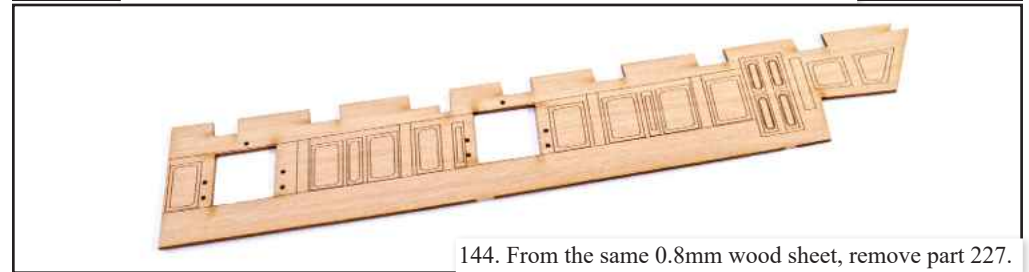
140. From the 0.8mm wood sheet, remove part 226.



141. Paint the inside engraved area in an ochre colour. The AK ochre, from Vanguard Models, is idea for this. Use matt red to paint the inner port edges.



143. Use pieces of scrap wood to protect the paintwork while the glue dries.



144. From the same 0.8mm wood sheet, remove part 227.



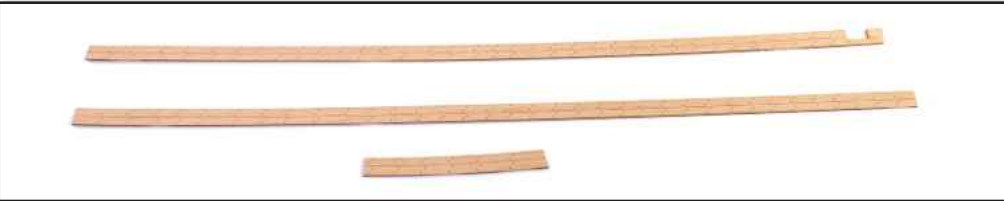
142. Take care to ensure that the part is located as precisely as possible in the starboard side of the hull. Only when this is placed as accurately as possible, then clamp into position and paint glue into the inside back area as shown here.



145. Paint the area as shown in the same ivory colour as the rear cabin sill. Align the part via the gun ports and then clamp and glue as per the last part.



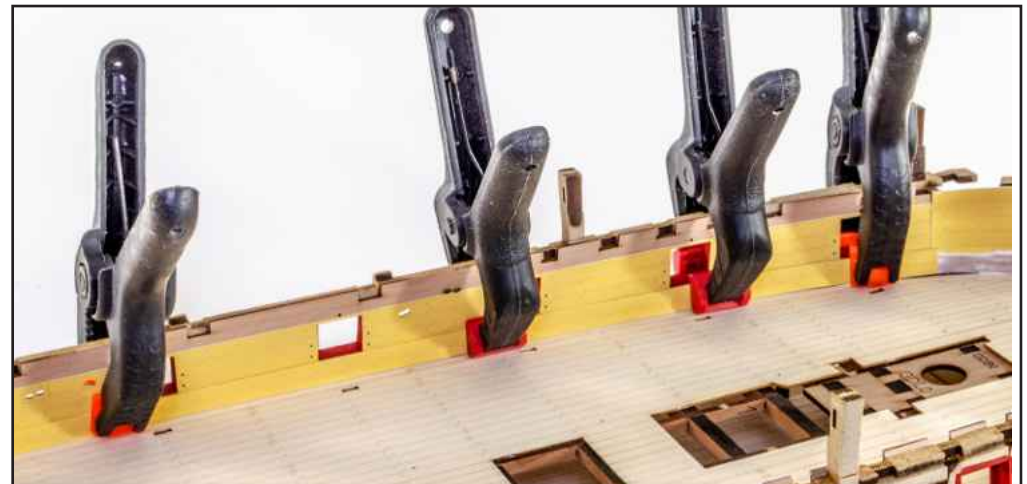
146. Install the same opposite parts within the opposite hull side and then finally install the previously soaked inner bow parts, after painting in ochre.



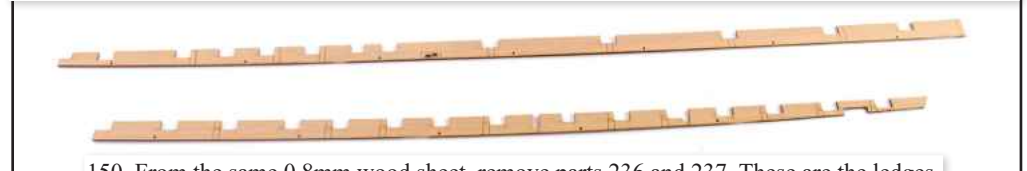
147. We now need to install the spirketting, that runs along the bottom of the inner bulwark parts. From the 0.8mm wood sheet, remove parts 228, 229, and 230.



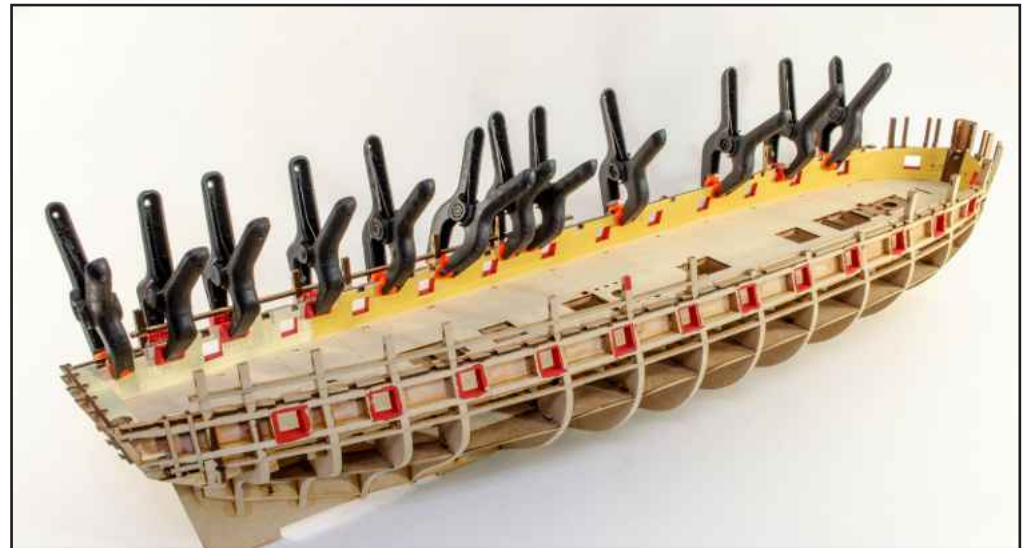
148. Paint these in the appropriate ochre and ivory colours, noting where to make the change between colours. Glue all parts into position. The top edge of these parts will fall directly under the gun ports. Here you see part 230 in situ.



149. Here is part 229 in situ. Glue part 228 in situ, up against this part (not shown here). When complete, remove parts 231, 232, and 233 from the same wood sheet, and paint/install in the opposite bulwark area.



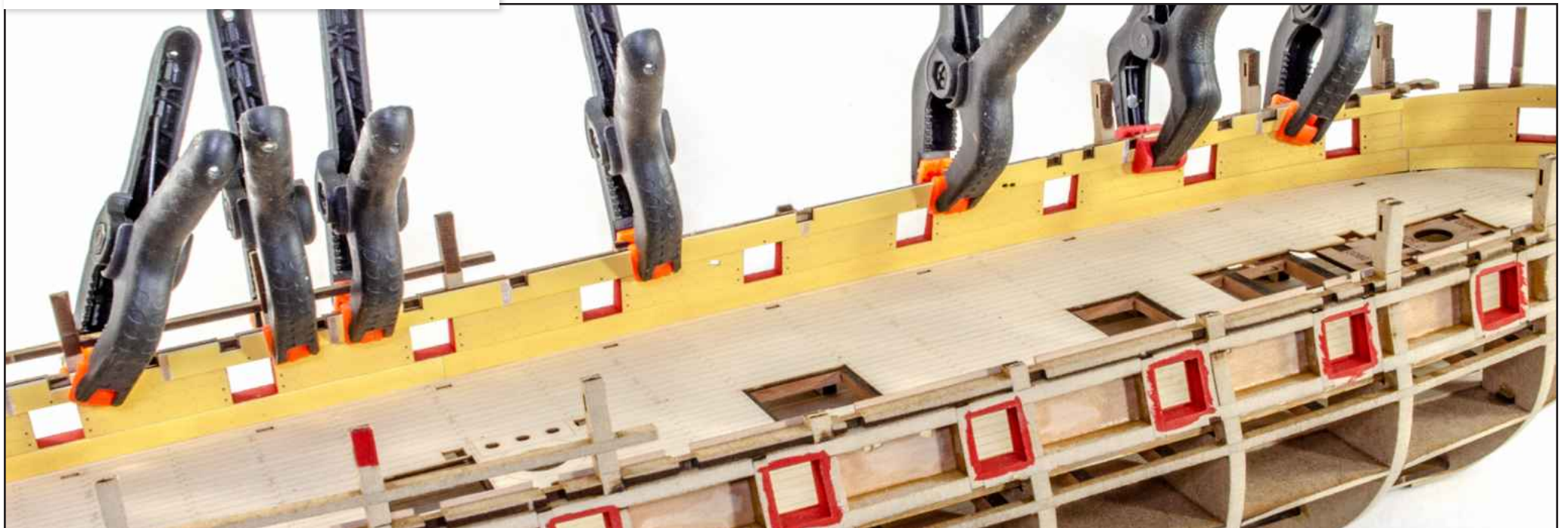
150. From the same 0.8mm wood sheet, remove parts 236 and 237. These are the ledges.

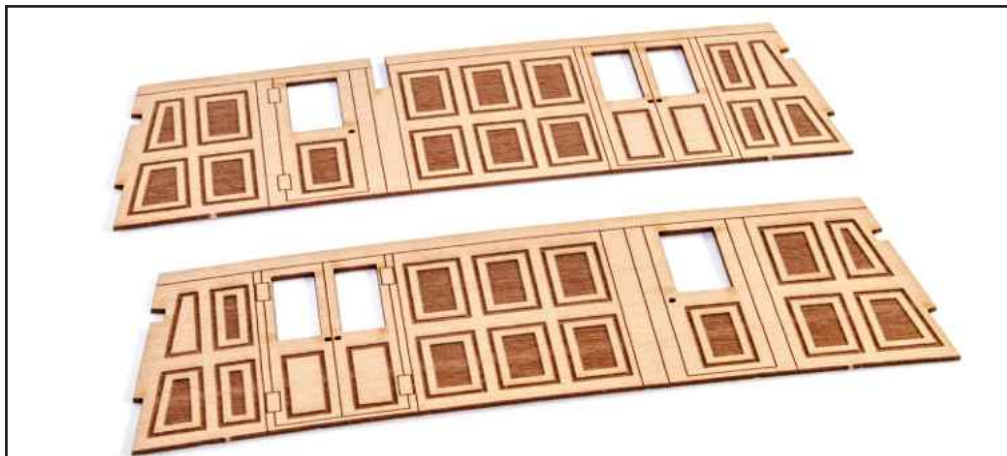


151. Paint and install these parts along the top edge of the port side bulwark as shown, using the same ivory and ochre colours as before.

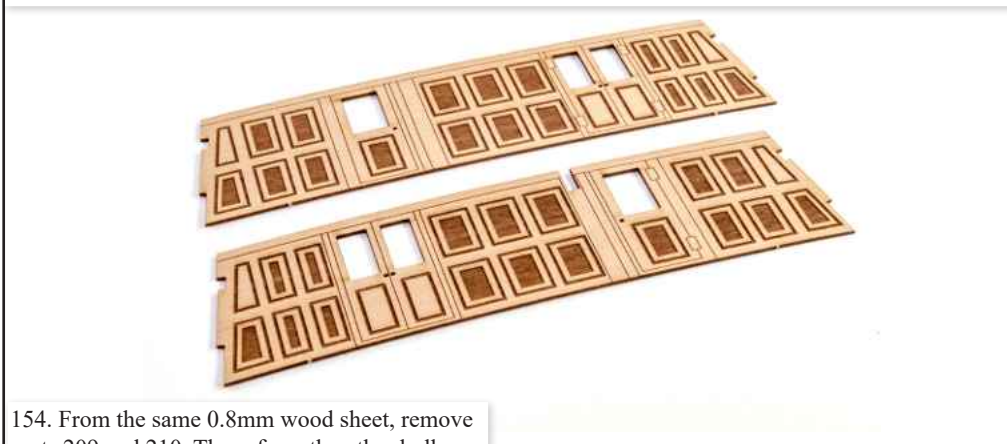


152. Here you see the individual parts being clamped into position.

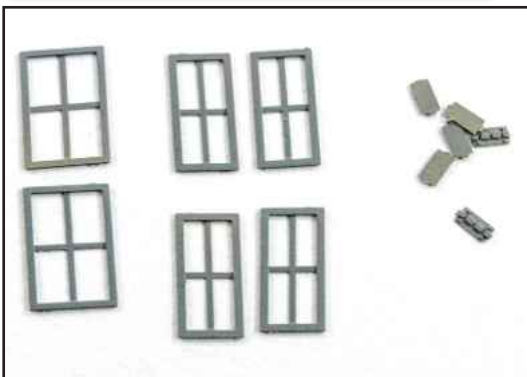




153. From the 0.8mm wood sheet, remove parts 211 and 212. These parts form a single bulkhead screen.



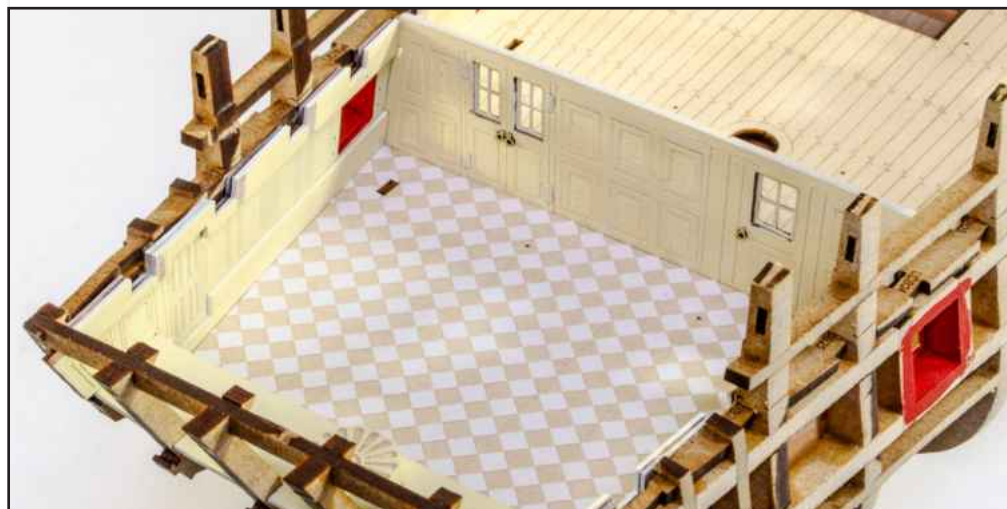
154. From the same 0.8mm wood sheet, remove parts 209 and 210. These form the other bulkhead screen.



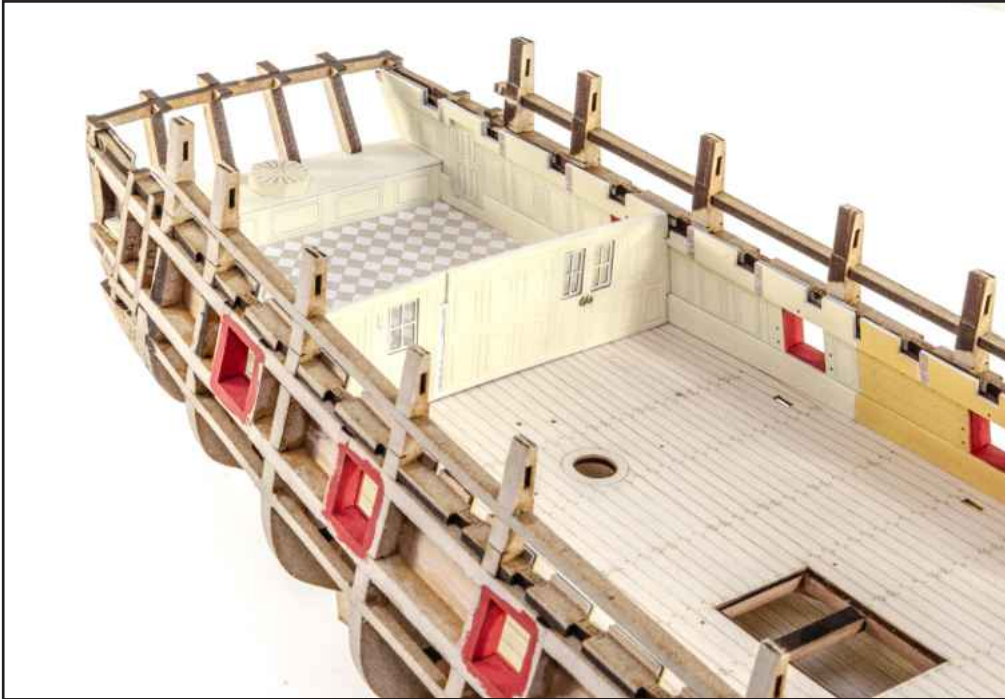
155. From the 0.2mm PE sheet, remove parts PE58 thru PE61. Please note that the first three PE part groupings (58, 59, and 60), sit back-to-back with the other pairings (61, 62, and 63). Also note that these have an outward face with recessed inner frame lines. You will also need the windowpanes. You will find these on the clear acetate sheet, parts AC18, AC19, and AC20. Sandwich the panes between primed and painted window frames. Use either an odourless CA or an acrylic varnish to do this. From the same 0.2PE sheet, remove parts PE66 and prime/paint them. These are the door hinges for the bulkhead screens.



156. Glue the pairs of bulkhead screens back-to-back and allow to dry. Paint the smaller screen in an ivory colour on both sides. Use the ivory paint on only ONE side of the larger screen. That side will face towards the stern when installed. Fix the window panels into position with either odourless CA or acrylic varnish and use PE245 eyebolts from the 0.4mm PE sheet, for the door handles. You can see some paint removed on one screen here. This is where the dividing wall will be glued.



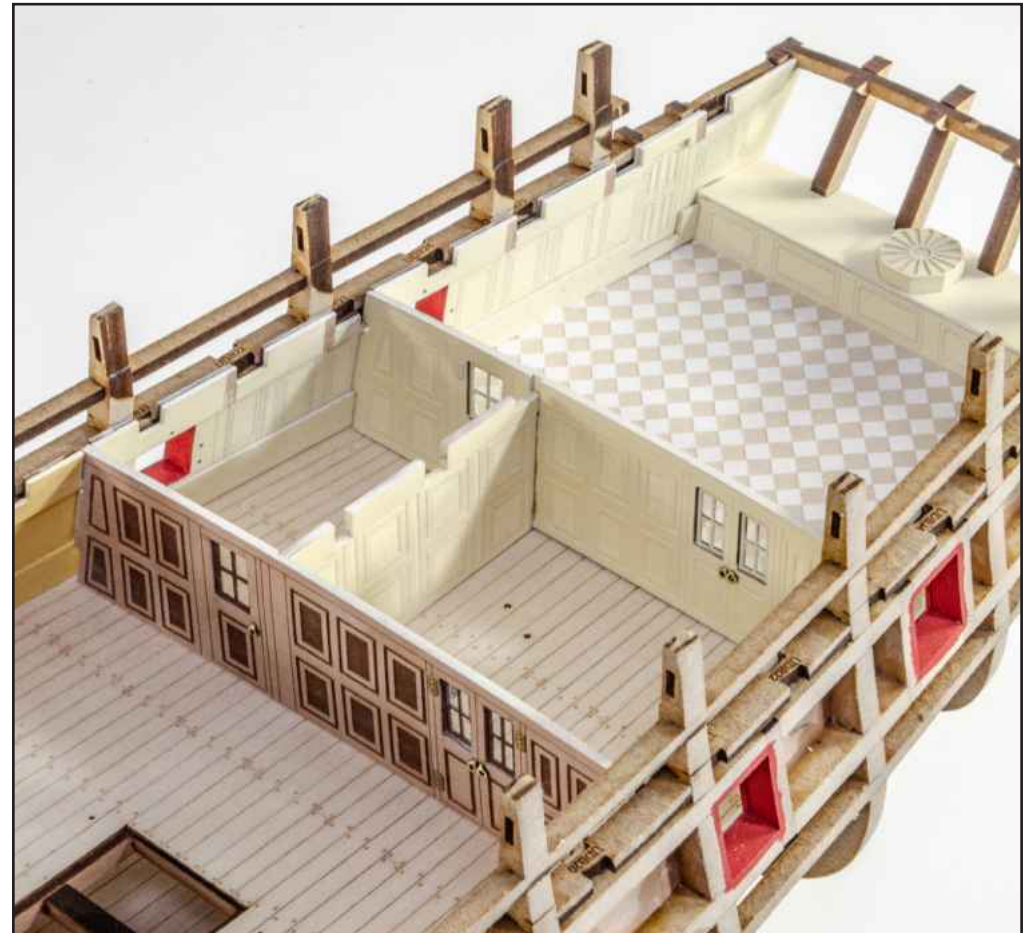
157. Measure and trim the chequered card floor SWC-1 and carefully glue it into position as shown, ensuring the holes and slots align, and the inboard end of the card aligns with the change in the bulwark paint colours. Now glue the smaller bulkhead screen into place as shown. If there are any gaps around the ends of the bulkhead screens, we have provided parts on the 0.8mm wood sheet. These are 210a and 212a.



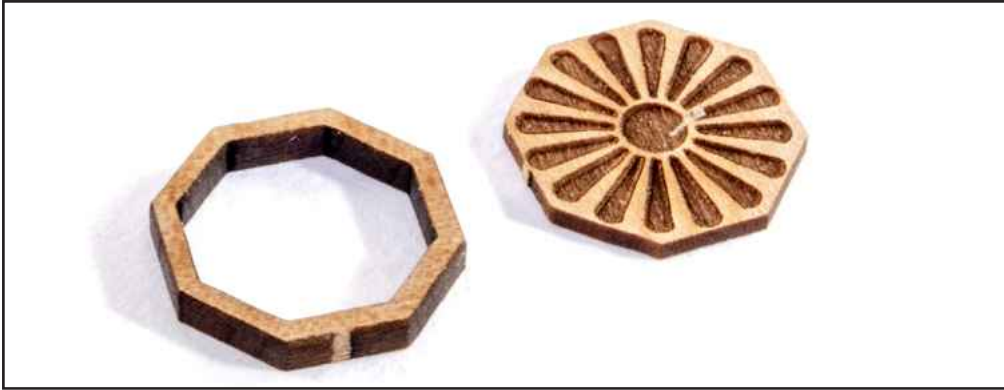
158. Now fix the larger bulkhead screen into place. You will see a notch on the upper ledge which will be the point at which the screen locates. Glue into place.



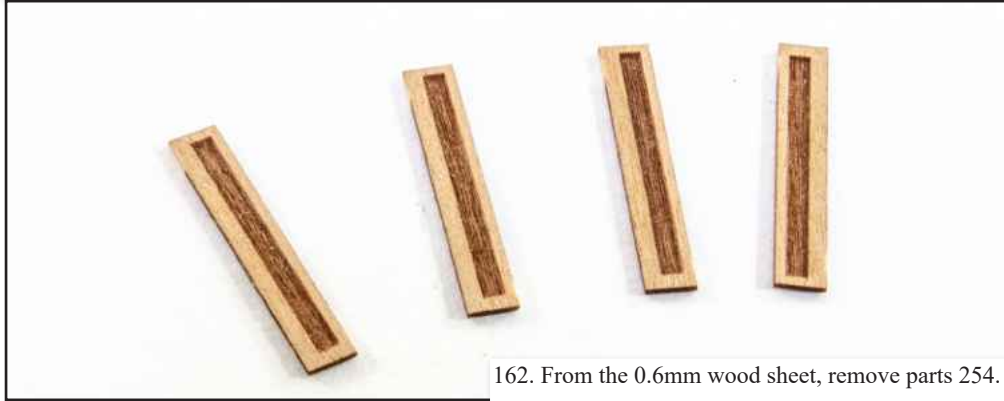
159. From the 0.8mm wood sheet, remove parts 213 and 214.



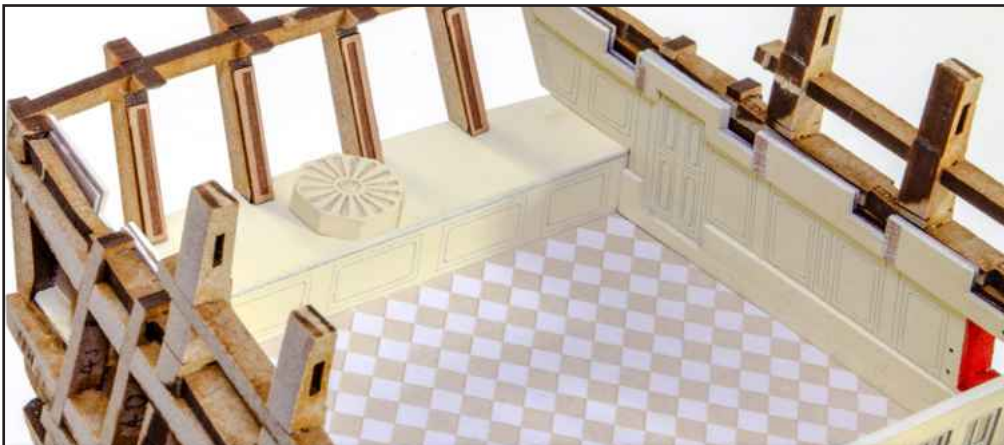
160. Glue the parts back-to-back and paint in the cabin ivory colour. Now glue the partition wall between the screens as shown.



161. From the 1mm wood sheet, remove part 168. From the 2mm wood sheet, remove part 88. Glue 168 onto 88.



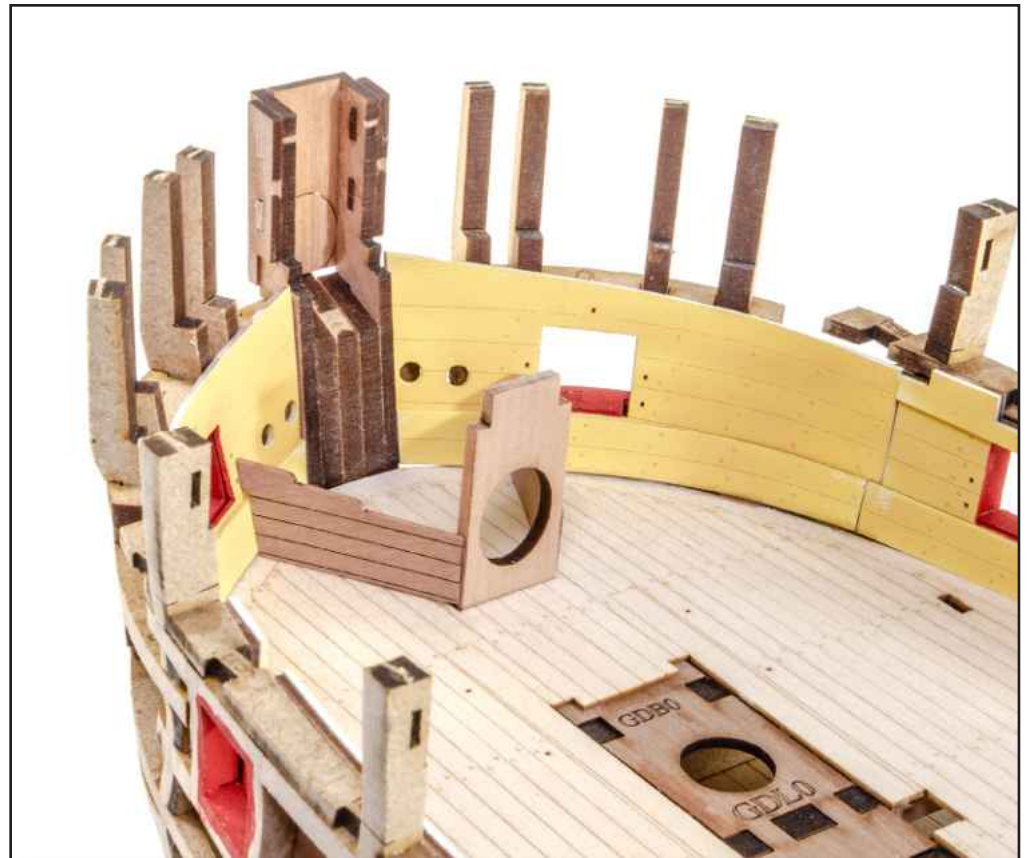
162. From the 0.6mm wood sheet, remove parts 254.



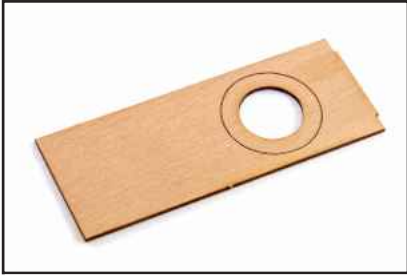
163. Glue the octagonal assembly as shown and paint ivory. Glue parts 254 to the vertical pillars at the stern. You can also paint the pillars in ivory.



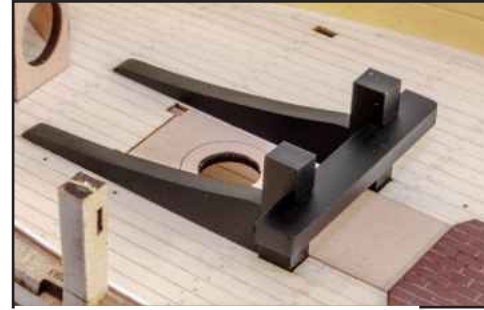
164. From the 2mm wood sheet, remove part 92. From the 1mm wood sheet, remove parts 139 and 140.



165. Glue the parts into position as shown, ensuring part 92 is inserted through the deck with 'BOT-TOM'...at the bottom!



166. From the 1mm wood sheet, remove part 146.



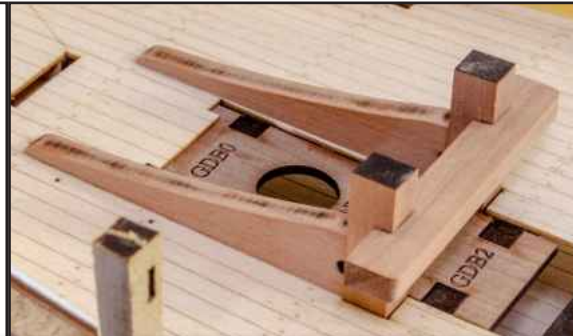
172. Now glue the assembly you just painted black.



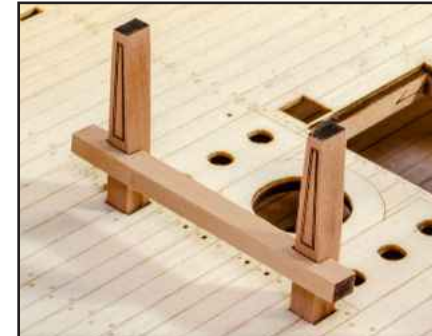
173. From the 4mm wood sheet, remove both parts 59. From the 3mm wood sheet, remove part 74.



168. From the 5mm wood sheet, remove parts 54. From the 4mm wood sheet, remove parts 57 and 58.



169. Assemble the parts as shown here. Don't glue to the deck. When dry, remove the assembly and paint black from above deck height. Set to one side.



174. Assemble as shown, then one dry, remove the assembly from the deck and paint black above deck height.



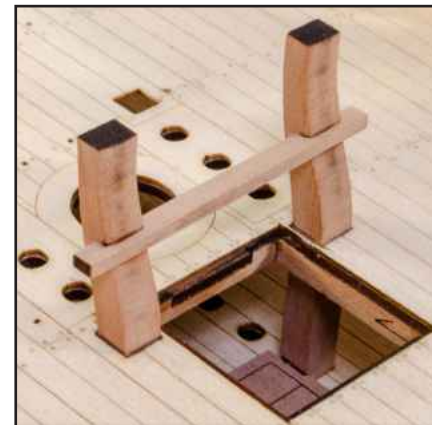
175. From the 5mm wood sheet, remove parts 55. From the 2mm wood sheet, remove part 93.



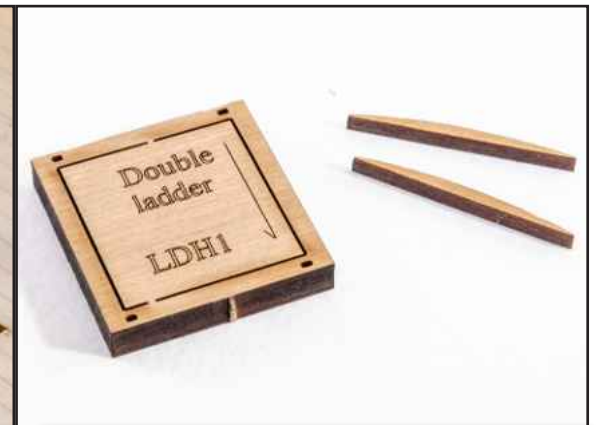
170. From the 1.5mm wood sheet, remove part 127.



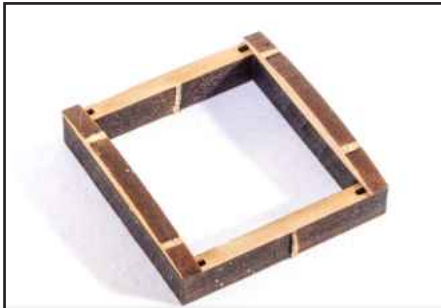
171. Paint the part in brick red and maybe add a light grey wash for the mortar. Glue the part into place as shown.



176. Assemble as shown and leave to dry. Remove the assembly from the deck and paint black above the deck height.



177. From the 4mm wood sheet, remove part LDH1. From the 2mm wood sheet, remove both parts LDH1a.



178. Assemble as shown, making sure the holes on LDH1 are still visible.



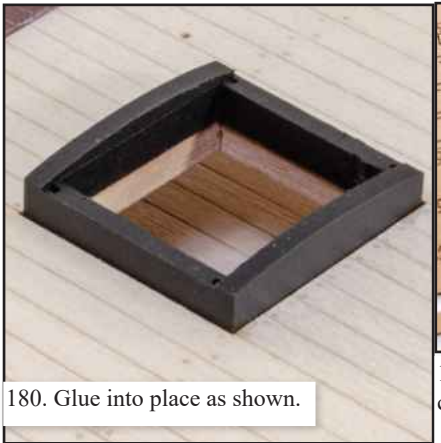
179. Clean up the assembly with sandpaper and paint black.



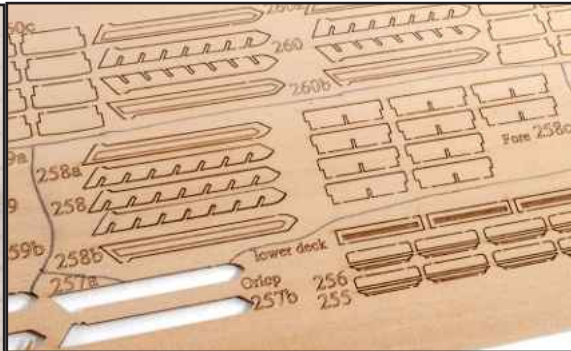
183. Insert the ladder as shown here, ensuring orientation.



184. Here's another photo of the ladders in situ.



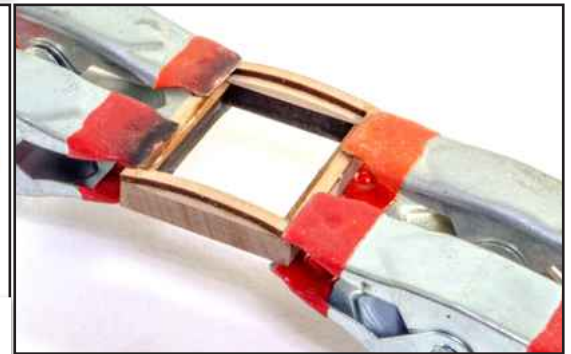
180. Glue into place as shown.



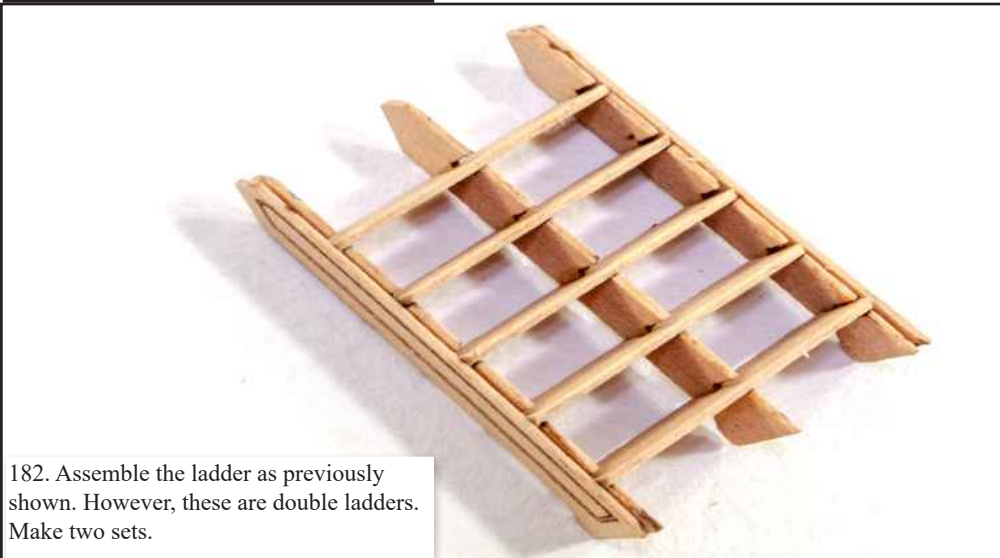
181. From the 0.6mm wood sheet, remove the parts encircled here.



185. From the 4mm wood sheet, remove parts LDH2. From the 3mm wood sheet, remove parts LDH2b. Assemble as shown. From the 1mm wood sheet, remove part LDH2a.



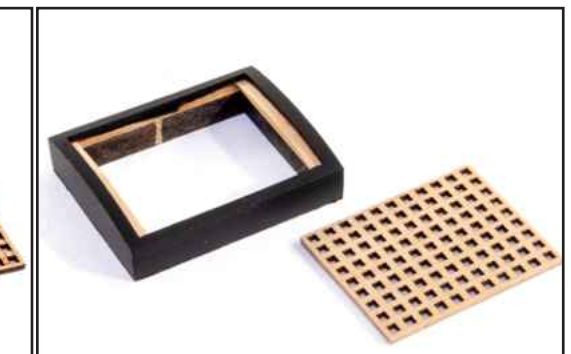
186. Glue LDH2a to the assembly as shown.



182. Assemble the ladder as previously shown. However, these are double ladders. Make two sets.



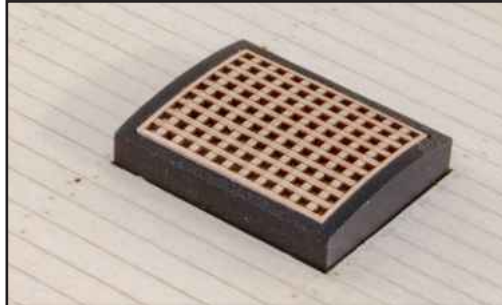
187. From the 1mm wood sheet, remove part LDH2c.



188. Paint the assembly black but leaving the inside ledge in wood for good adhesion.



189. Glue the grate into place. We find it best to glue one edge first and leave it to dry. It's then easy to bend the grate and glue the opposite side. Clamp until set.



190. Glue the assembly into place as shown.



195. Glue part 162 as shown here.



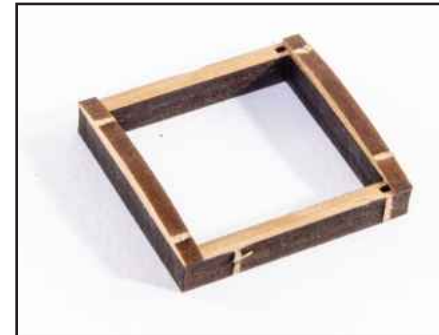
196. From the 4mm wood sheet, remove part LDH3. From the 2mm wood sheet, remove both parts LDH3a.



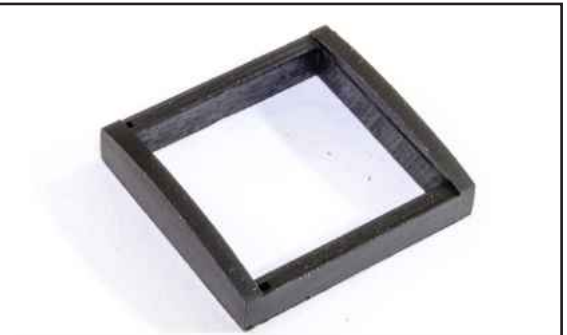
191. From the 0.6mm wood sheet, remove both parts 249. Cut six lengths of 3mm diameter dowel, each 33mm long.



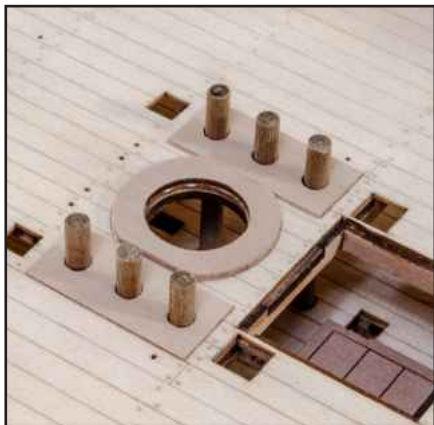
192. From the 1mm wood sheet, remove parts 160, 161, and 162.



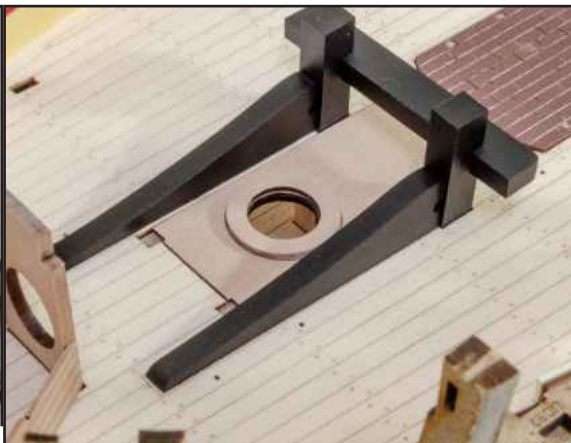
197. Assemble as shown. Note that the boles in LDH3 must be seen.



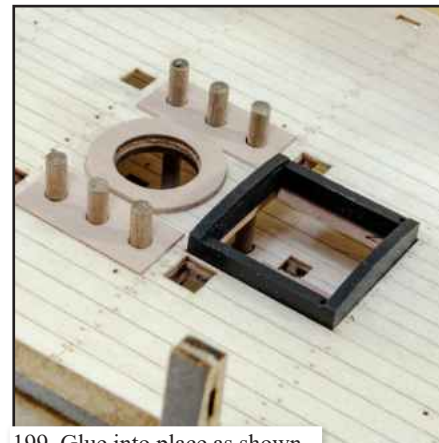
198. Clean up the assembly and paint in black.



193. Glue parts 249 and the dowels into position as shown. Glue part 161 in between the assemblies, as shown.



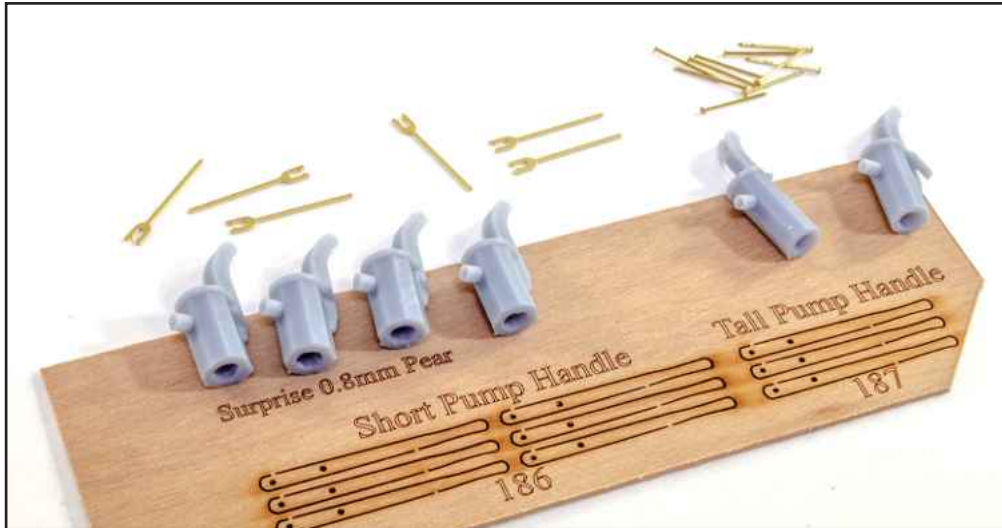
194. Glue part 160 as shown here.



199. Glue into place as shown.



200. Fit the other double ladderway as shown here.



201. Locate the wooden parts shown here on the 0.8mm wood sheet. Note that the handle size depends on the height of each pump. You will need FOUR short and TWO tall pumps. Some spare handle parts are included. As well as the 3D printed pumps, you will also need some brass pins and parts PE11 from the 0.4mm PE sheet.



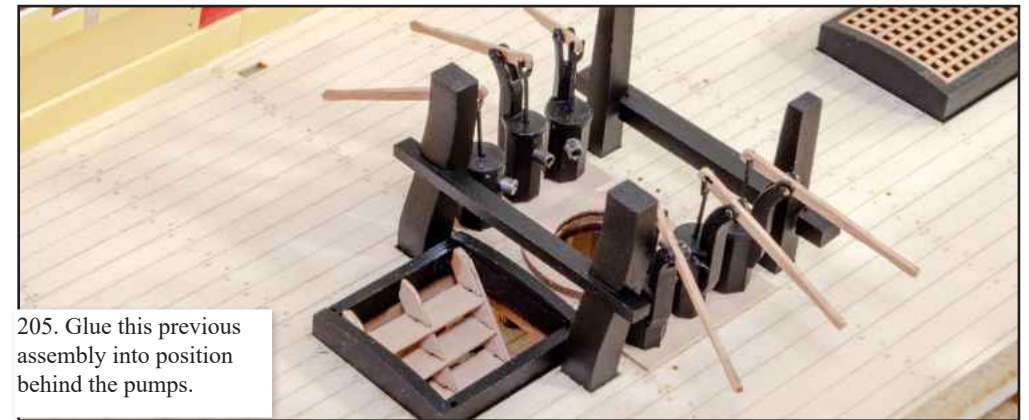
202. Paint the pumps black, as well as the PE11 parts. You can use a metallic colour for the waterspouts. Slot PE11 onto the forward hole on the wooden handle and connect the rear handle hole to the pump body, using a brass pin and CA. Cut the pin short and paint black. PE11 will slot into the hole on the top of the pump body.



203. Plug the pumps onto the dowels as shown. The tall pump sits in the middle on each side.



204. Glue this previous assembly into position in front of the pumps.



205. Glue this previous assembly into position behind the pumps.



206. From the 1.5mm wood sheet, remove part LDH4.



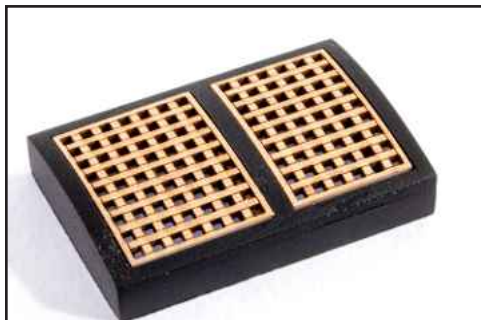
207. Glue into place as shown.



208. From the 4mm wood sheet, remove part LDH5. From the 4mm wood sheet, remove part LDH5d.



209. Glue LDH5d onto the base as shown. From the 3mm wood sheet, remove both parts LDH5e.



214. Paint the assembly black and then glue the grates into place as shown on the previous grating.



215. Glue the completed assembly into position as shown.



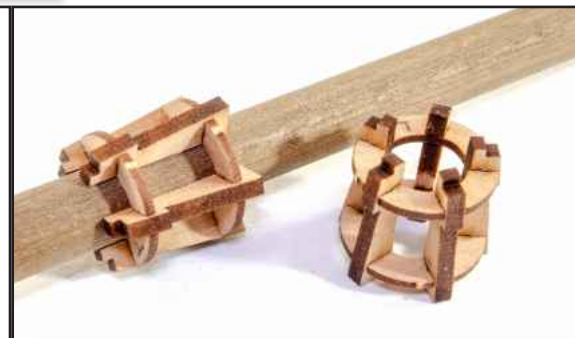
210. Glue those parts onto the base as shown.



211. Clean up the assembly and then remove part LDH5a from the 1mm wood sheet.



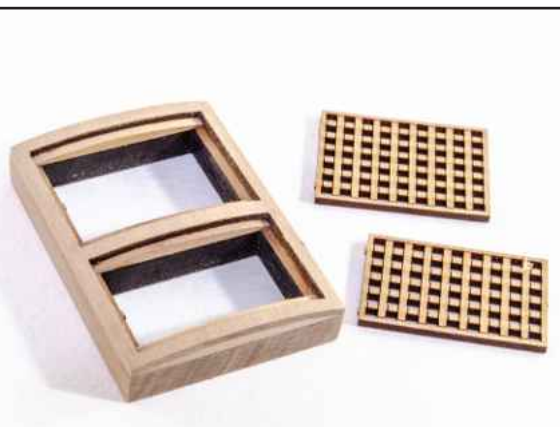
216. From the 1mm wood sheet, remove part 156 and 157. From the 2mm wood sheet, remove parts 86.



217. Assemble as shown, using a dowel for alignment. Note the part 157 sits at the BOTTOM of the capstan.



212. Glue the part onto the assembly and clamp until dry.



213. From the 1mm wood sheet, remove parts LDH5b and LDH5c.



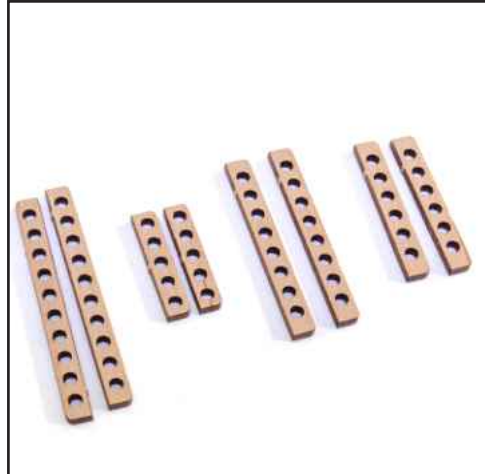
218. From the 1mm wood sheet, remove part 158 and glue into place at the top of the capstan.



219. From the 1mm wood sheet, remove part 169. From the 1.5mm wood sheet, remove part 120. Assemble the parts as shown. NOTE: You will need to make TWO capstans.



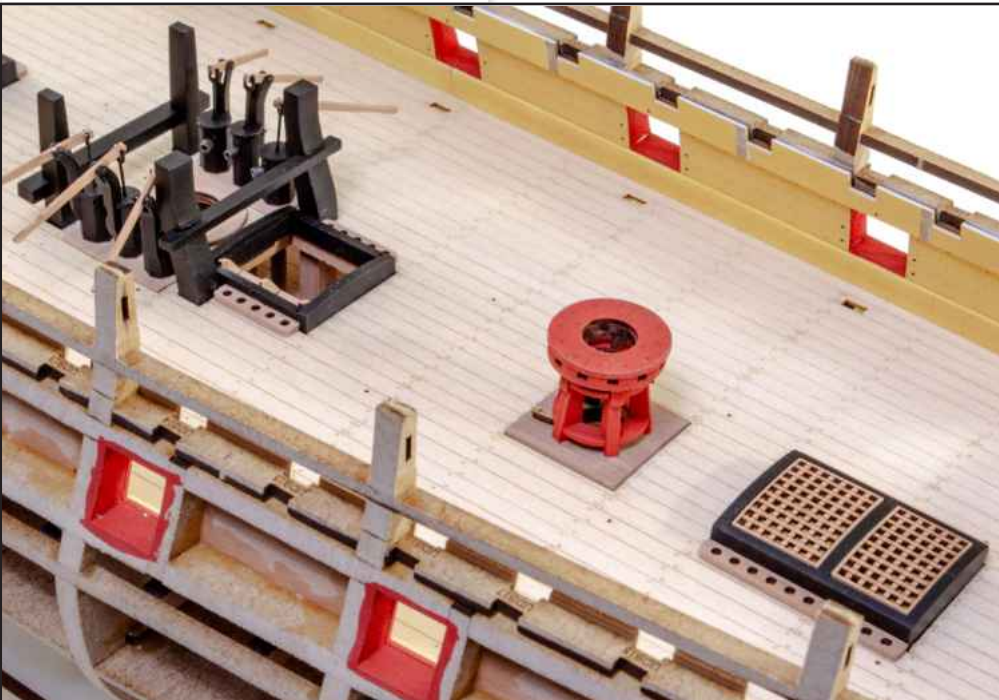
220. Paint the capstan red and use a dowel to align and glue the capstan as shown. Don't glue the dowel though. From the 1.5mm wood sheet, remove two parts 122. Glue and pin these into position using brass pins, as shown.



221. From the 1.5mm wood sheet, remove parts LDH1b, LDH2d, LDH3b, and LDH5f.



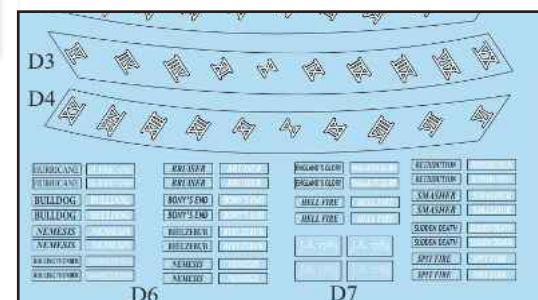
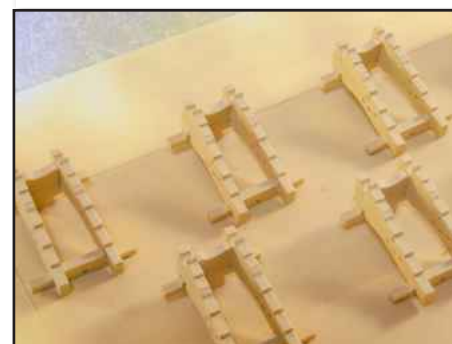
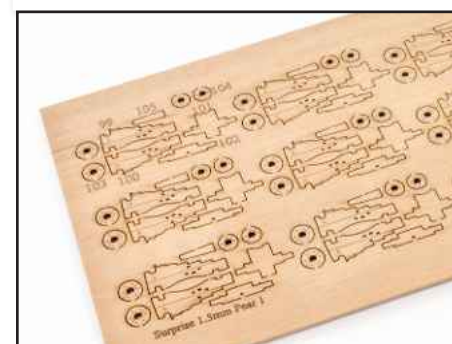
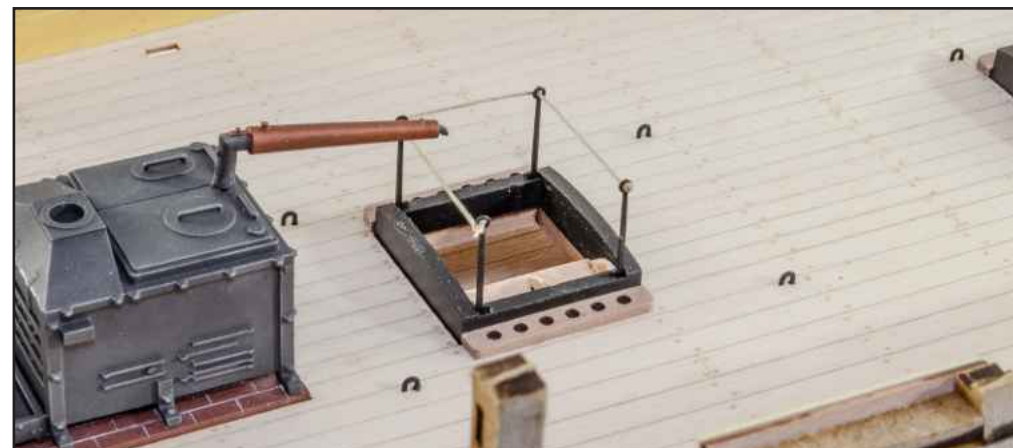
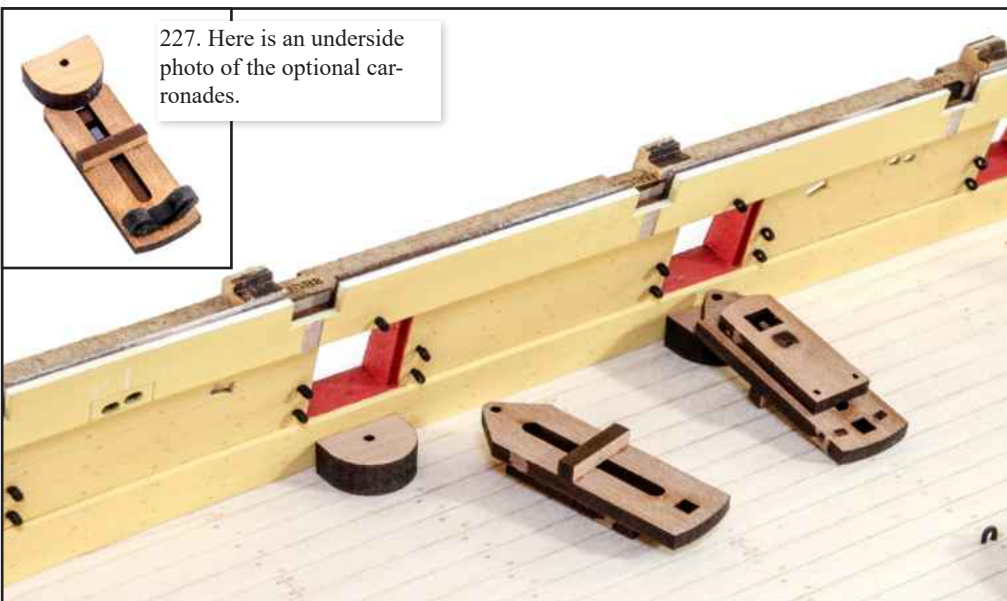
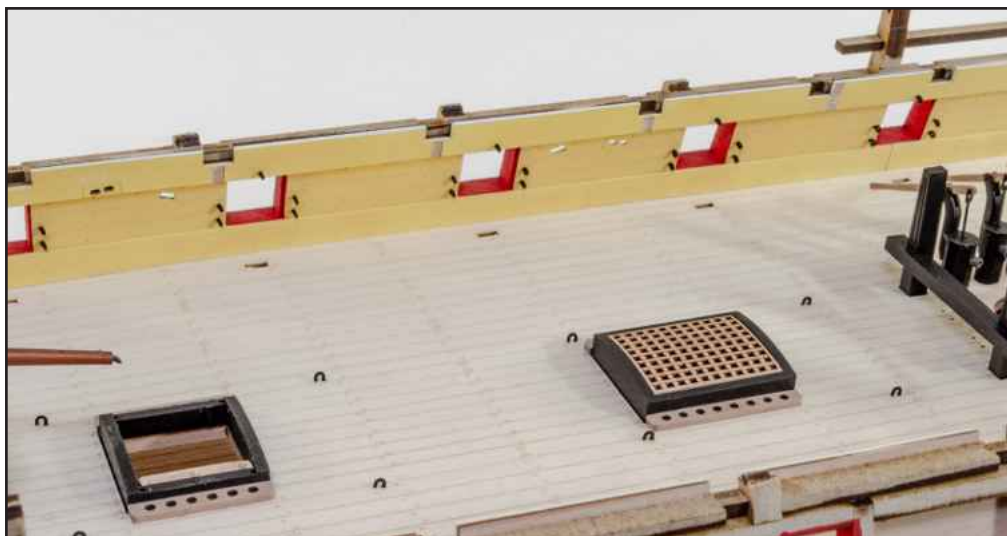
223. You will now need the 3D-printed stove. Remove any printing connections and clean up those points with very fine sandpaper.



222. Apply these parts to the side of each appropriate grate/ladderway. Check plans for placement.

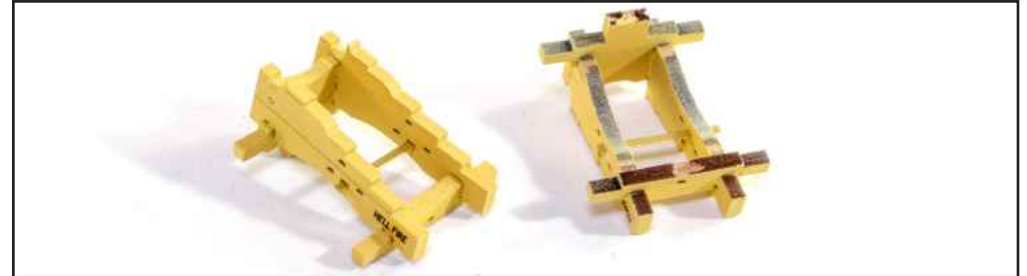
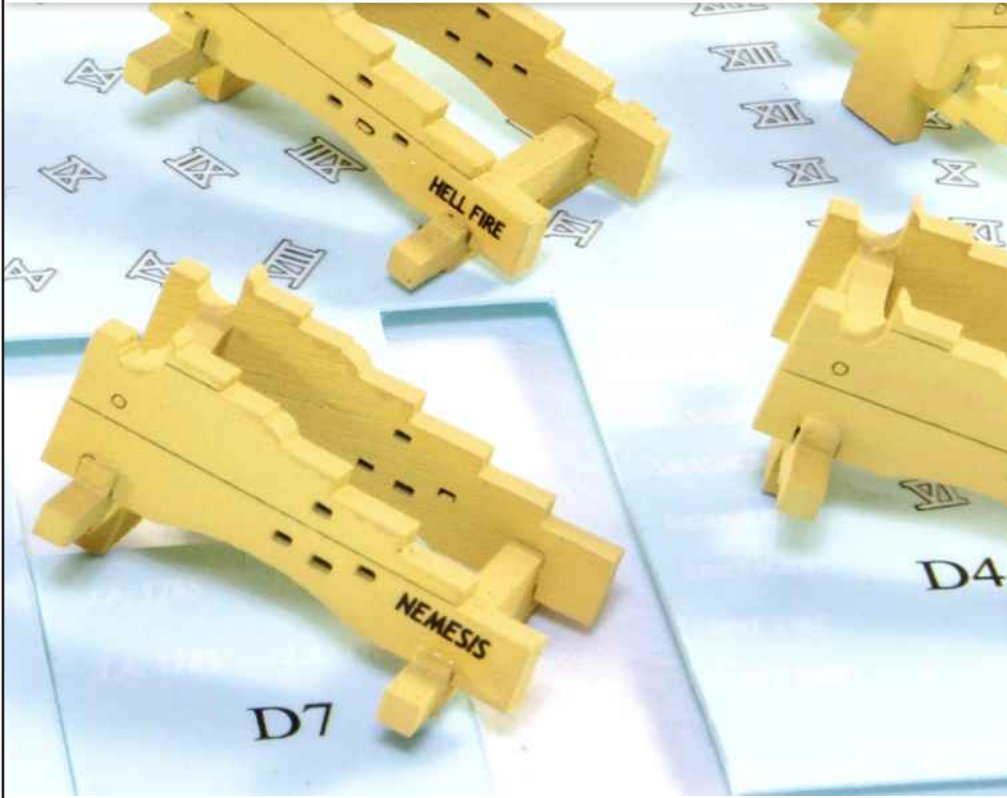


224. Paint the stove and fit as shown. NOTE: the stack and chimney are NOT glued at this stage. This simply shows how it will eventually look. We painted the stack in primer, Smoke Black paint, and then applied steel pigment to it with a flat brush.

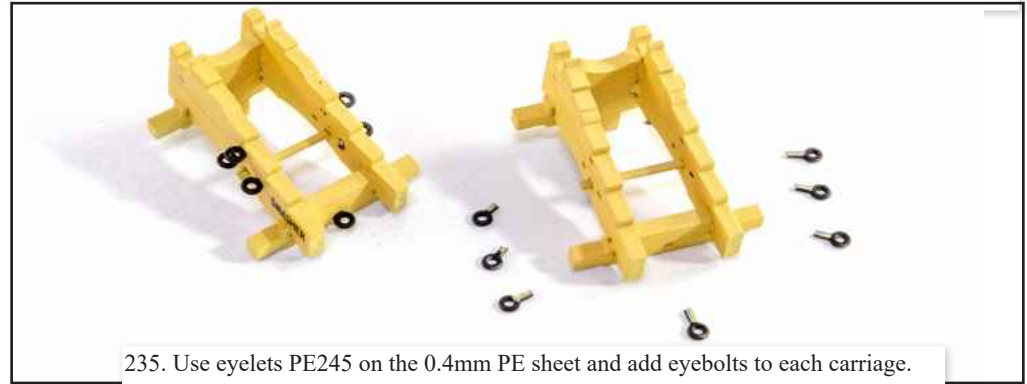




233. Add a little gloss varnish to the area on each carriage where the decals will be placed. When dry, add the decal to those areas and then seal with a little more varnish. When totally dry, use a little matt varnish on those areas.



234. On the 0.4mm PE sheet, remove parts PE20. Glue one per carriage, as shown here. Paint these in ochre (or black if your carriages are red)



235. Use eyelets PE245 on the 0.4mm PE sheet and add eyebolts to each carriage.



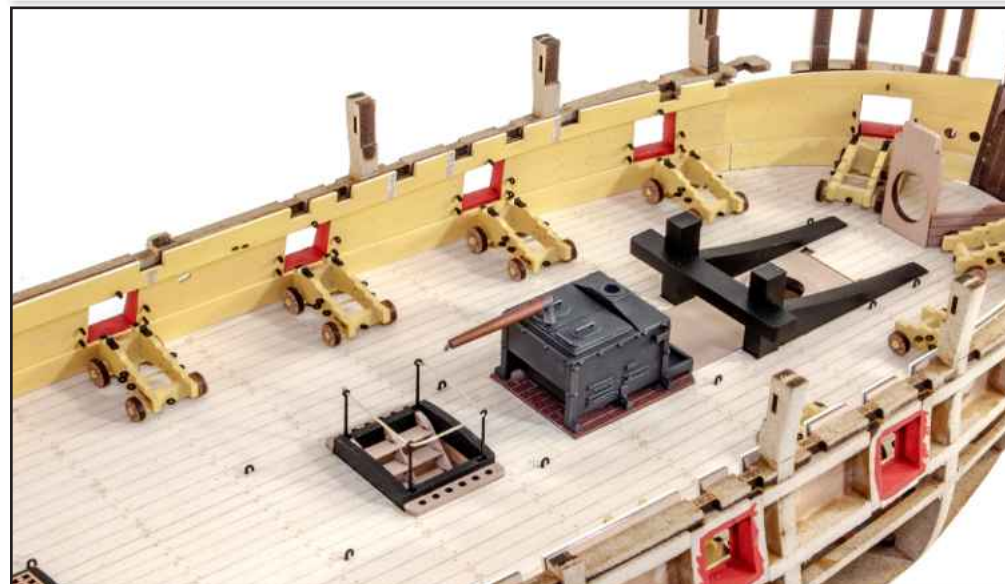
236. Now fit the wheels to the carriages, with the large ones at the front of each cart.



237. Here you see the completed guns, with barrels painted black: **NOTE: the barrels are only dry fitted and much NOT be glued onto the carriages at this stage.**

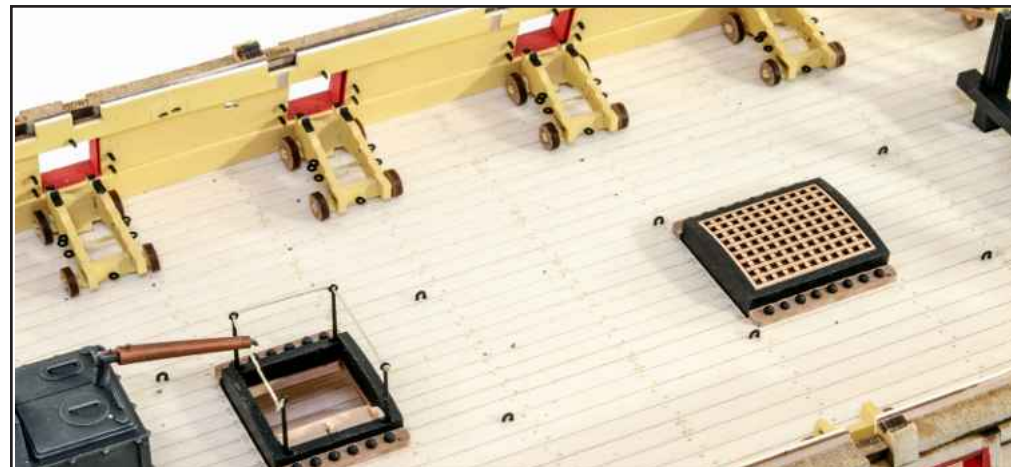
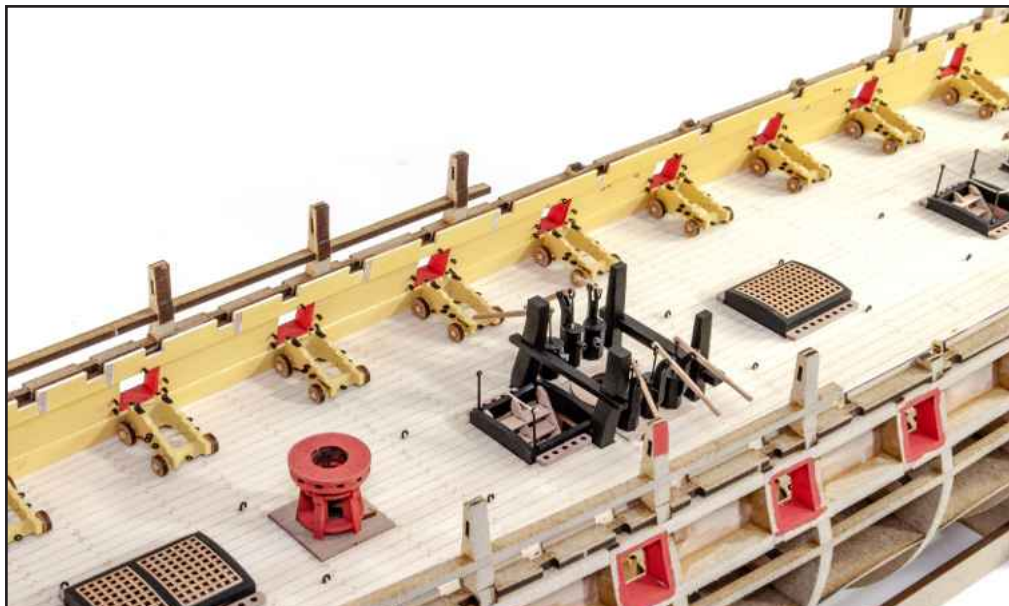


238. The last part of the gun cart is shown here. This is a chock. Use this **ONLY** if your gun points upwards when you do a test barrel fitting on a carriage which is glued into position on the deck. For information, our prototype didn't need the chocks fitting.

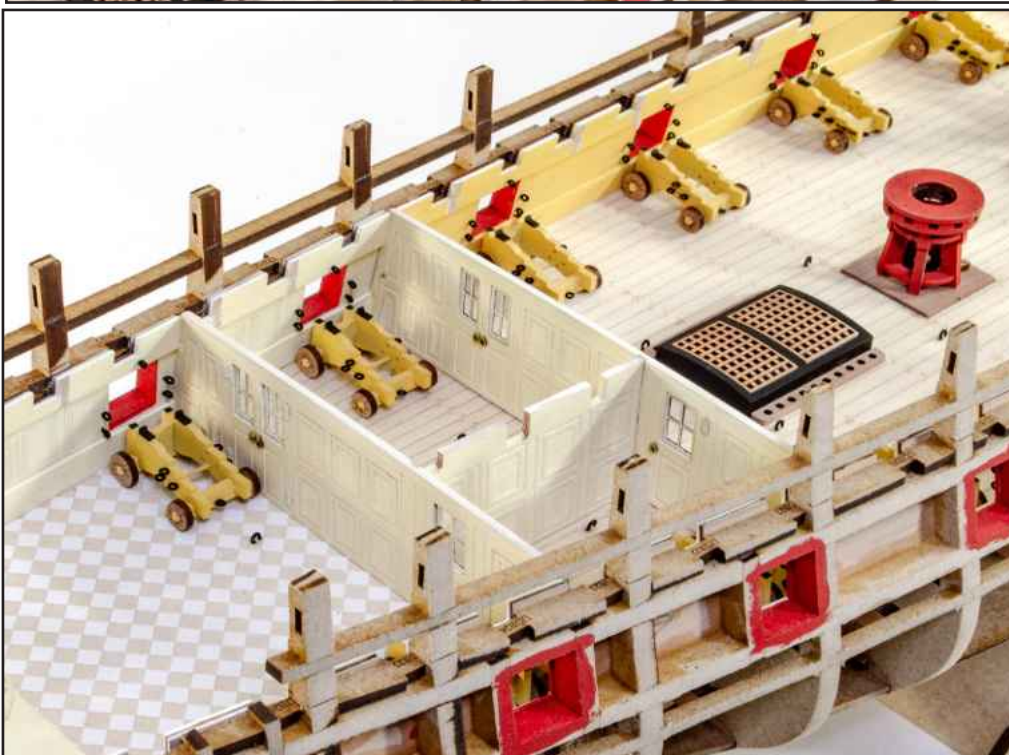


239. Glue all the gun carriages into place in the slots around the edge of the deck. Use the ones with names in positions where they could be visible with the upper deck in place. See plan for help. **NOTE:** We have used two of the spare carriages and removed the tabs. These have been installed in the bow area. They aren't necessary and are only optional if you wish to show those forward ports in an open position.

If the bow chaser ports are occupied, this means the second gun ports from the bow would **NOT** be occupied - Surprise had 24 cannon on the main gun deck, and not 26.



240. Use the smallest of the steel balls for the shot garlands, if you are fitting the cannon. Of course, these will need painting black. If you use the optional purchase of carronades, please fit the large steel balls into the garlands.



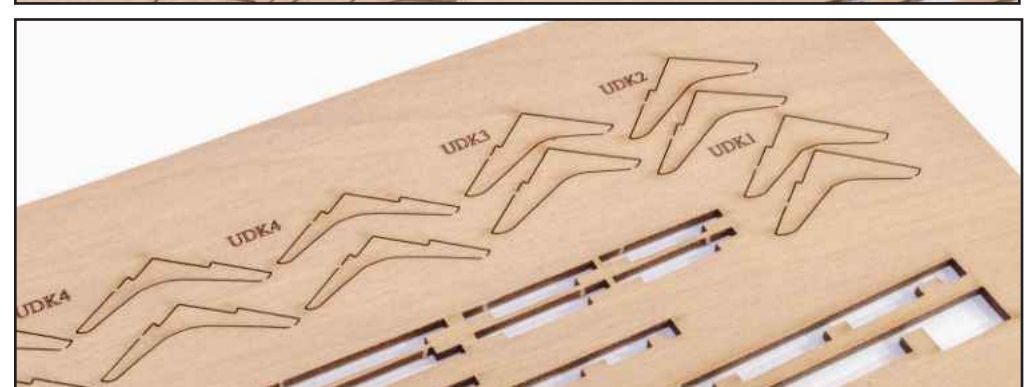
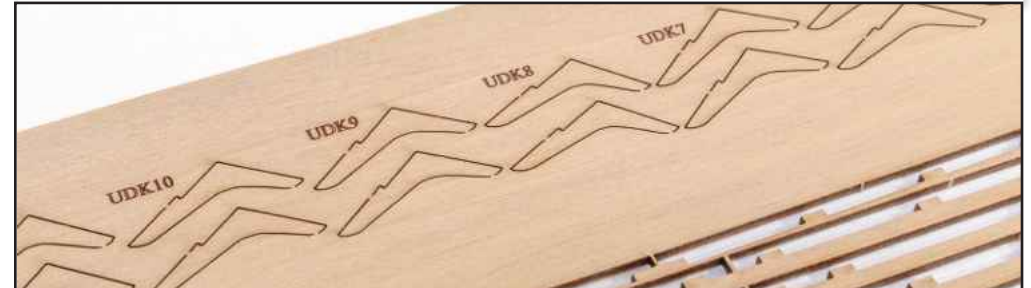
241. We supply all items shown here except the two extra chairs which we have available in our web store. Paint all of your items and arrange them how you think will look best. We also supply a cabinet in wood. The construction images are now shown here.



242. From the 4mm wood sheet, remove parts UDB1 thru UDB7. From the 3mm wood sheet, remove part UDB6.5.

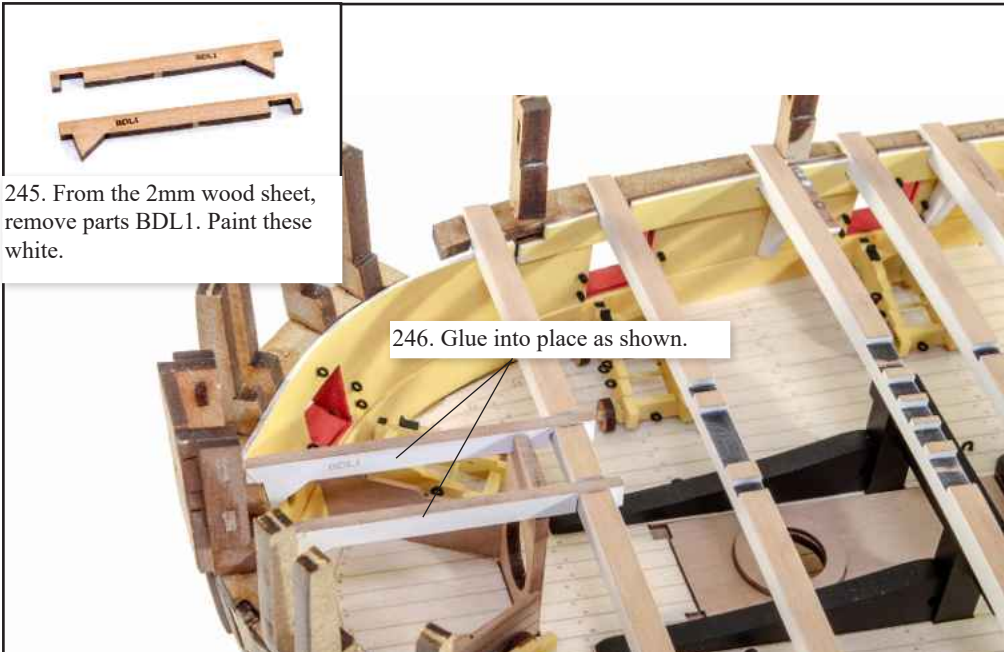


243. From the 2mm wood sheet, locate all the upper deck knees. Remove these from the sheet and paint them white, ensuring that you don't mix any of the numbers up.



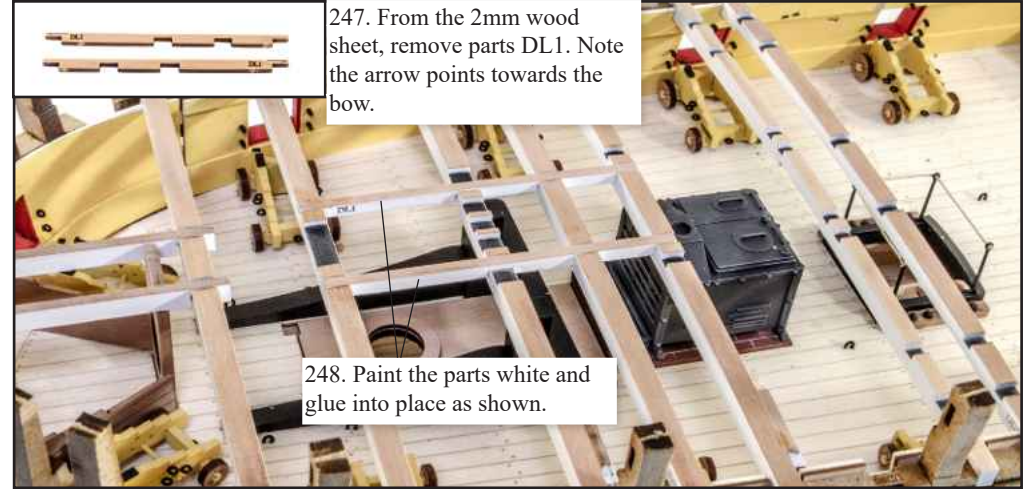


244. Remove the char from the top side of each deck beam. Mask the top of each beam and paint the rest in white. Glue all parts into position in their respective numbered slots, except for the two UDB6 parts.



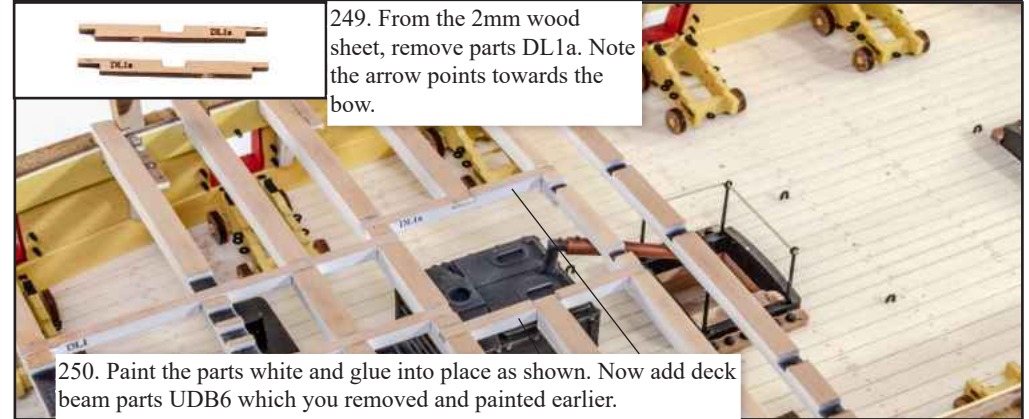
245. From the 2mm wood sheet, remove parts BDL1. Paint these white.

246. Glue into place as shown.



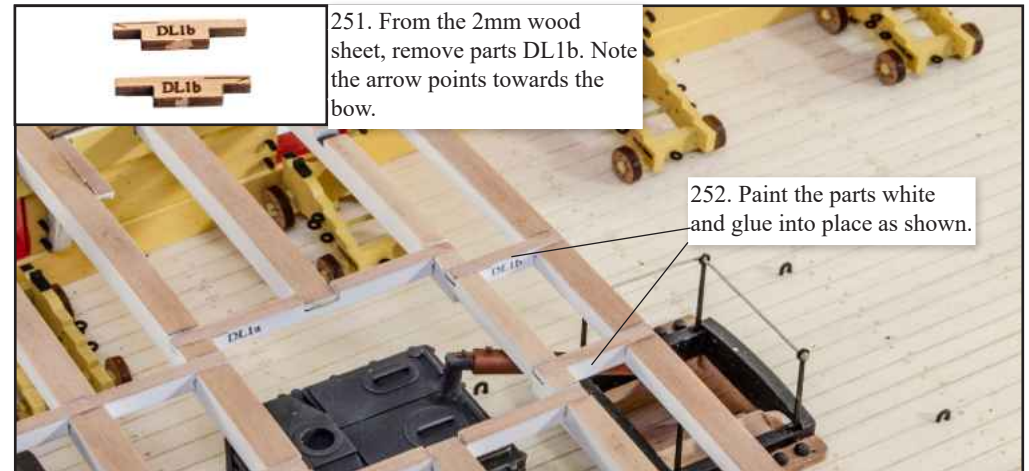
247. From the 2mm wood sheet, remove parts DL1. Note the arrow points towards the bow.

248. Paint the parts white and glue into place as shown.



249. From the 2mm wood sheet, remove parts DL1a. Note the arrow points towards the bow.

250. Paint the parts white and glue into place as shown. Now add deck beam parts UDB6 which you removed and painted earlier.



251. From the 2mm wood sheet, remove parts DL1b. Note the arrow points towards the bow.

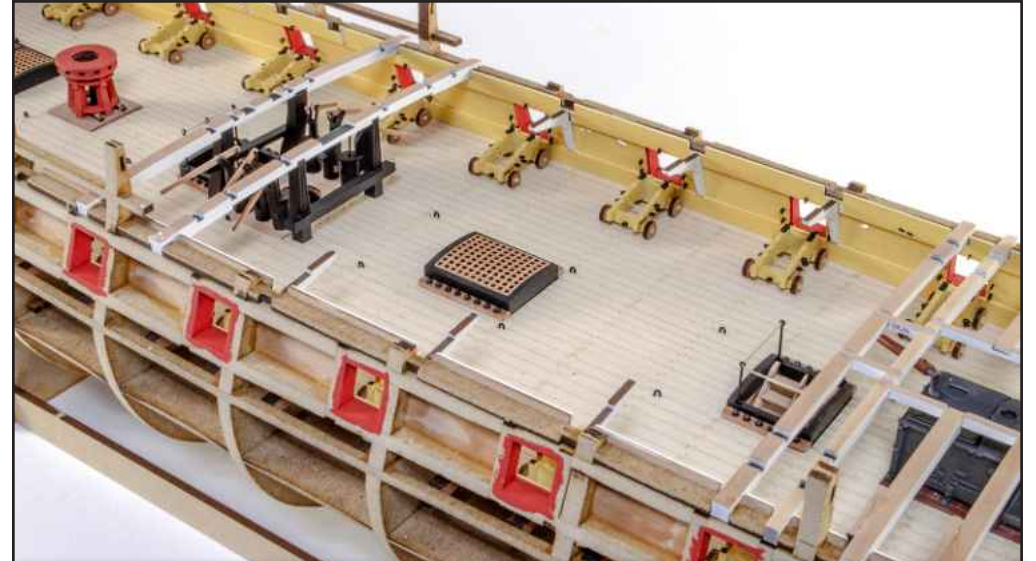
252. Paint the parts white and glue into place as shown.



253. Add the knee parts to the appropriate position as shown on the part numbers and plans.



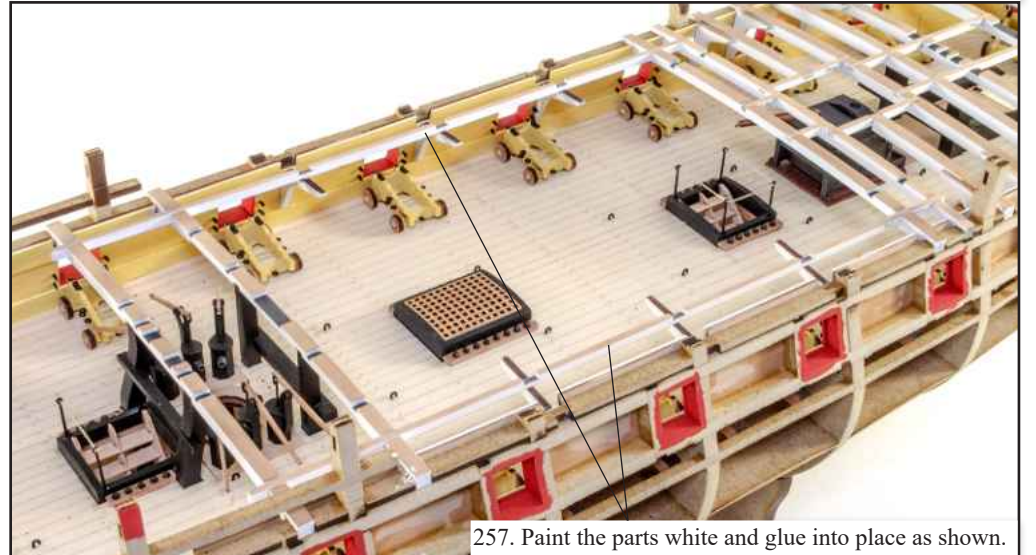
254. From the 4mm wood sheet, remove parts UDB11 thru UDB20.



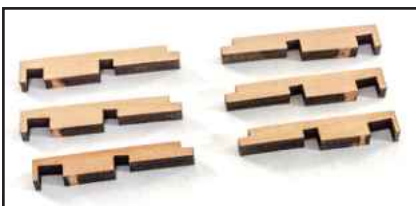
255. Glue UDB11 and UDB12 into place as shown. Remember to get the correct position by checking the engraved numbers on each deck beam position.



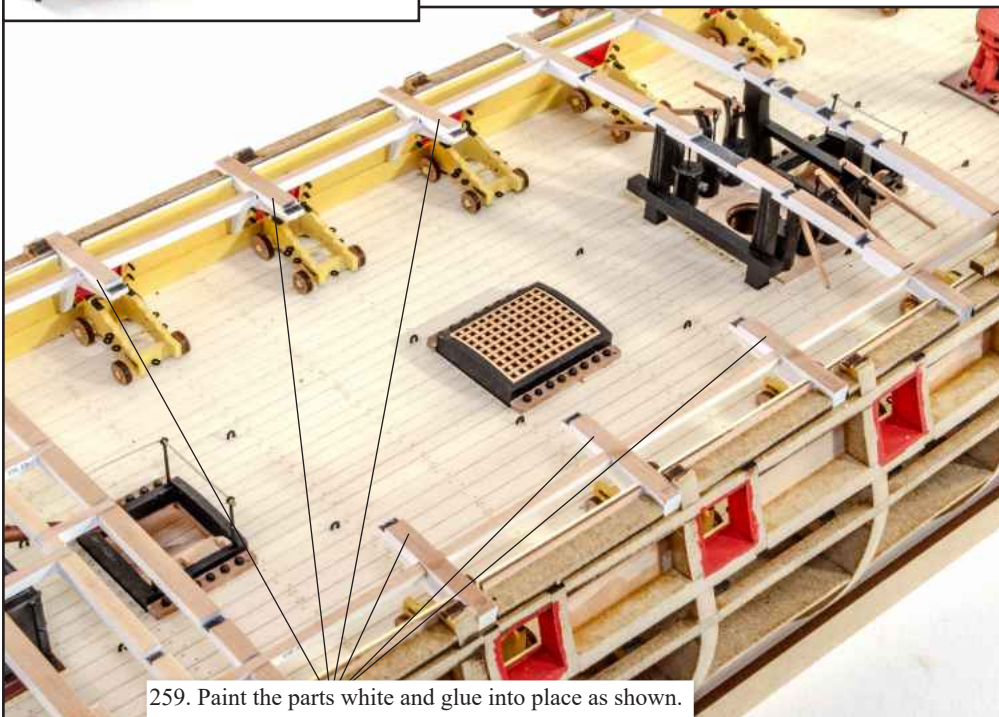
256. From the 2mm wood sheet, remove parts DL2 (INNER). Note the arrow points towards the bow.



257. Paint the parts white and glue into place as shown.



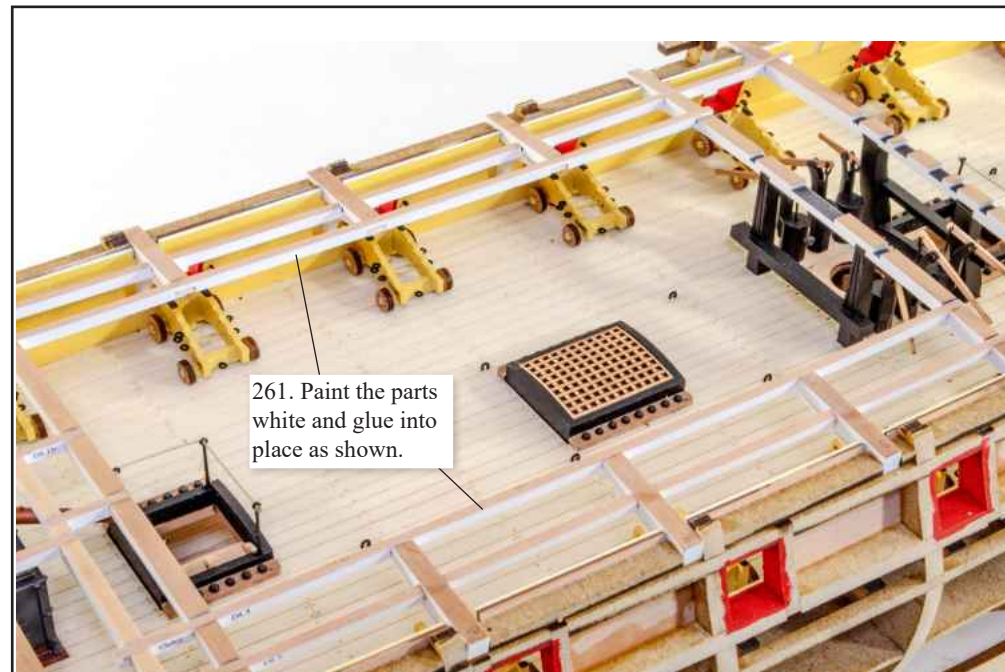
258. From the 4mm wood sheet, remove parts UDB8, UDB9, and UBD10.



259. Paint the parts white and glue into place as shown.



260. From the 2mm wood sheet, remove parts DL3 (OUTER). Note the arrow points towards the bow.

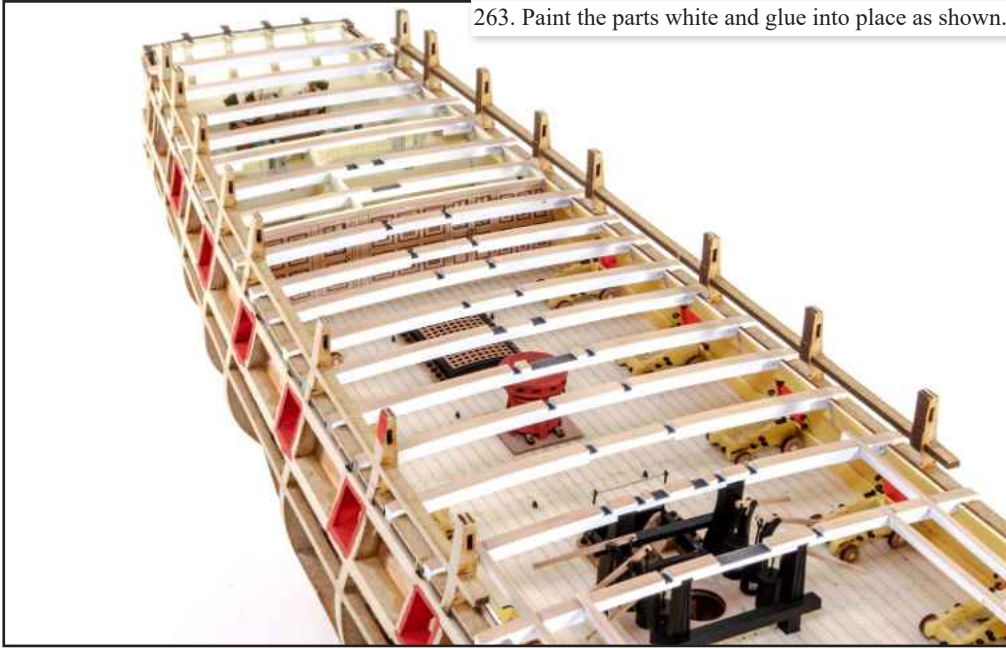


261. Paint the parts white and glue into place as shown.



262. From the 4mm wood sheet, remove parts UDB22 thru UDB27. From the 3mm wood sheet, remove part UDB21.

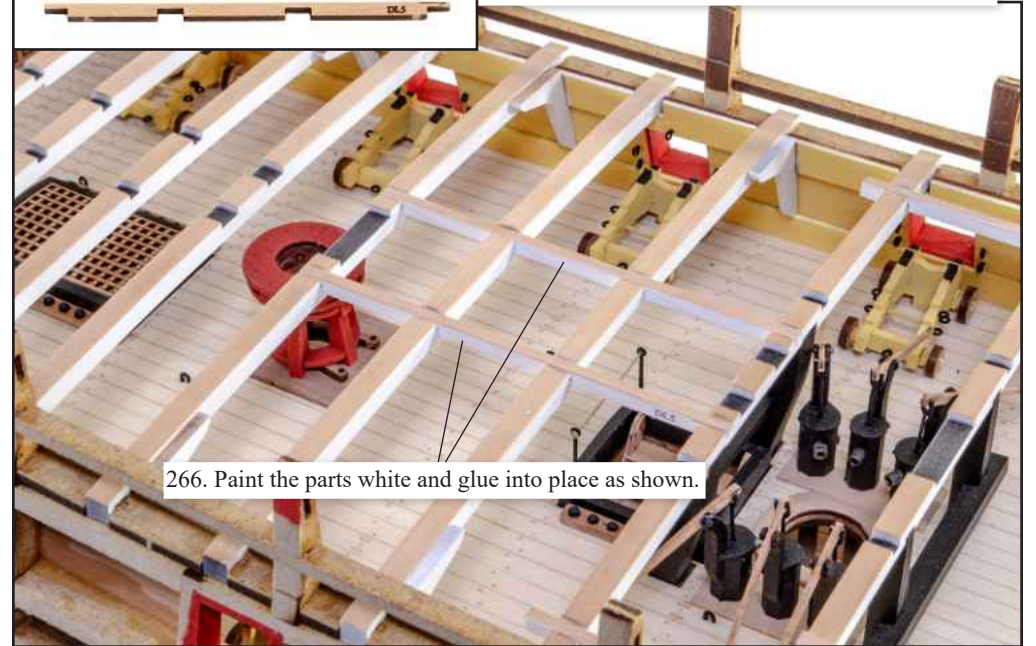
263. Paint the parts white and glue into place as shown.



264. Now fit the correct knee parts to their respective locations.



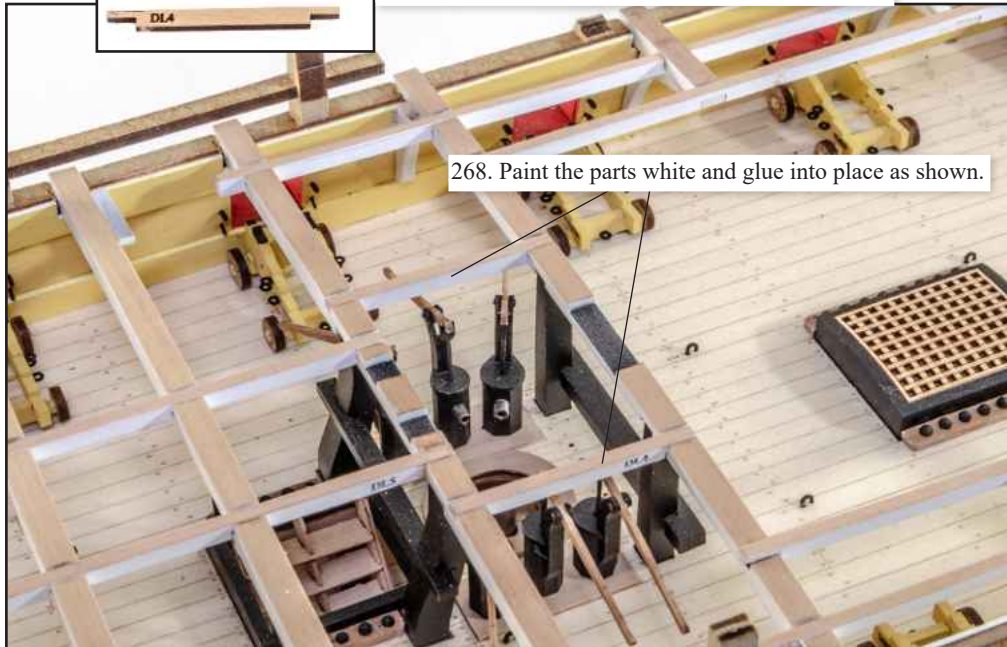
265. From the 2mm wood sheet, remove parts DL5. Note the arrow points towards the bow.



266. Paint the parts white and glue into place as shown.



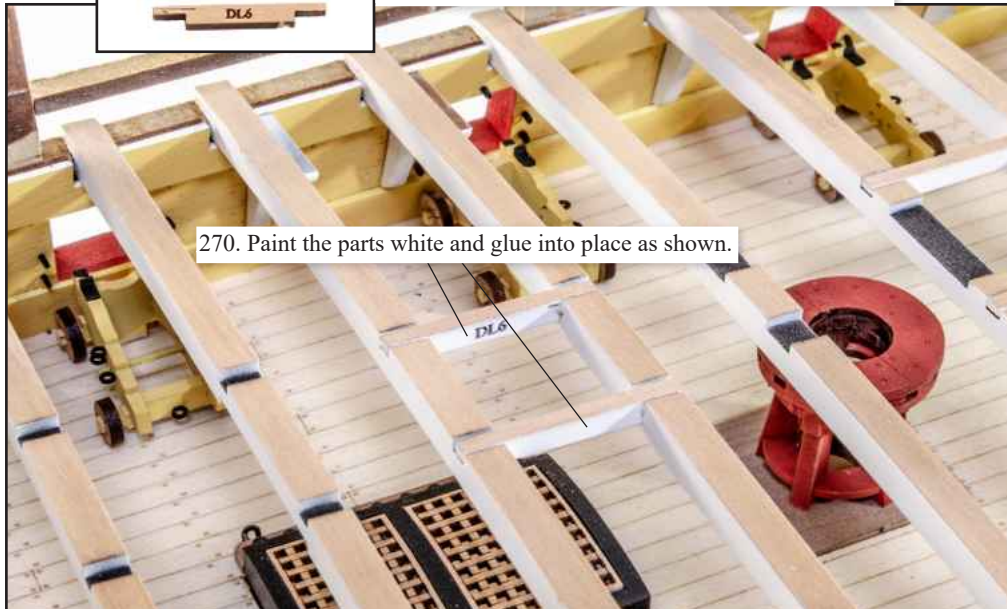
267. From the 2mm wood sheet, remove parts DL4. Note the arrow points towards the bow.



268. Paint the parts white and glue into place as shown.



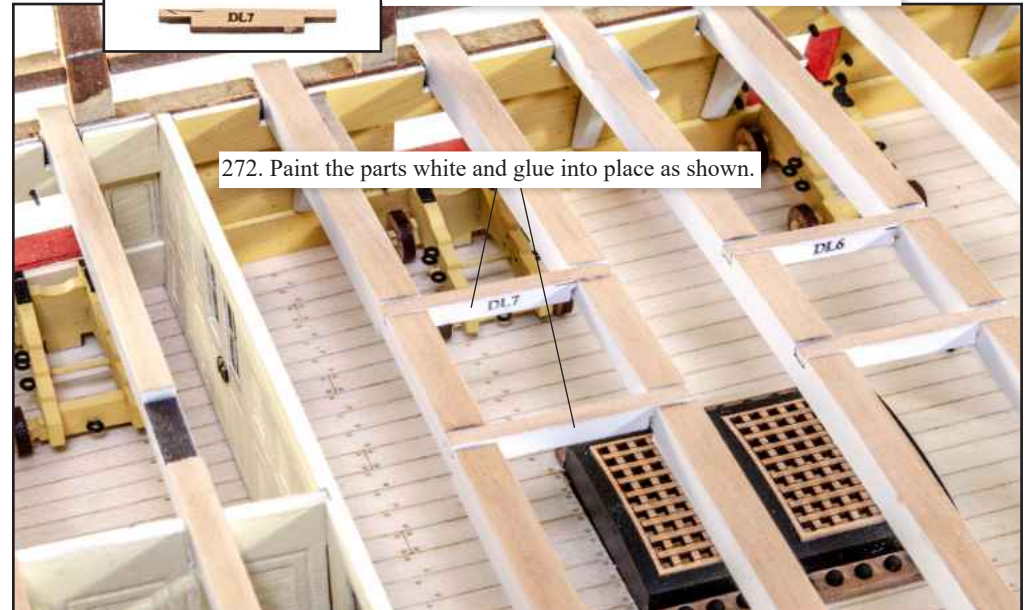
269. From the 2mm wood sheet, remove parts DL6. Note the arrow points towards the bow.



270. Paint the parts white and glue into place as shown.



271. From the 2mm wood sheet, remove parts DL7. Note the arrow points towards the bow.



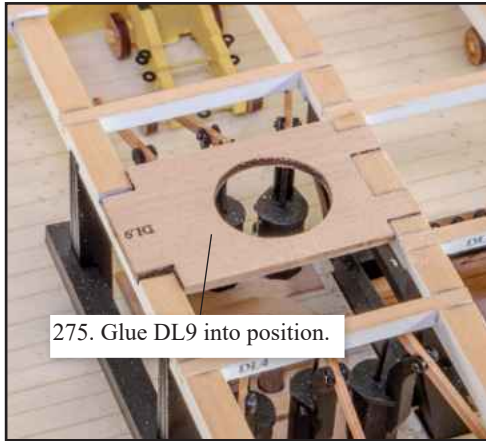
272. Paint the parts white and glue into place as shown.



273. From the 1.5mm wood sheet, remove parts DL8, DL9, DL10, and DL11.



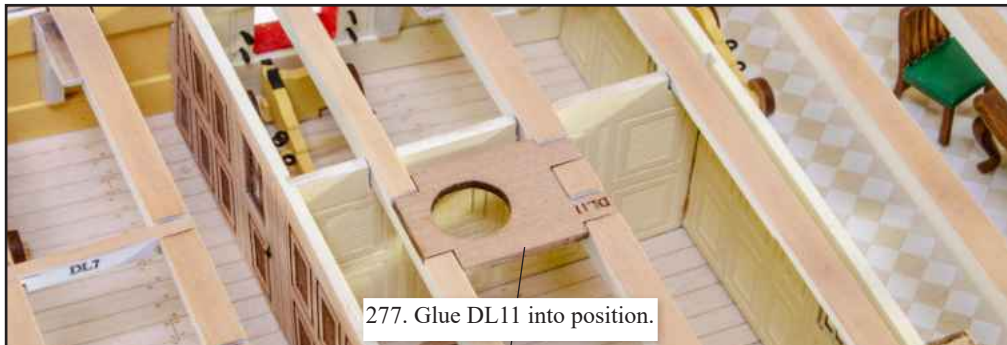
274. Glue DL8 into position.



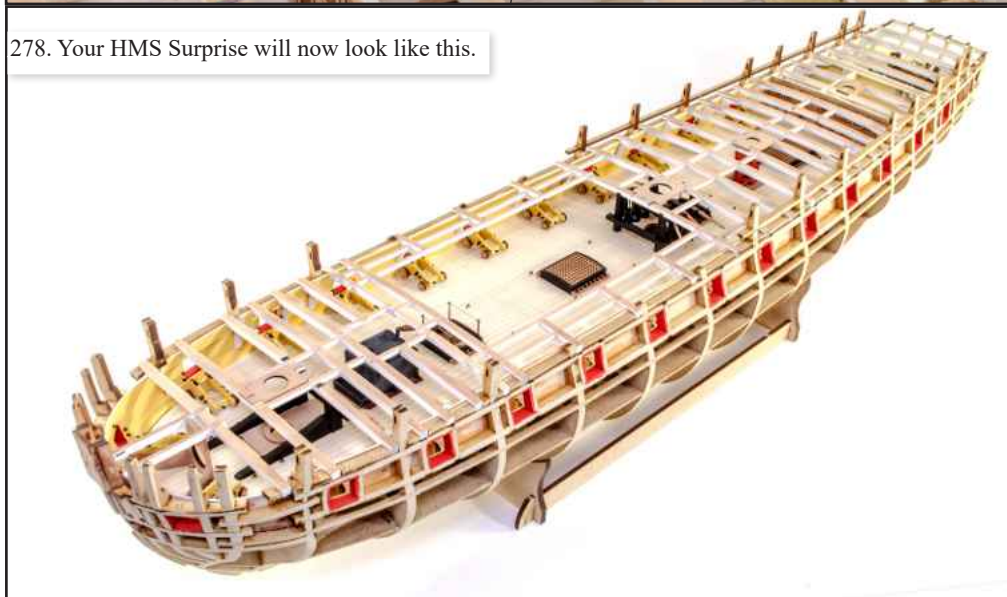
275. Glue DL9 into position.



276. Glue DL10 into position.



277. Glue DL11 into position.

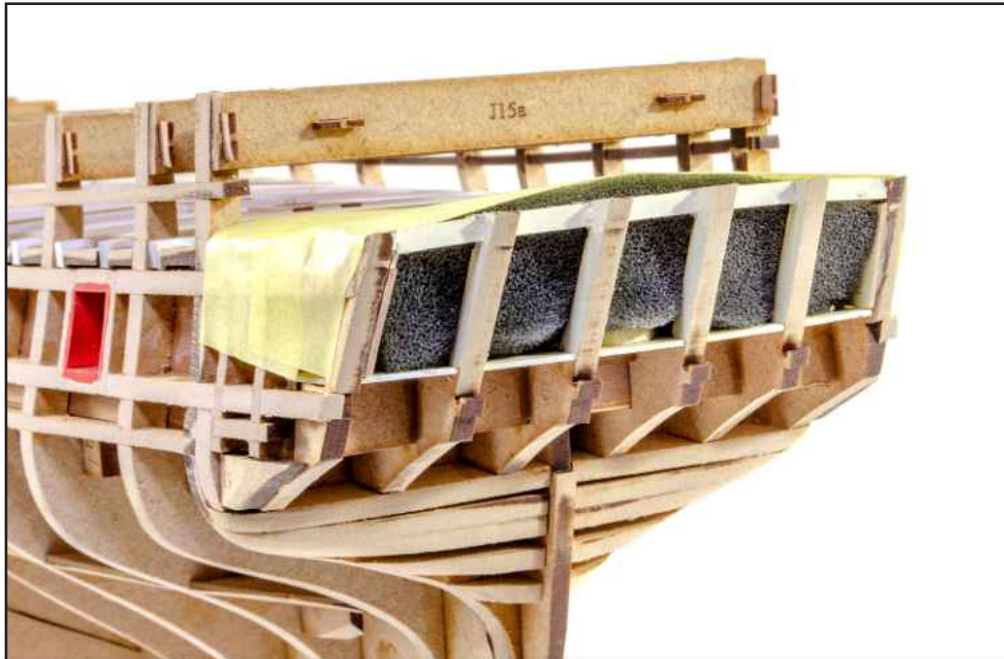


278. Your HMS Surprise will now look like this.

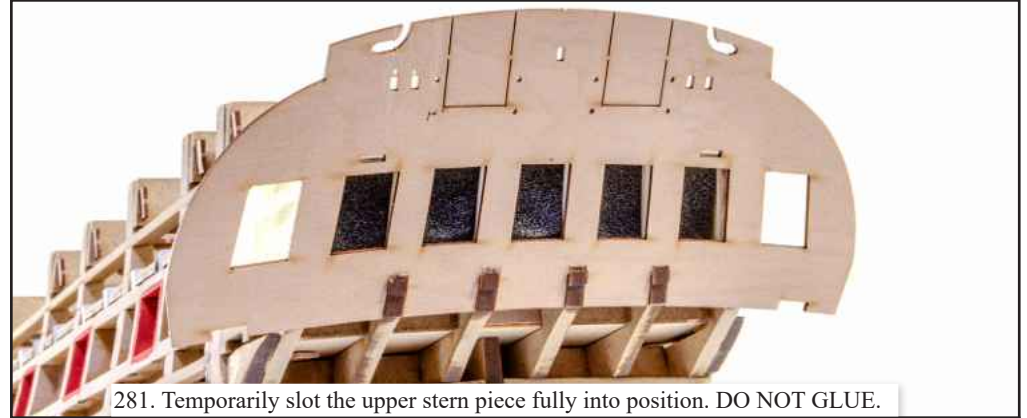




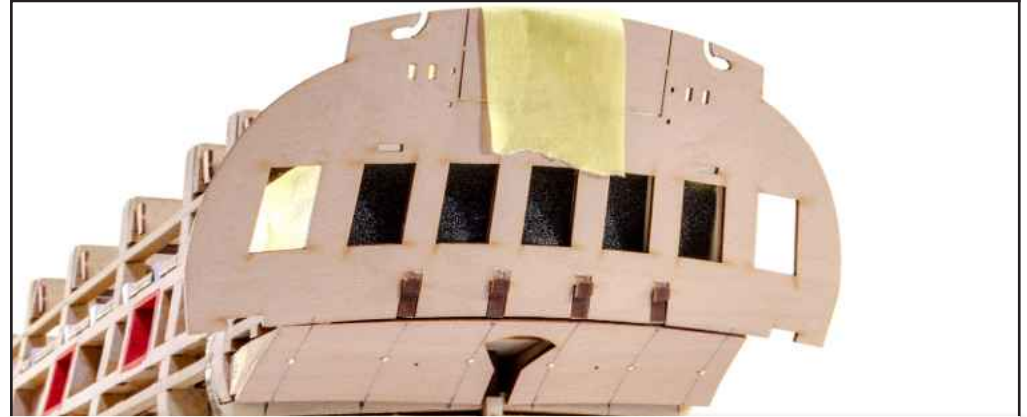
279. From the 1mm wood sheet, remove parts OS-1 (Original Surprise), or part 176 (Fictional). Also remove part 172.



280. Reinstate all of the jigs. Blank off the stern cabin windows and apply some tape to the top of the cabin area to protect it from dust ingress. Carefully sand the stern window frame timbers so they gently curve. Also gently sand the counter area just below this. Be careful not to sand/break the protruding tabs.



281. Temporarily slot the upper stern piece fully into position. DO NOT GLUE.



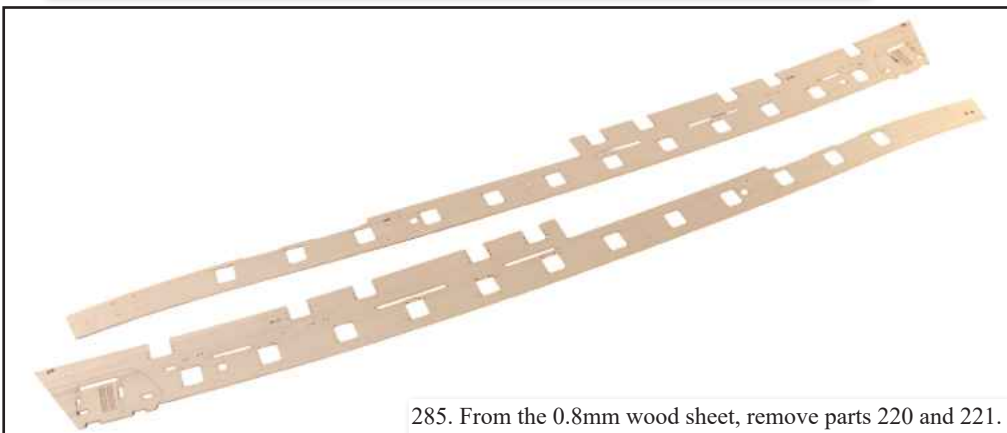
282. Glue and pin the lower counter piece 172 into place directly below. Note how I've marked lines to assist with pinning.



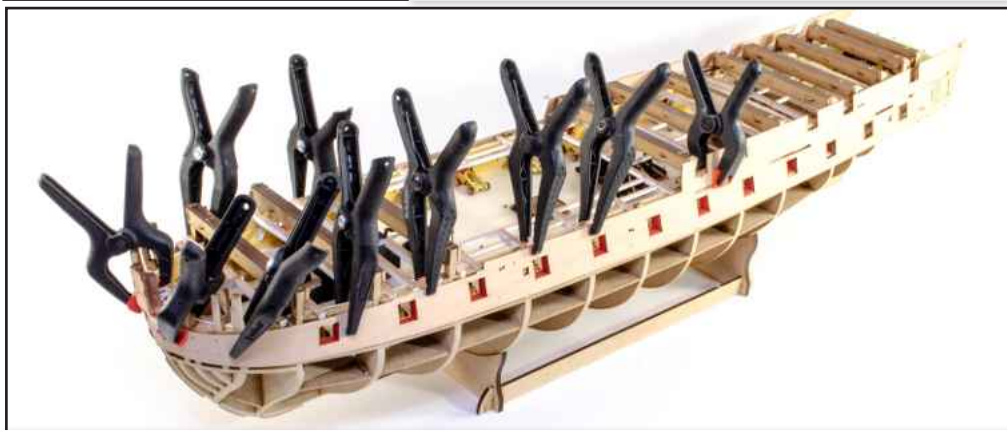
283. Now remove the upper stern part and store away until needed.



284. When the lower counter glue is dry, sand the protruding edges at the hull sides.



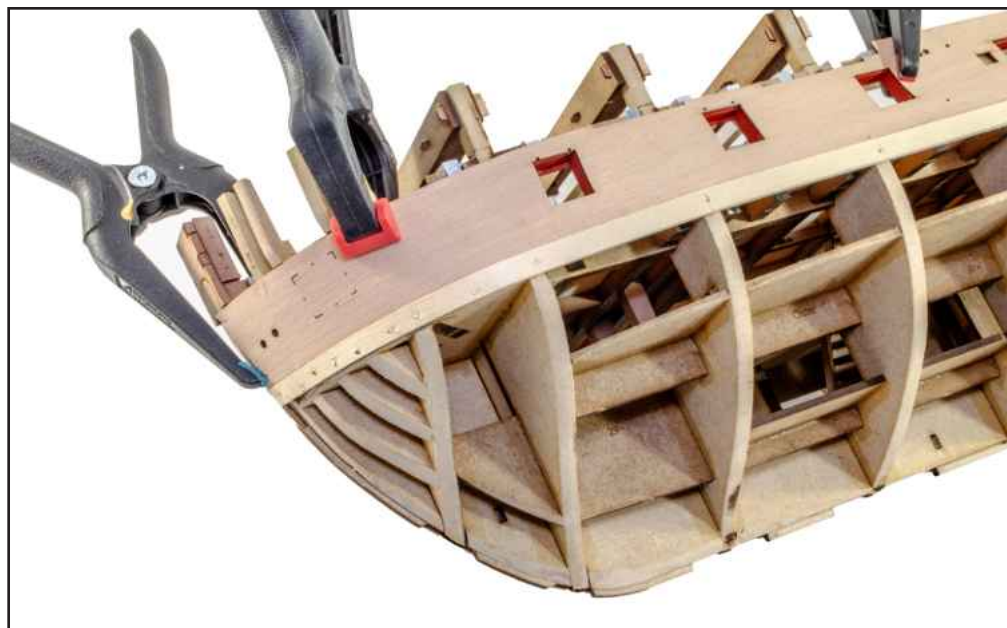
285. From the 0.8mm wood sheet, remove parts 220 and 221.



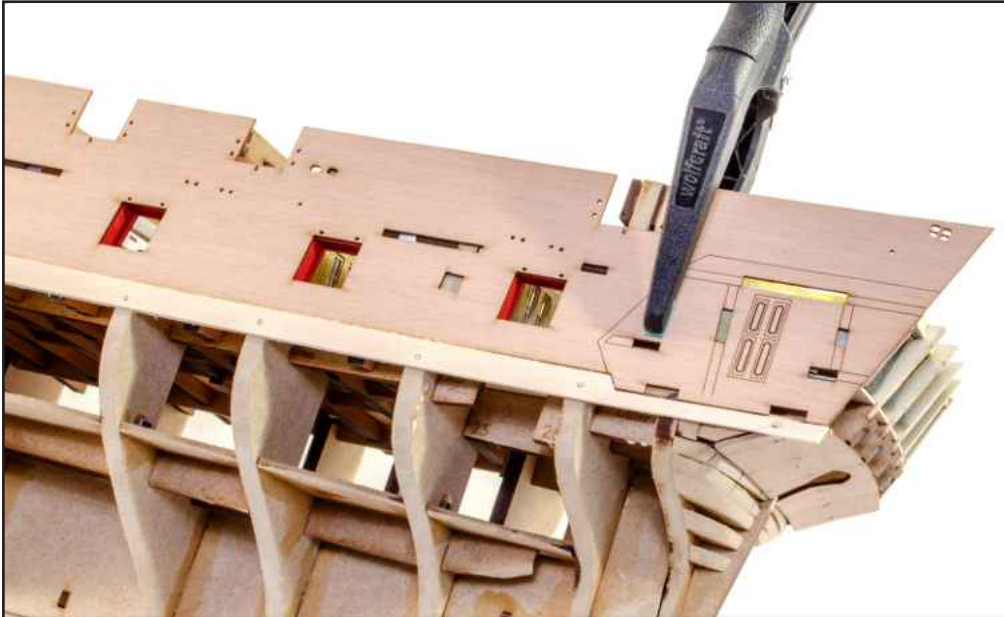
286. Soak the forward side of each part in hot water for about 20 minutes and then align and clamp into place on the hull until fully dry. As pear expands and holds a lot of water, we recommend at least a FULL 24HRS to fully shrink back to size.



287. After drying, you can see how the ports fully align. Make sure that the part doesn't move. Do NOT glue!



288. Use the 1.5mm x 6mm limewood strip to add the first plank DIRECTLY underneath the bulwark. This can be fitted as halves to make it easier. Here you see how the plank bends around the bow...



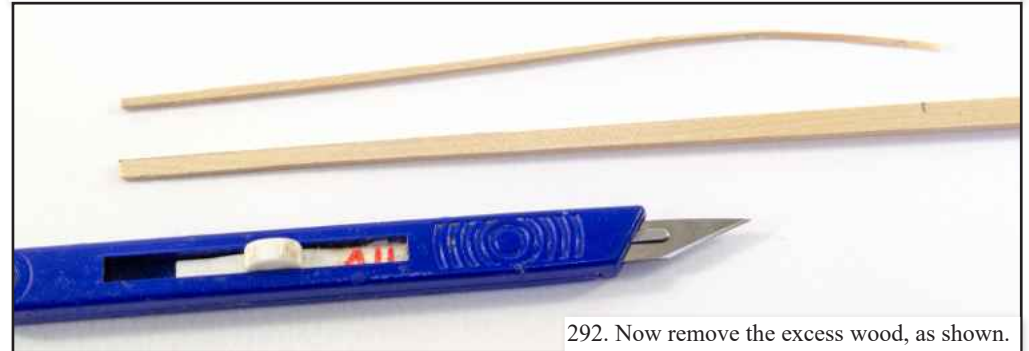
289. ...and here you see the same plank run at the stern. Note how the plank fits around the bulwark at this area.



290. Here is an overall view of the first fitted plank. From here, you will need to taper the planks, so they conform properly to the hull.



291. To taper a plank, gently bend around the bow and make a mark where it begins to cross over the previous plank. Now make a mark about 1/3 down the width of the plank, at the front. Draw a line to connect the marks.



292. Now remove the excess wood, as shown.



293. If necessary, you can use a plank nipping tool, or heated iron to induce a curve in the forward part of the plank.

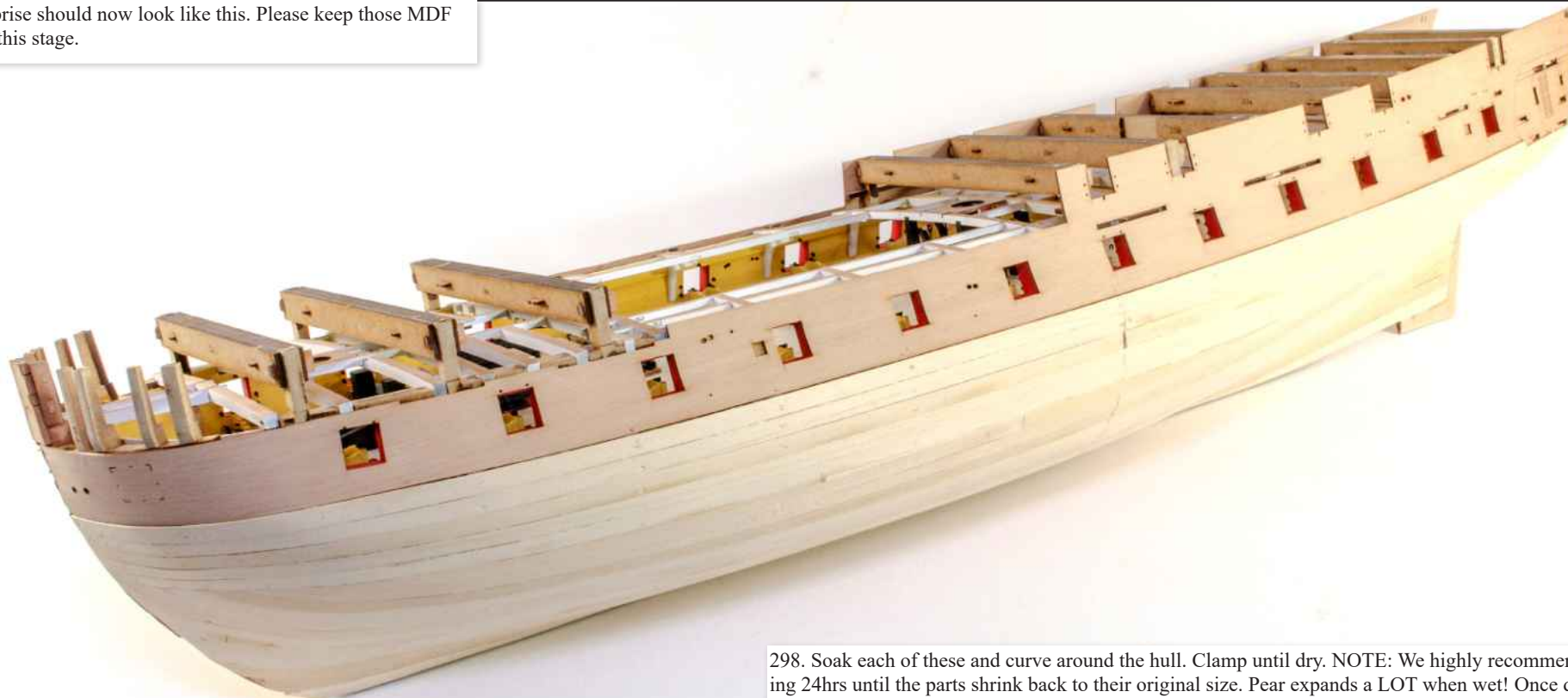
294. You can now use this method to plank your hull, or any method which you've found to be successful for you. Again, feel free to fit the planks as halves so it's easier to tailor each end separately.



295. Once your hull is planked, sand it smooth. We find it useful to use a sanding mouse for this purpose.

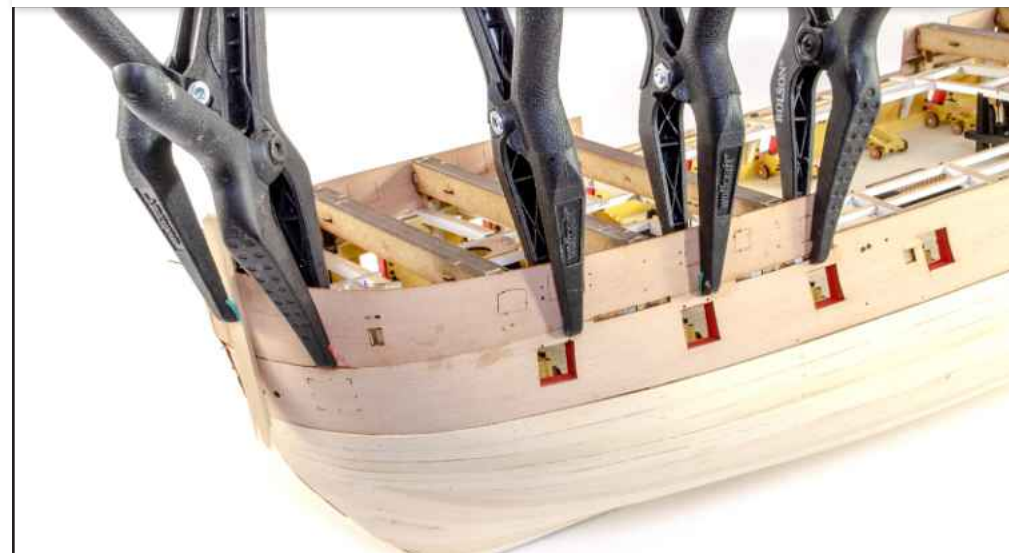


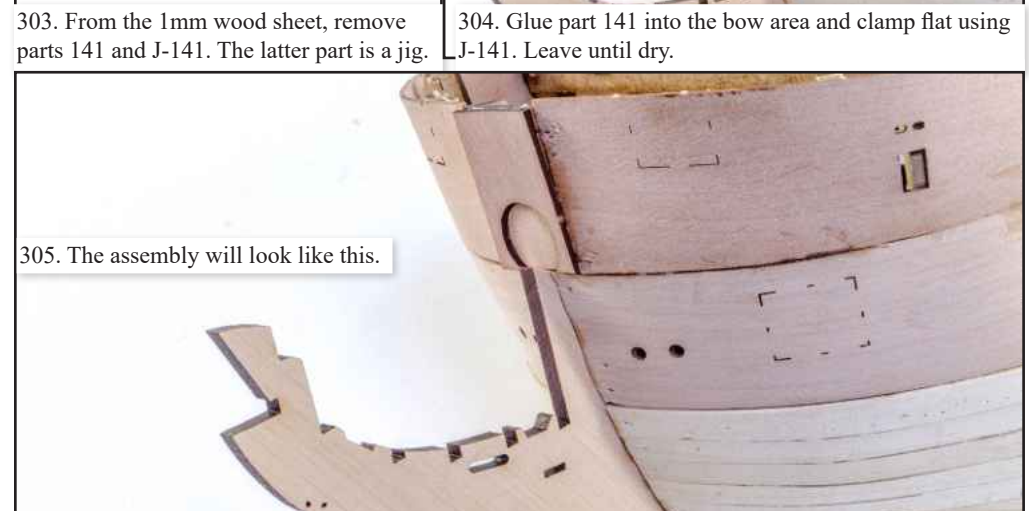
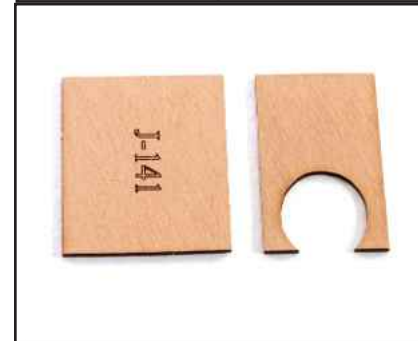
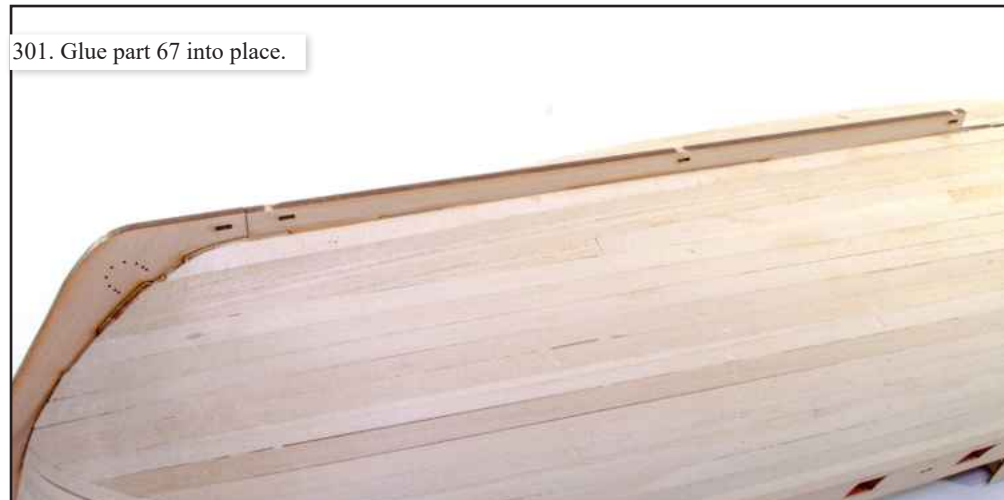
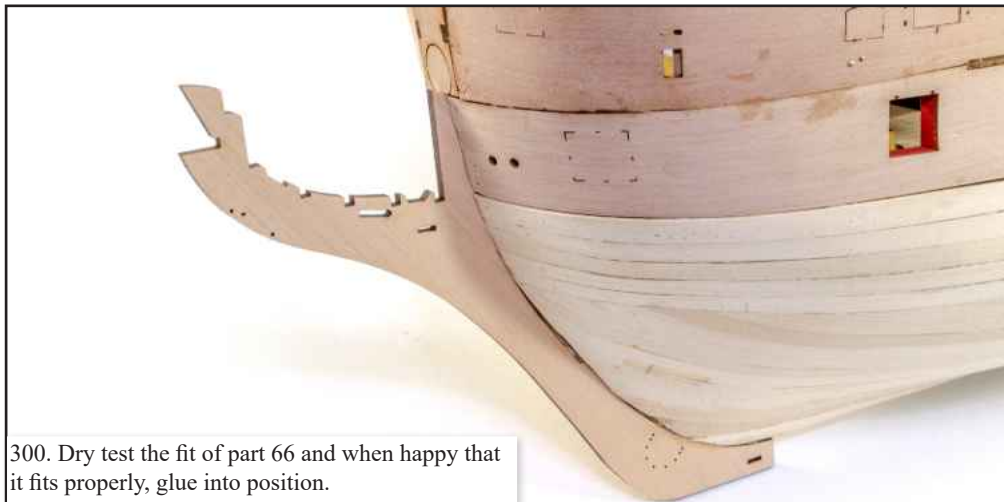
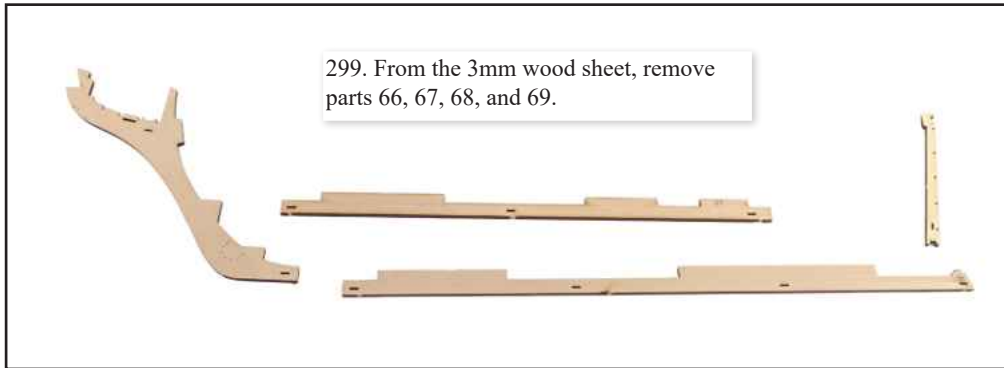
296. HMS Surprise should now look like this. Please keep those MDF jigs in place at this stage.

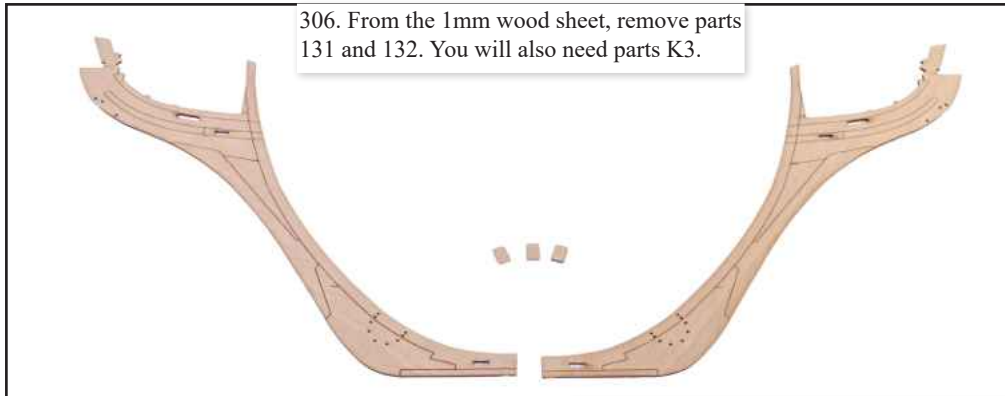


298. Soak each of these and curve around the hull. Clamp until dry. NOTE: We highly recommend waiting 24hrs until the parts shrink back to their original size. Pear expands a LOT when wet! Once dry, glue them into position. Only tack them to the inner vertical MDF bulkhead ears.

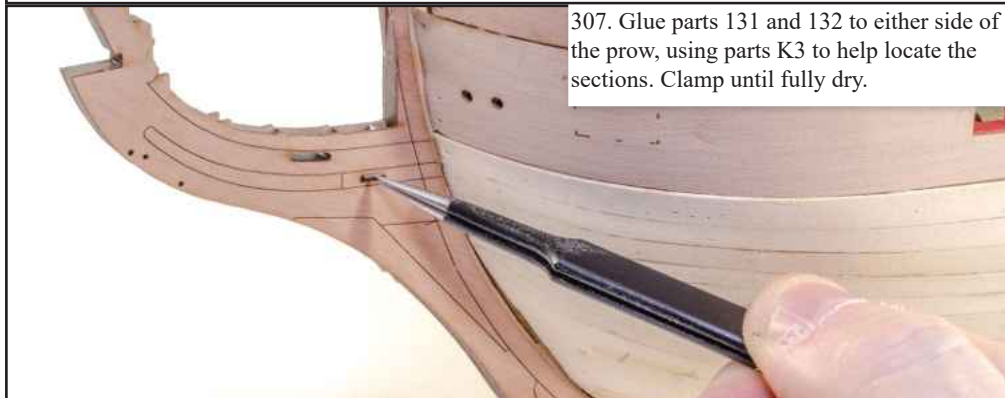
297. From the 0.8mm wood sheet, remove parts 220a and 221a. Despite different part numbers, both of these parts are identical.







306. From the 1mm wood sheet, remove parts 131 and 132. You will also need parts K3.

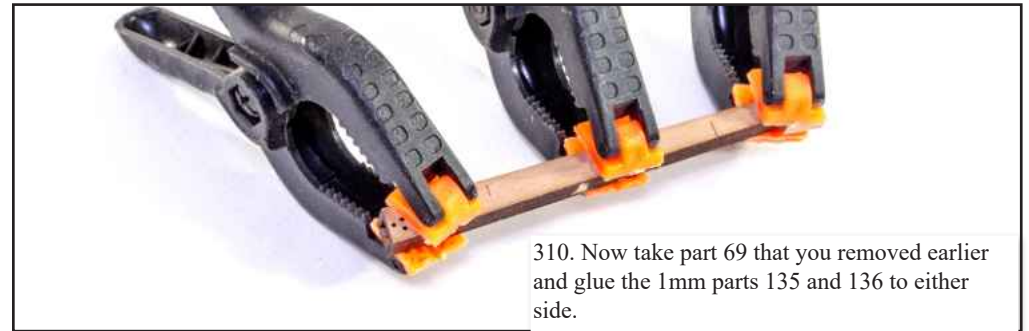


307. Glue parts 131 and 132 to either side of the prow, using parts K3 to help locate the sections. Clamp until fully dry.

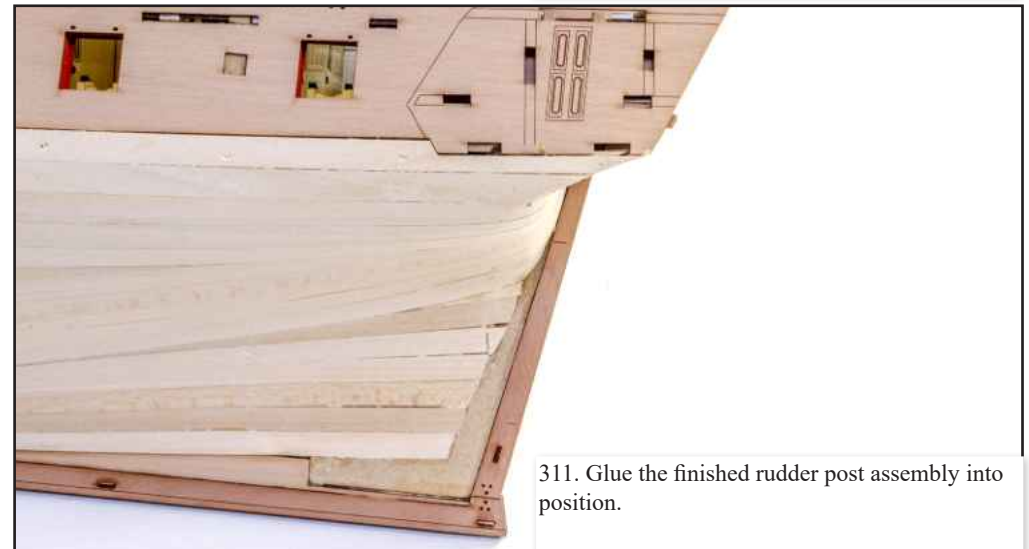


308. From the 1mm wood sheet, remove parts 133 and 134.

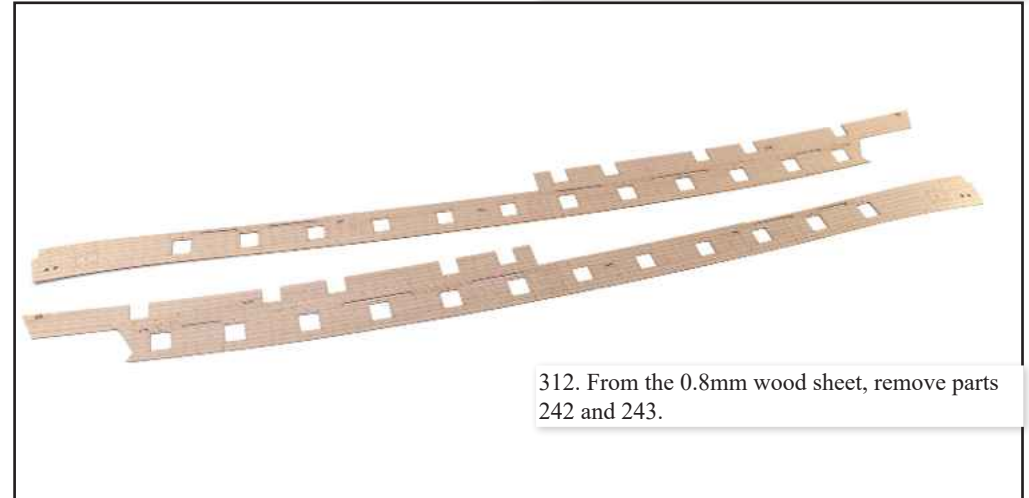
309. Glue these to either side of the keel, again using parts K3 to help locate into the keel. Clamp until dry.



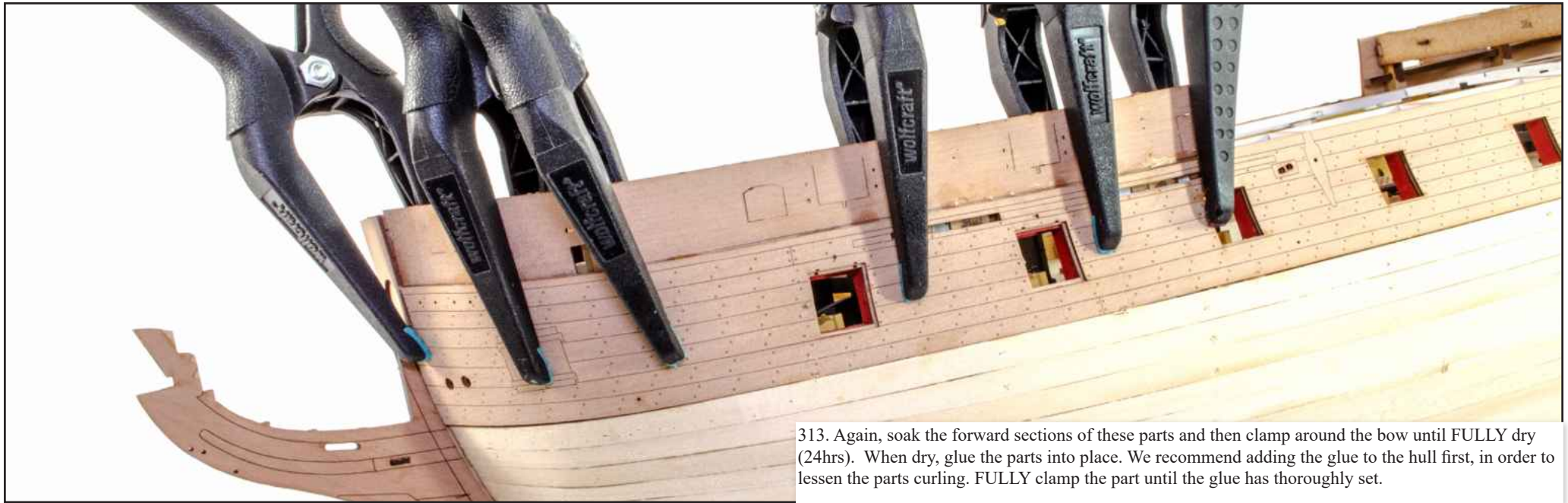
310. Now take part 69 that you removed earlier and glue the 1mm parts 135 and 136 to either side.



311. Glue the finished rudder post assembly into position.



312. From the 0.8mm wood sheet, remove parts 242 and 243.



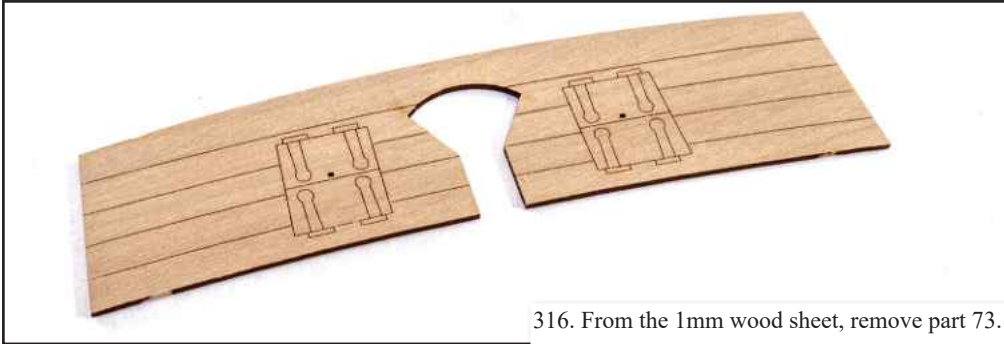
313. Again, soak the forward sections of these parts and then clamp around the bow until FULLY dry (24hrs). When dry, glue the parts into place. We recommend adding the glue to the hull first, in order to lessen the parts curling. FULLY clamp the part until the glue has thoroughly set.



314. From the 0.8mm sheet, remove parts 242a and 243a. Soak these in hot water for 30 minutes, and clamp around the hull until FULLY dry.



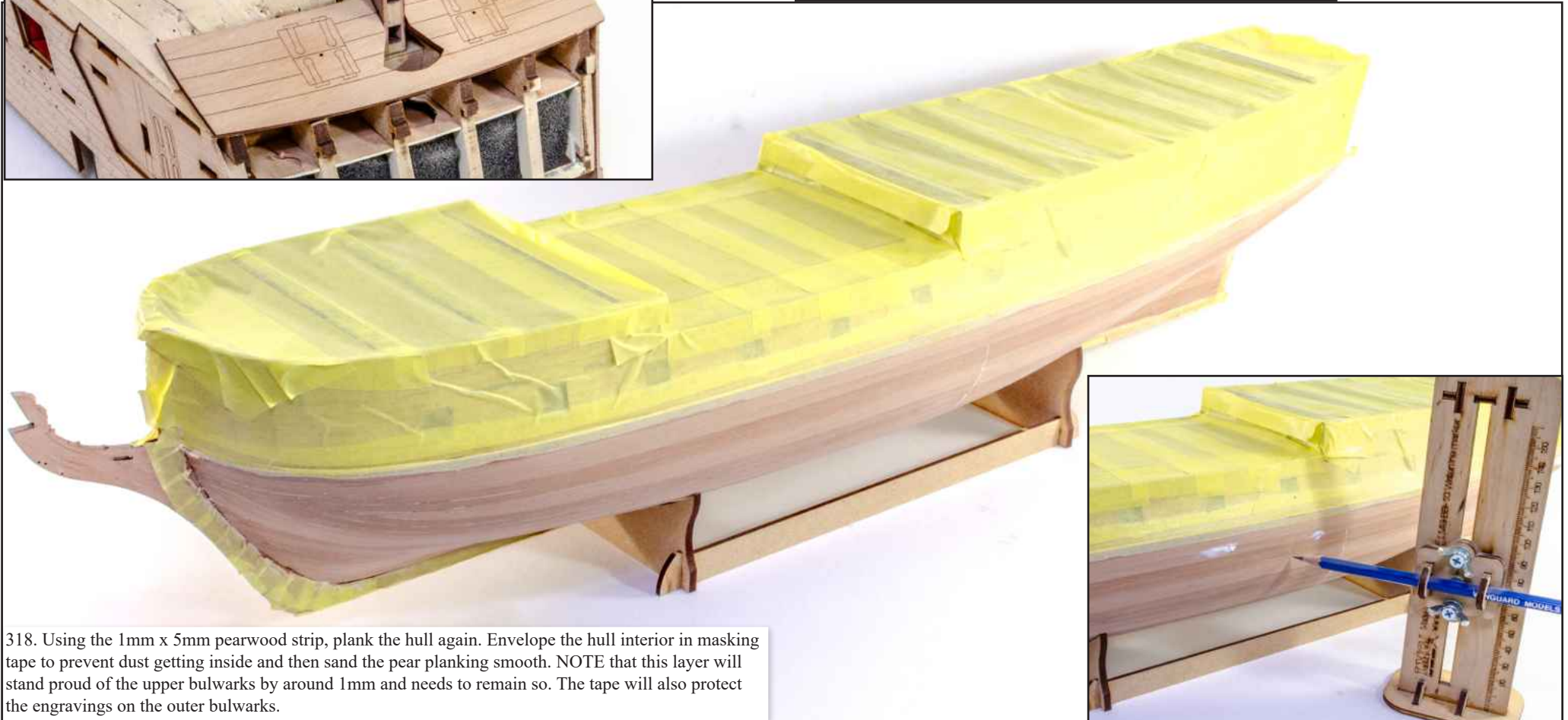
315. Now glue and clamp the parts into place as shown and leave to thoroughly dry. Make sure the various opening sections are aligned.



316. From the 1mm wood sheet, remove part 73.



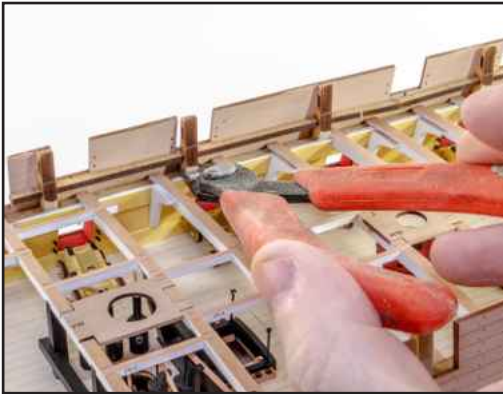
317. Glue as shown, clamping as necessary.



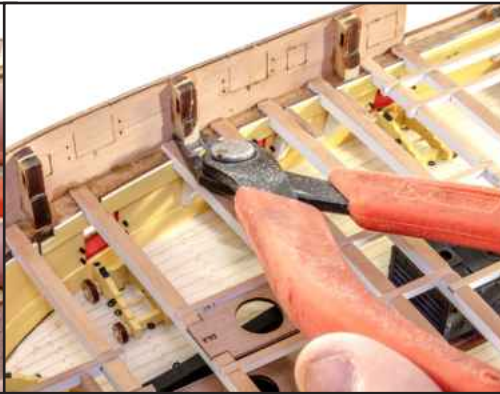
318. Using the 1mm x 5mm pearwood strip, plank the hull again. Envelope the hull interior in masking tape to prevent dust getting inside and then sand the pear planking smooth. NOTE that this layer will stand proud of the upper bulwarks by around 1mm and needs to remain so. The tape will also protect the engravings on the outer bulwarks.



319. Checking your plans, add a temporary waterline mark BELOW the area where the final one will be. Use wood filler to fill any gaps above that line. This is the area that will be painted. The remainder of the lower hull will be coppered. We have these waterline tools in our online store.

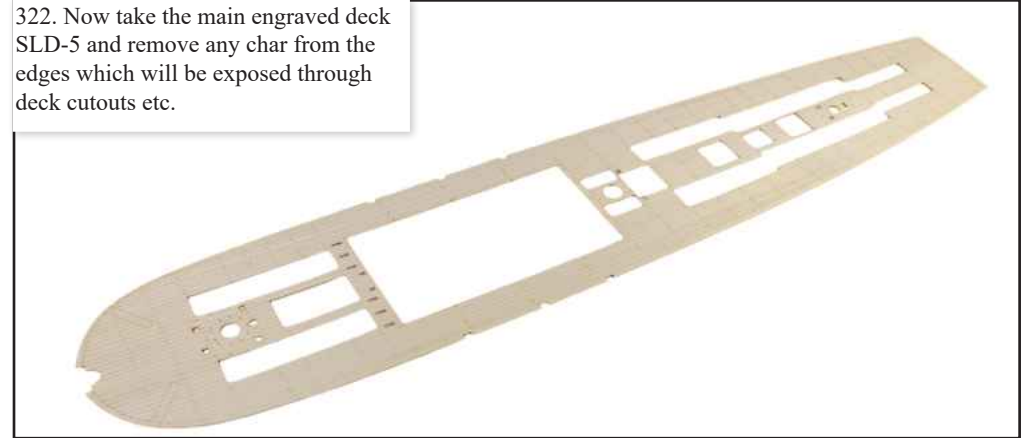


320. Remove ALL the MDF jigs that spanned the bulkheads. They can now be permanently discarded. Use cutters to remove the MDF bulkhead ears (above deck level) in the quarterdeck area. These can now also be discarded.

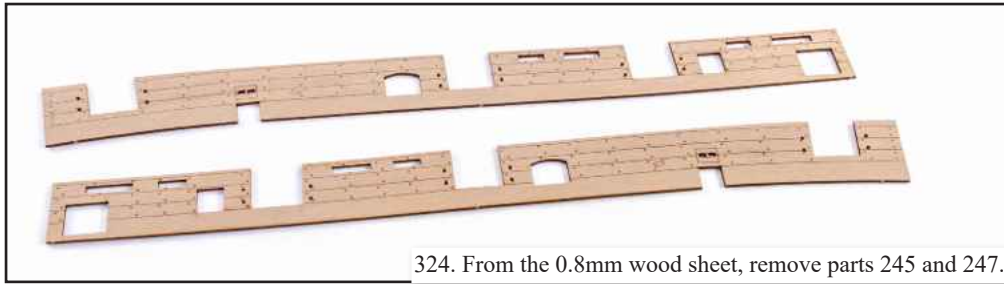


321. Now remove the same parts in the forecastle area.

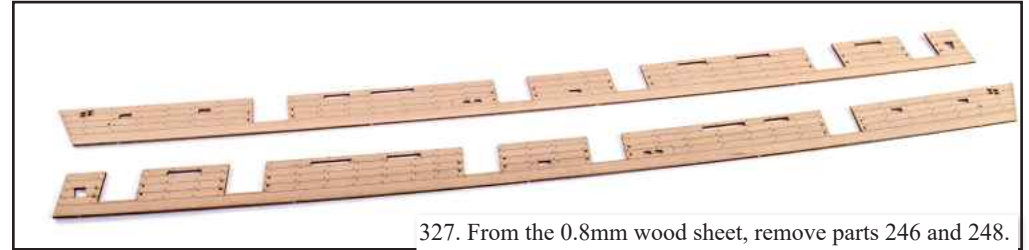
322. Now take the main engraved deck SLD-5 and remove any char from the edges which will be exposed through deck cutouts etc.



323. Test fit the deck to ensure its fit. Use a fine sanding stick if any edges need to be slightly sanded. Once you are happy with the fit, glue the deck into place, using weights and clamps to hold it in place until dry.



324. From the 0.8mm wood sheet, remove parts 245 and 247.



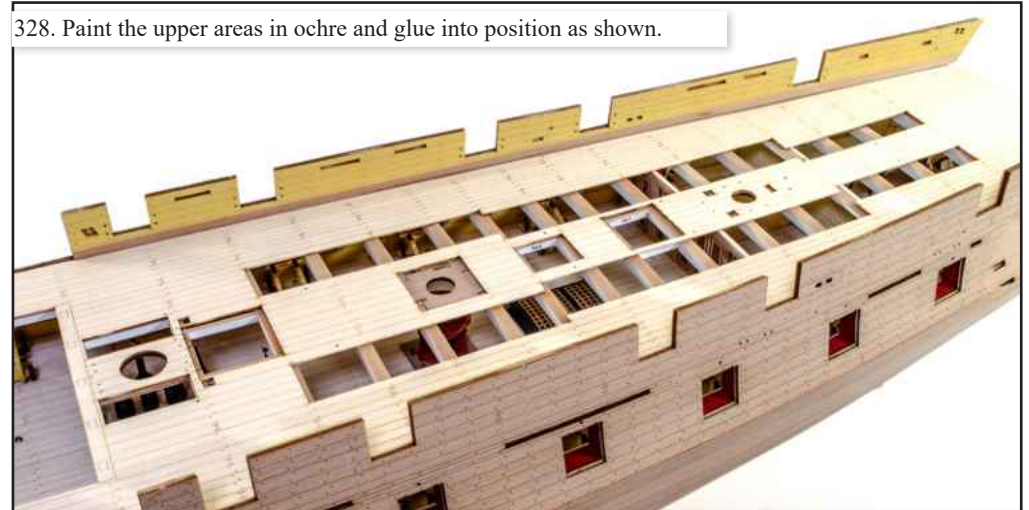
327. From the 0.8mm wood sheet, remove parts 246 and 248.



325. Soak the forward section of these parts and then clamp into place as shown, until FULLY dry.



326. Once dry, paint the upper section of these parts in ochre and then glue/clamp into place until dry.



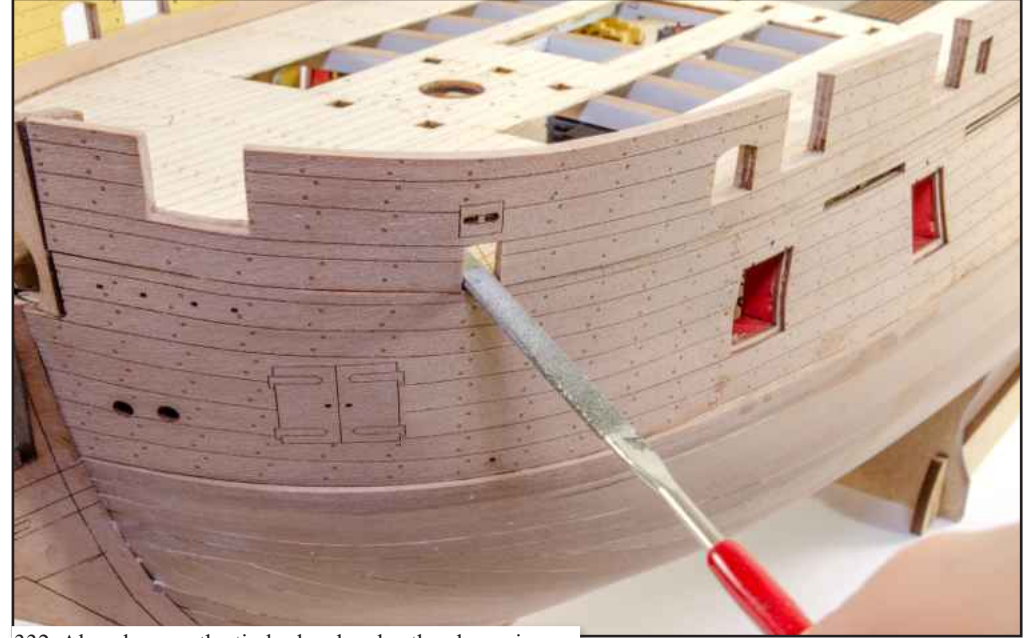
328. Paint the upper areas in ochre and glue into position as shown.



329. Once dry, use a sanding stick or steel rule wrapped in medium grade sandpaper, and evenly draw across the tops of all bulwarks so that they are levelled. Note that tape has been used to reduce the amount of dust getting into the hull.



330. Carefully remove the various port/opening blanks in the forecastle bulwarks. A good quality razor saw is perfect for this.



332. Also clean up the timberhead and cathead openings.



331. Use a file or sanding sticks to clean up the port openings.



333. To build the catheads, we now need these parts. From the 3mm wood sheet, remove both parts 76. From the 1mm wood sheet, remove parts 152, 153, 154, 155, 164, and 165. From the 2mm wood sheet, remove two parts 90. You can see in this image how the parts are arranged. Note that each cathead has a hole in one side panel.

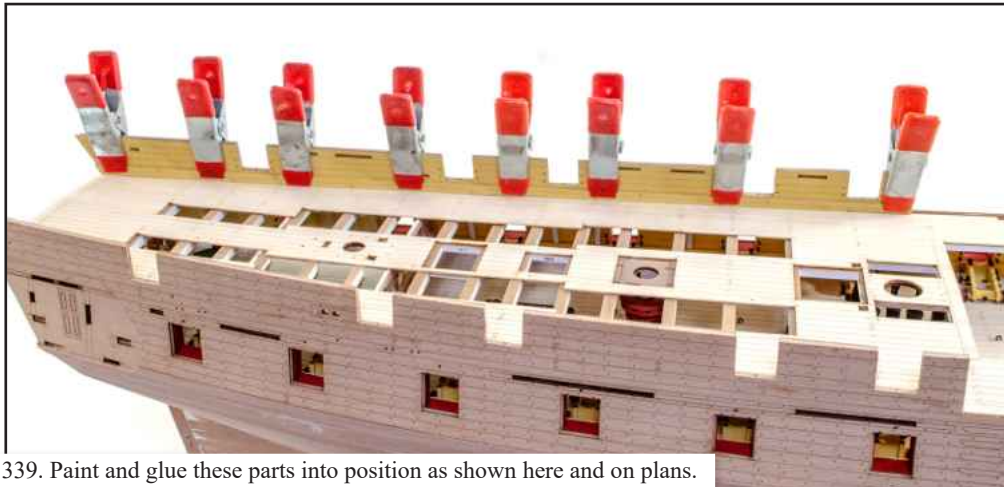


334. Glue parts 165 into place on the 2mm wood parts.



336. Glue parts 90 into place, one per cathead.

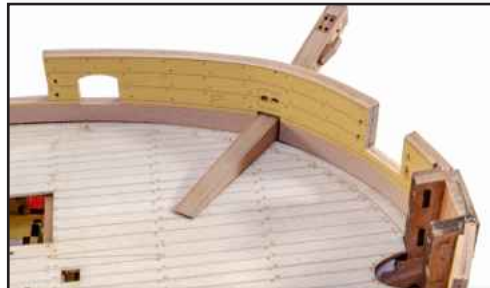
338. From the 0.8mm wood sheet, remove parts 246a and 248a.



339. Paint and glue these parts into position as shown here and on plans.



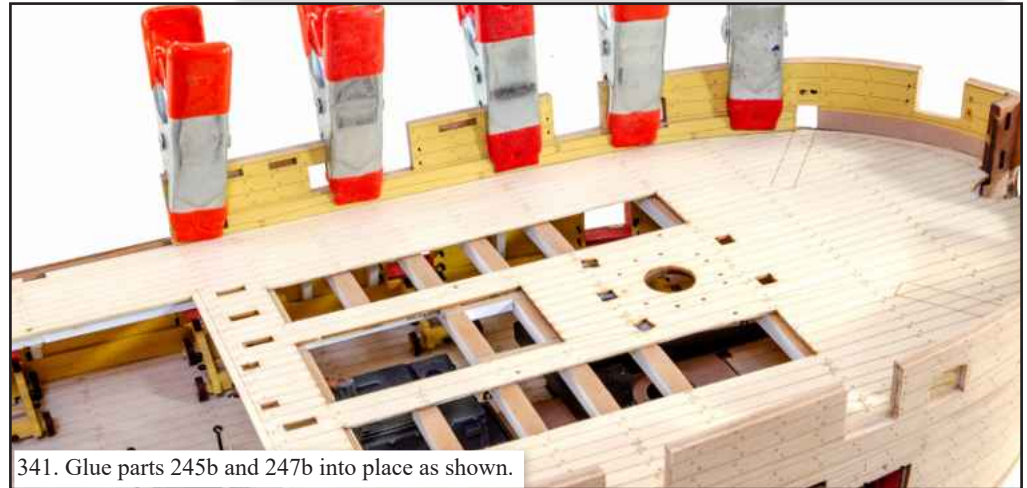
335. Now glue the appropriate side panels onto the 2mm parts and clamp until dry.



337. Check the fit of the catheads through the bulwark openings, opening up the slot as necessary. DO NOT GLUE these at this time. This is only a test fit.



340. From the 0.8mm wood sheet, remove parts 245a, 245b, 247a, and 247b.



341. Glue parts 245b and 247b into place as shown.



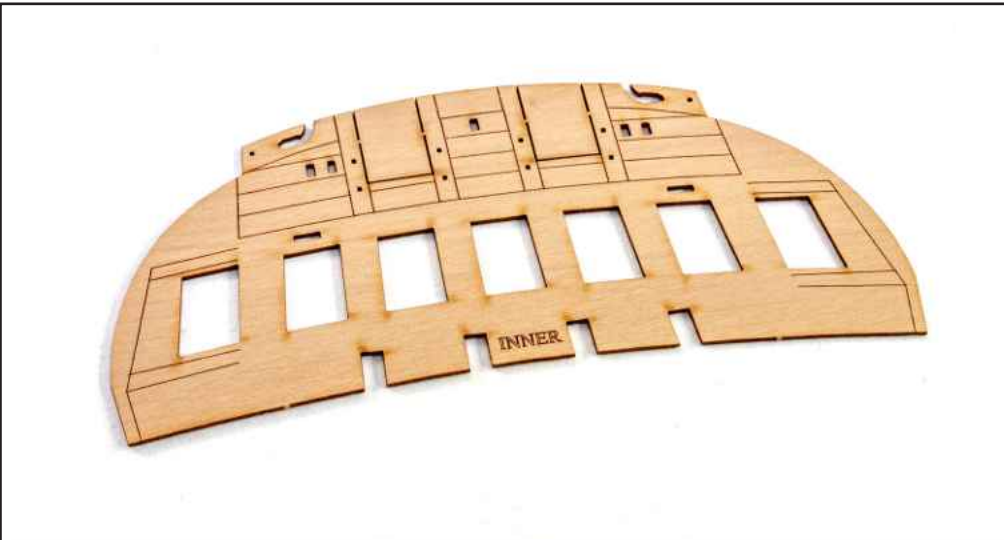
342. Now glue parts 245a and 247a into place as shown.



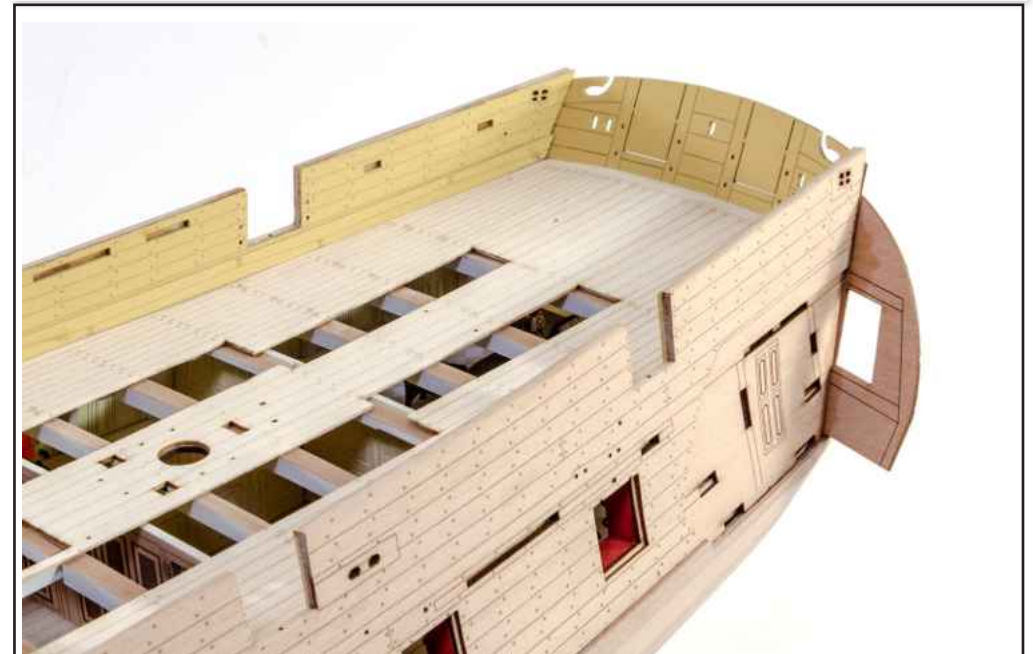
343. Now we look at the stern of Surprise. Use a sanding stick to flush any protrusions at the rear end, including levelling off the bulwarks and deck so they flow with the curves of the stern frame timbers. Be careful not to sand away the protruding slots in the stern frame timbers.



345. Slot this into the stern frames, making any adjustments as necessary for it to fully seat in the slots. DO NOT GLUE. At this stage, you can mark and paint the visible area above deck in ochre, as shown here.



344. From the 1mm wood sheet, remove part 176 (shown here) for FICTIONAL HMS Surprise, or part OS-1 for HISTORICAL HMS Surprise/L'Unite or Tourterelle

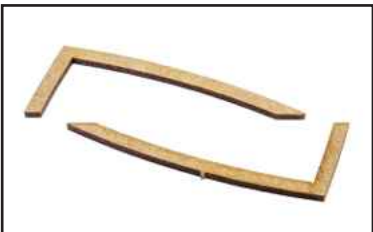




346. From the 2mm MDF sheet, remove parts 43 and 43a.



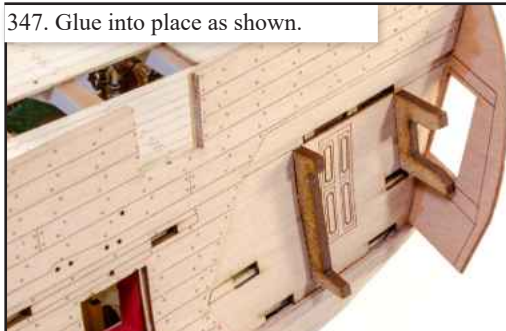
348. From the 2mm MDF sheet, remove parts 46.



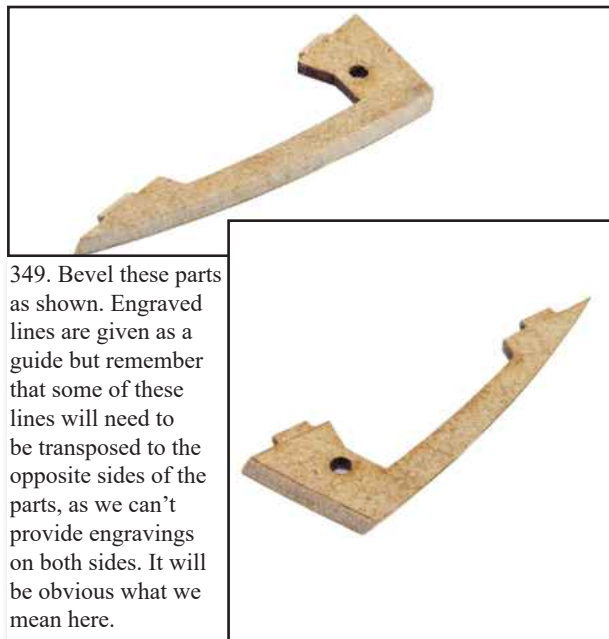
350. From the 2mm MDF sheet, remove parts 47.



351. Glue parts 46 into place as shown on the hull sides only, and parts 47 directly underneath, once you've bevelled them in the opposite direction, so cater for the side panels. DO NOT GLUE to the unglued stern panel at this point.



347. Glue into place as shown.



349. Bevel these parts as shown. Engraved lines are given as a guide but remember that some of these lines will need to be transposed to the opposite sides of the parts, as we can't provide engravings on both sides. It will be obvious what we mean here.



352. From the 2mm MDF sheet, remove parts 44 and 45.



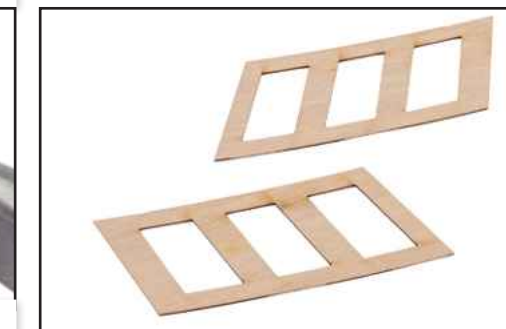
354. The stern inner panel can now be glued into place and then clamped up to the quarter gallery MDF frames until the glue is set.



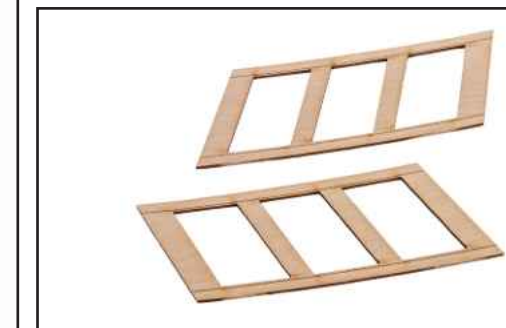
356. Make any required adjustments and then glue into place on each side as shown.



353. Bevel as appropriate and glue to the hull sides.



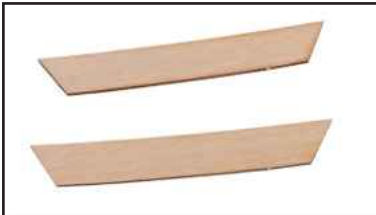
355. From the 0.8mm wood sheet, remove parts 180-I (inner).



357. From the 0.8mm wood sheet, remove parts 180-OL (OUTER LEFT) and 180-OR (OUTER RIGHT).



358. Adjust parts to suit and glue as shown. In the correct position, there will be an even window rebate between these parts and the inners you previously fitted. Bevelling the forward part also creates a nice junction with the hull.



359. From the 0.8mm wood sheet, remove both parts 180-L.



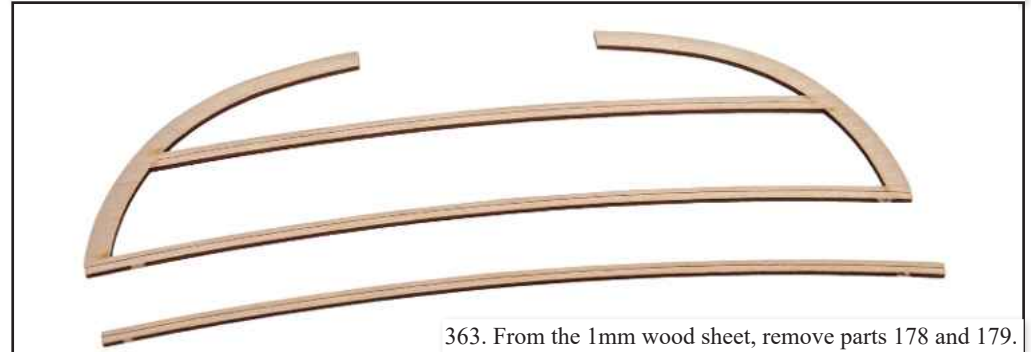
360. Adjust to fit, and then glue into place as shown here, bevelling the forward edge. You will likely need to just notch the planking to accommodate these parts.



361. From the 1mm wood sheet, remove part 177 (fictional version shown here), or part OS-2 if you prefer the historically accurate HMS Surprise. You will also need two pegs K5, also on the 1mm wood sheet.



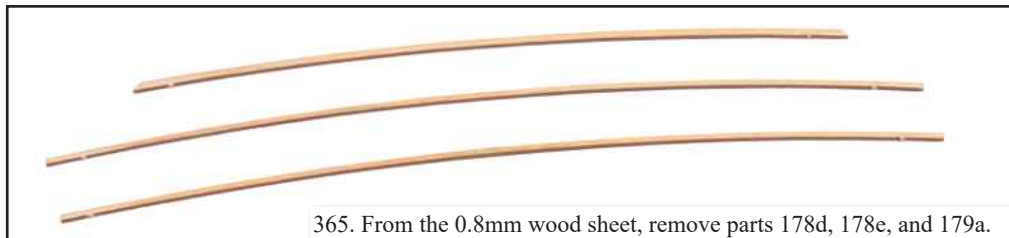
362. Glue and clamp the part to the stern of your hull, using the pegs K5 to help with alignment. You will need to shorten those pegs for this application as they will interfere with the inner structure otherwise. Leave this part to thoroughly set.



363. From the 1mm wood sheet, remove parts 178 and 179.



364. Remove the pegs and glue the parts into place as shown here and on your plan sheet.



365. From the 0.8mm wood sheet, remove parts 178d, 178e, and 179a.



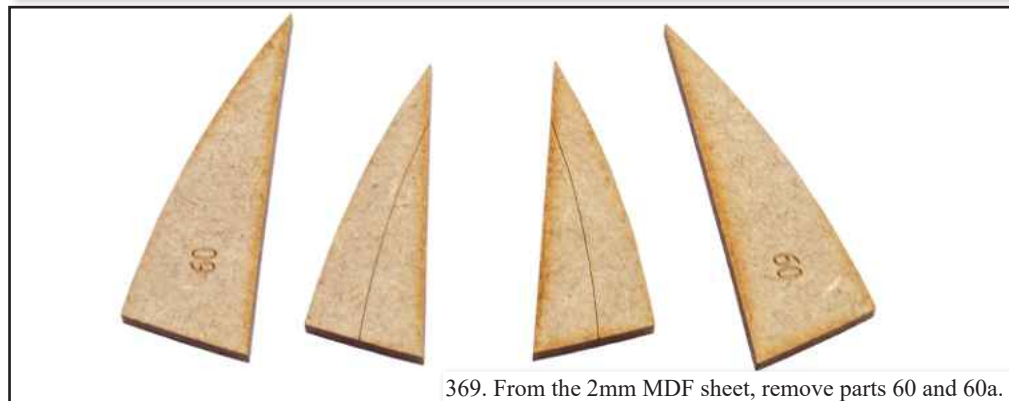
366. Glue these into position as shown here and on your plan sheet.



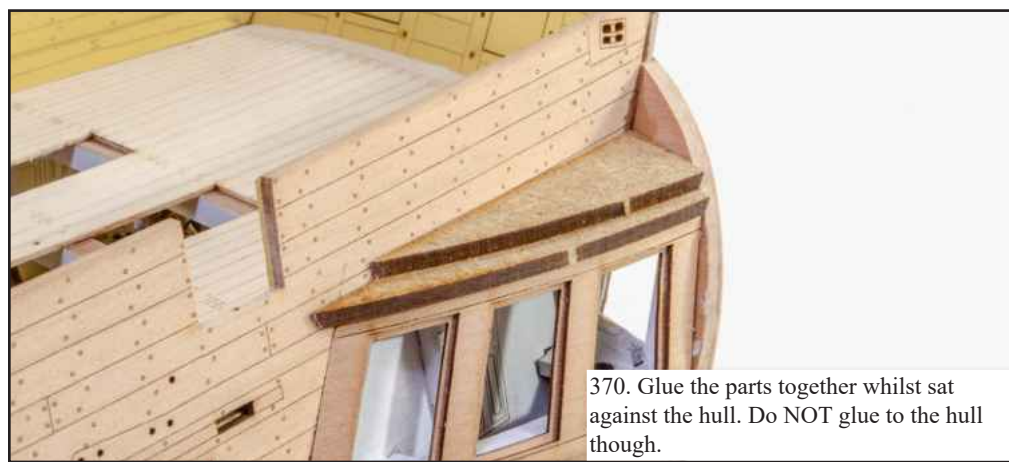
367. From the 1mm wood sheet, remove parts 174 and 175 and glue into position as shown.



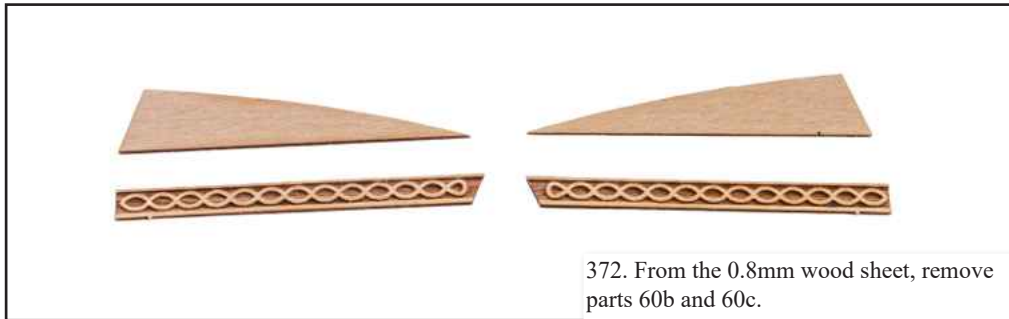
368. Sand the edges of the laminated stern construction as shown, ensuring it is smooth along its length.



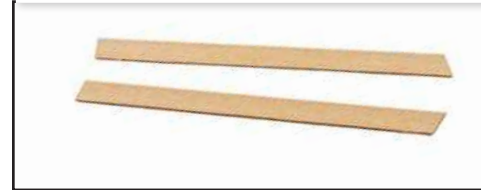
369. From the 2mm MDF sheet, remove parts 60 and 60a.



370. Glue the parts together whilst sat against the hull. Do NOT glue to the hull though.



375. From the 0.6mm wood sheet, remove both parts SC-1.



377. We now need to fit the rails to the quarter galleries. Locate these parts on the 0.6mm wood sheet. The right-hand set of parts are for the port side, and the left parts for the starboard side.



376. Wrap and glue these parts around the edges of the stern, as shown here.





379. You will now need the 3d-printed parts shown here.



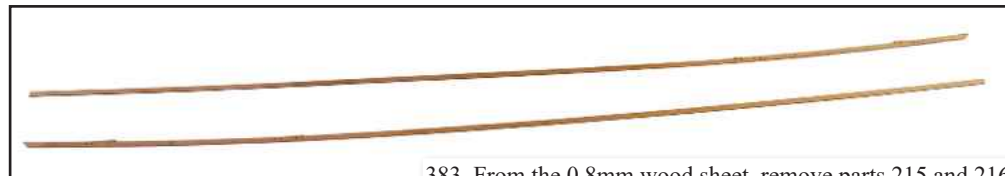
380. These need to be glued into place as seen here. If your parts don't fully hug the hull side, then dip them in just-boiled water for about 10 seconds, move to model and form them to the hull curves. At that point, run the parts under cold water, dry them off, and then use CA glue to attach to the hull.



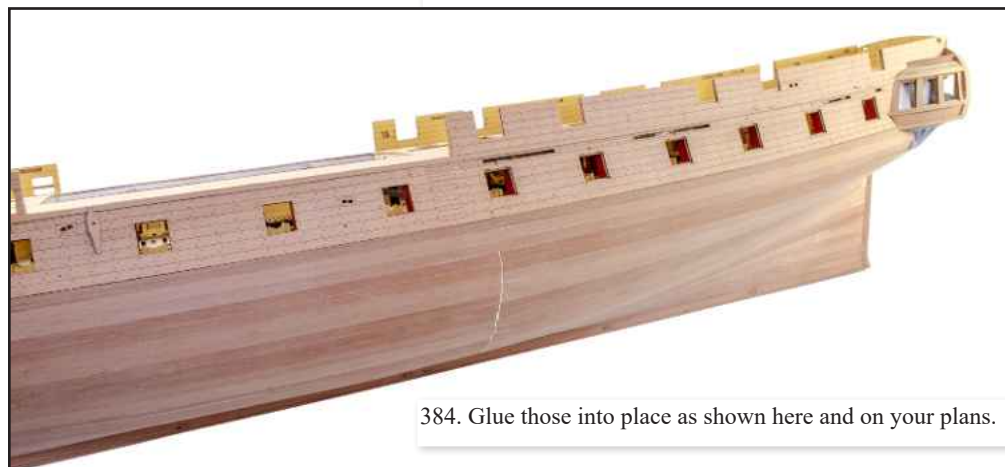
381. From the 0.8mm wood sheet, remove parts 215a and 216a.



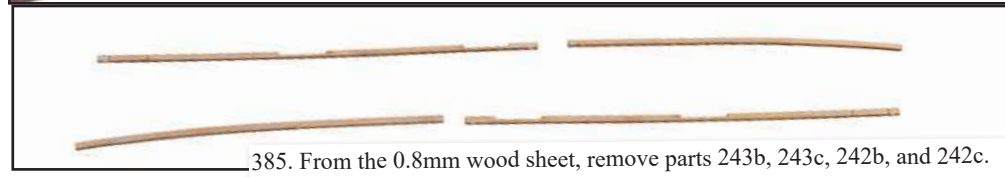
382. Glue 216a as shown here, in the engraved area just underneath where the bulwarks join together. Do the same on the opposite side with part 215a.



383. From the 0.8mm wood sheet, remove parts 215 and 216.



384. Glue those into place as shown here and on your plans.



385. From the 0.8mm wood sheet, remove parts 243b, 243c, 242b, and 242c.



386. Glue 243b as shown here, followed by 242b on the opposite site.



387. Glue part 243c as shown here, and 242c onto the opposite side.

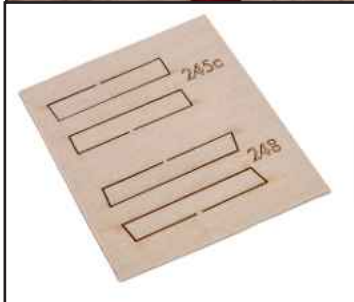
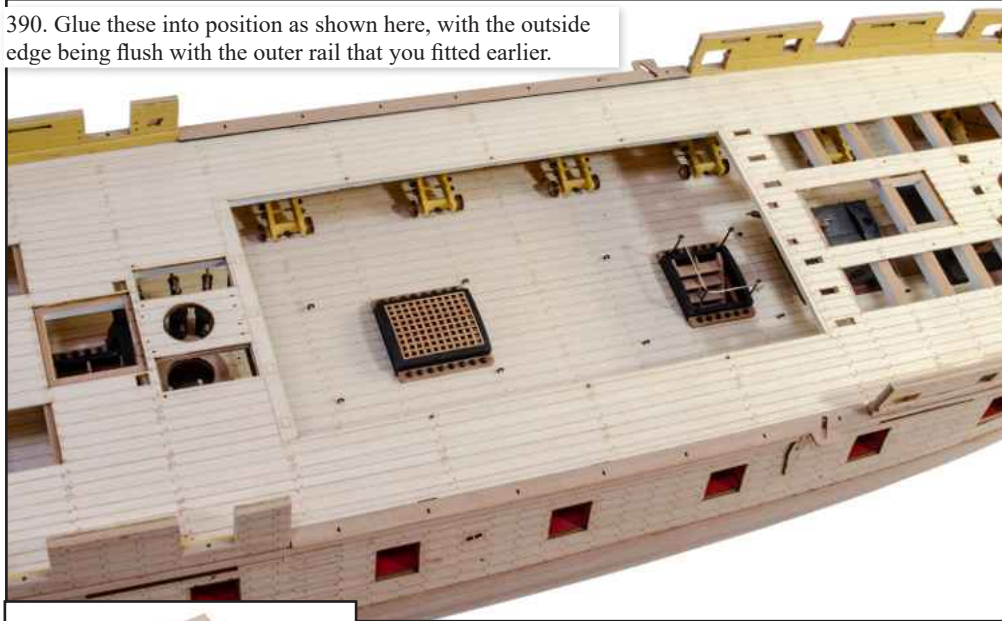


388. Use cutters to remove the timber that obscures any openings.



389. From the 0.8mm wood sheet, remove both parts 238.

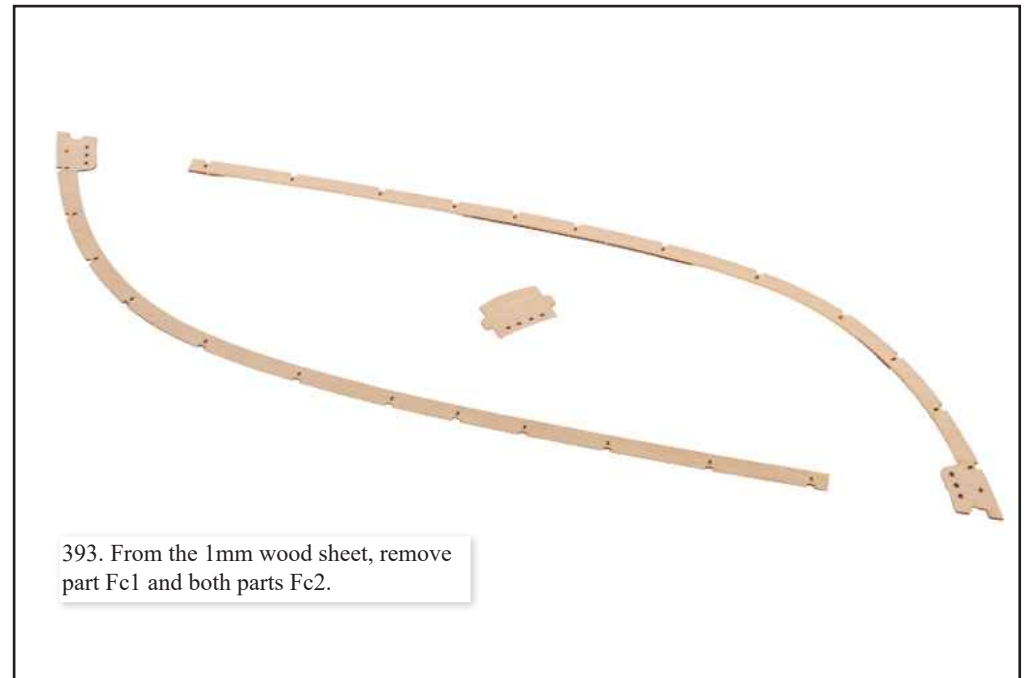
390. Glue these into position as shown here, with the outside edge being flush with the outer rail that you fitted earlier.



391. From the 0.8mm wood sheet, remove parts 245c and 248c.

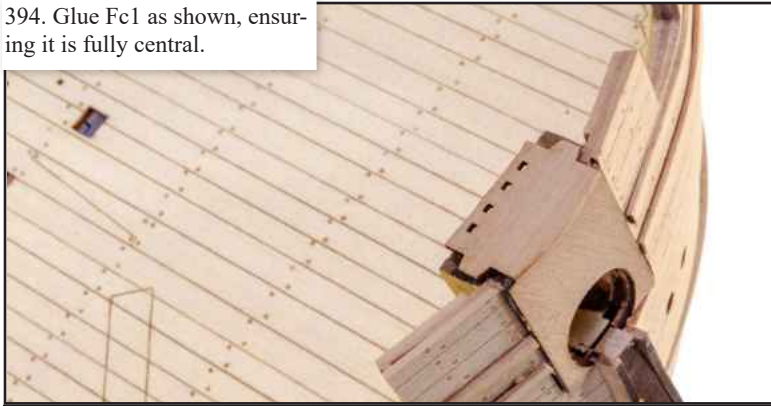


392. Glue parts 248c as shown (quarterdeck bulwark caps) and 245c as shown (forecastle bulwark caps). When these are dry, you need to sand them flush with the top of the bulwarks.



393. From the 1mm wood sheet, remove part Fc1 and both parts Fc2.

394. Glue Fc1 as shown, ensuring it is fully central.



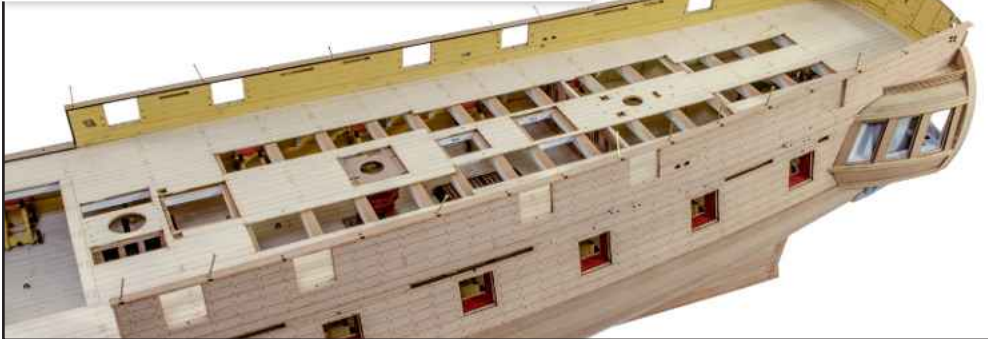
395. Now glue both parts Fc2 as shown, pinning the parts in place while the glue dries.



396. From the 1mm wood sheet, remove both parts QDC1.



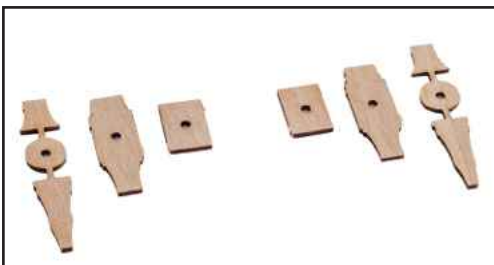
397. Glue along the top edge of the quarterdeck bulwarks. Pin until fully dry. Clip/sand any excess overhang of these parts at the stern.



398. From the 0.8mm wood sheet, remove parts 239 and 239a.



399. Glue these as shown, with 239 on the top of the gunwale, and 239a underneath the overhang.



400. From the 0.8mm wood sheet, remove parts 217, 218, and 219. There are two sets of these; one for each side of the hull.



401. Glue part 217 into position as shown.

402. Use a knife or snips to remove the small connectors on this part, leaving you with three sections glued to the hull.



403. Glue parts 218 and 219 together, chamfering part 218 as shown.

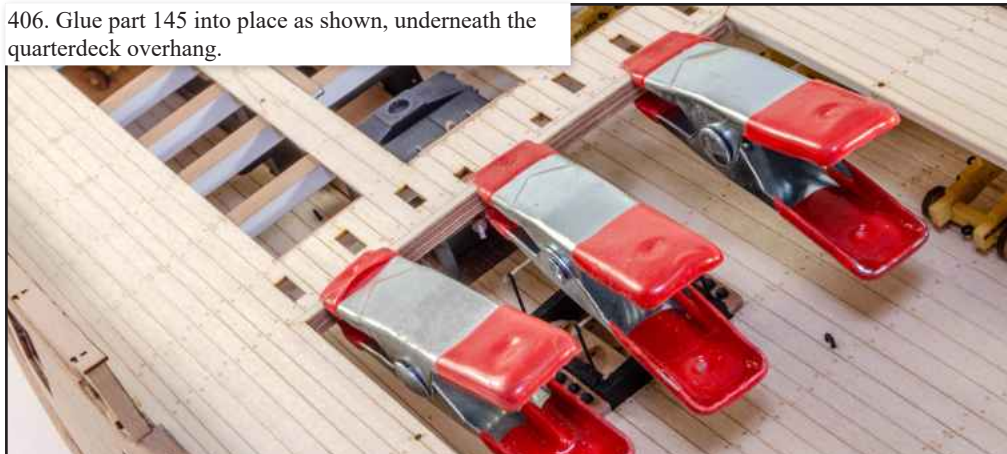


404. Glue these assemblies to the hull and glue a shortened brass pin through the part holes.

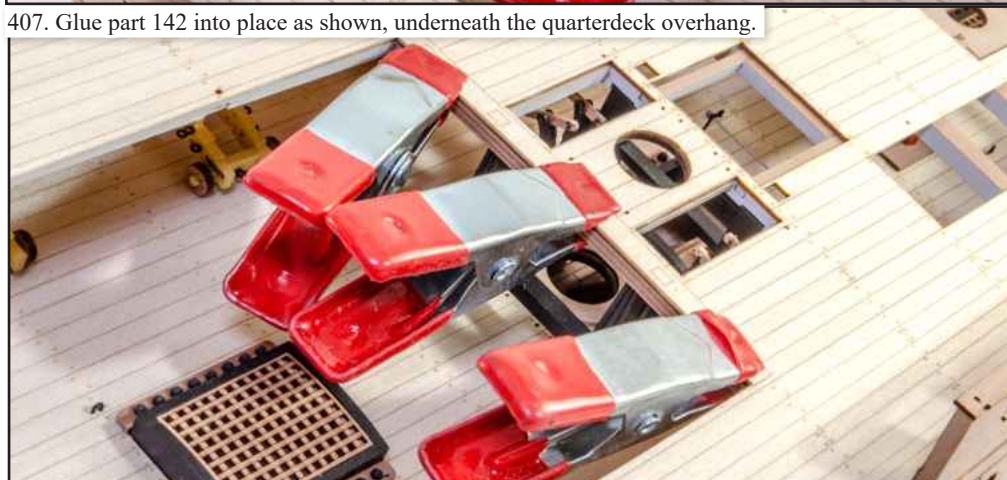
405. From the 1mm wood sheet, remove parts 142, 143, 144, and 145.



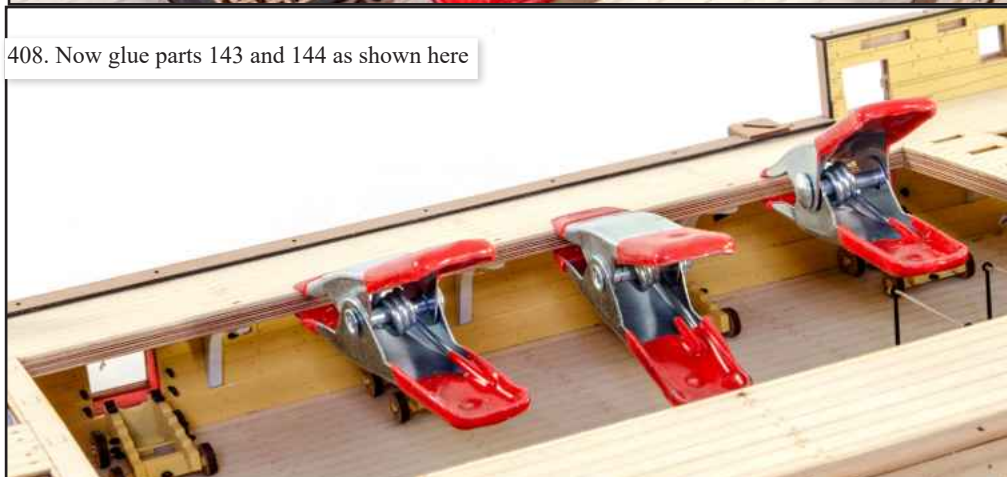
406. Glue part 145 into place as shown, underneath the quarterdeck overhang.



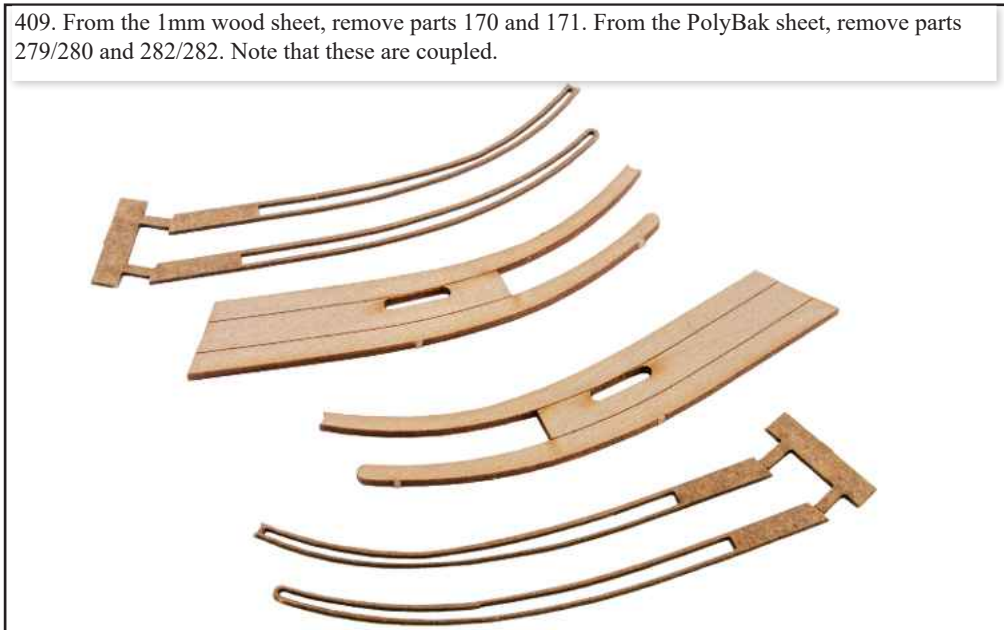
407. Glue part 142 into place as shown, underneath the quarterdeck overhang.



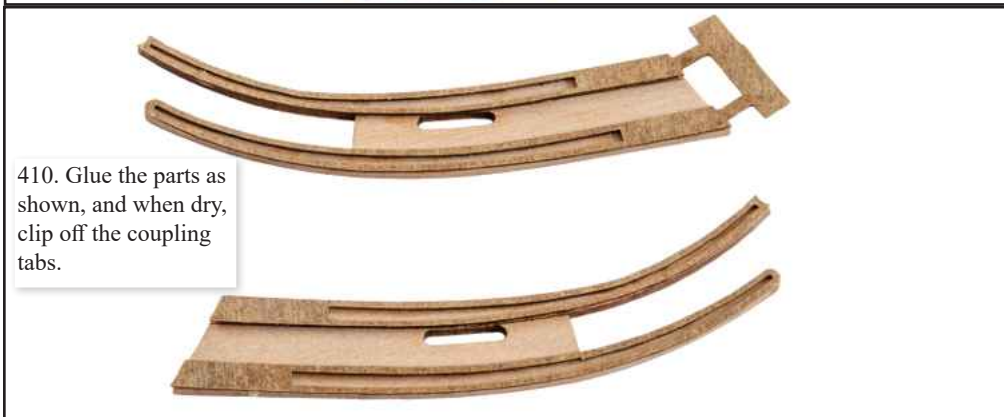
408. Now glue parts 143 and 144 as shown here



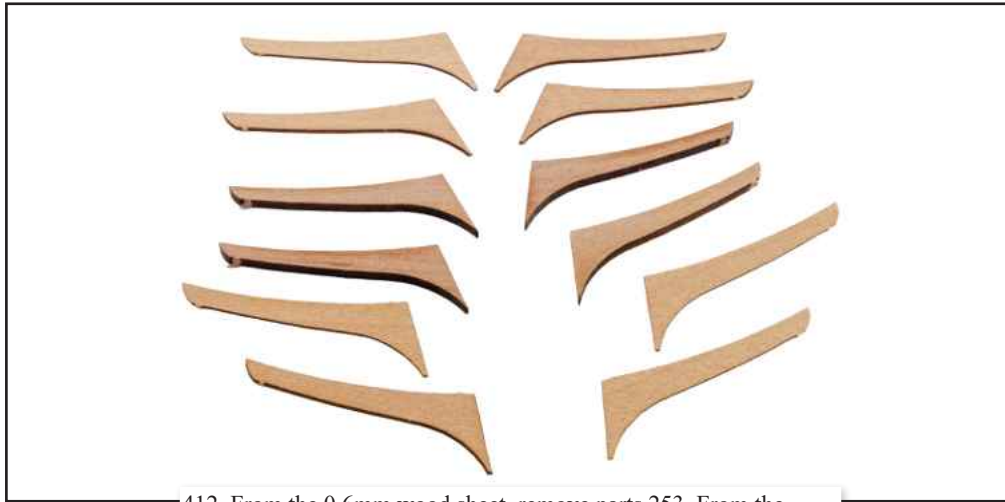
409. From the 1mm wood sheet, remove parts 170 and 171. From the PolyBak sheet, remove parts 279/280 and 282/282. Note that these are coupled.



410. Glue the parts as shown, and when dry, clip off the coupling tabs.



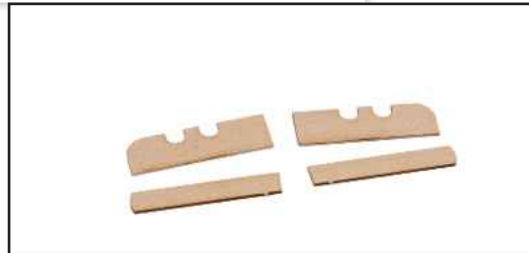
411. Glue the assemblies to the hull as shown, ensuring the part remains within the engraved prow area and the gammoning holes align.



412. From the 0.6mm wood sheet, remove parts 253. From the 1.5mm wood sheet, remove parts 117.



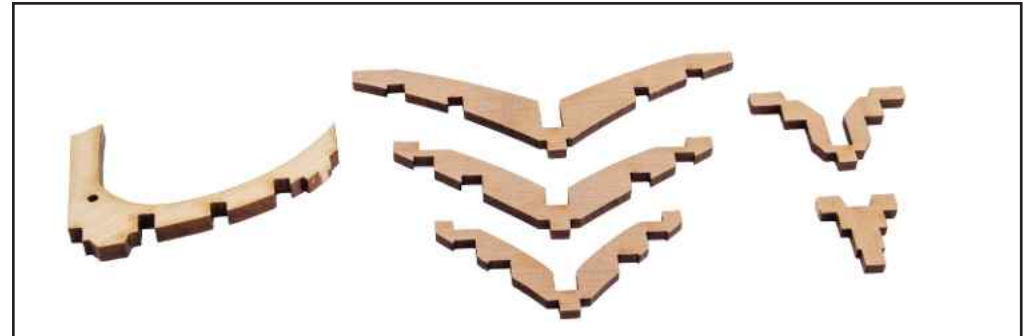
413. Assemble as sandwiches, as shown.



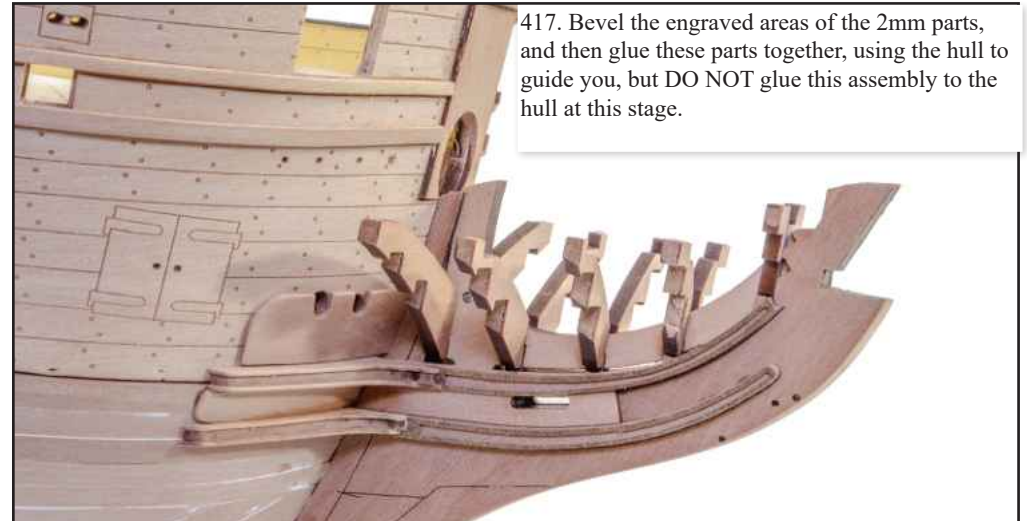
414. From the 1mm wood sheet, remove parts 159 and 159a.



415. Glue as shown here and on plans.



416. From the 3mm wood sheet, remove part 71. From the 2mm wood sheet, remove parts 49, 50, 51, 52, and 53. NOTE: there are TWO sets of all of these parts, in case you need spares. Please also note that the 2mm parts are supplied as MDF too, in case you find it easier to work with this material for this assembly.



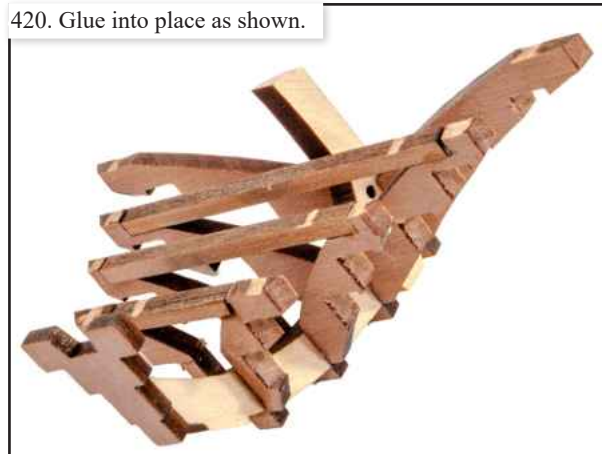
417. Bevel the engraved areas of the 2mm parts, and then glue these parts together, using the hull to guide you, but DO NOT glue this assembly to the hull at this stage.



418. Remove the assembly from the hull.



419. From the 2mm wood sheet, remove parts 50a, 51a, and 52a.



420. Glue into place as shown.



421. Now is the time to prime the hull. The reason for this is to prepare the hull and identify any defects in the woodwork, that would ruin the overall look of your completed work. We recommend both Tamiya Fine White primer or Plastikote White primer. With this on, fill and rub back any defects and lightly re-prime. The first colour to be applied is Ochre. We recommend the AK paint available in our store.



422. The ochre areas are now masked off, and black paint is airbrushed onto the hull as shown. When complete, remove the masking tape.



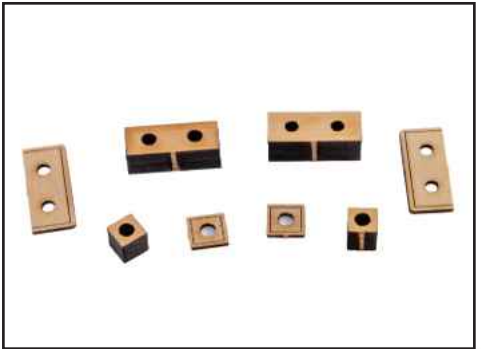
423. Paint the bow areas in ochre as shown and paint/glue parts 283 and 284, from the 0.6mm PolyBak sheet, as shown.



424. From the 0.8mm wood sheet, remove parts 192 and both parts 192a.



425. Temporarily sit the bow frames assembly into place and glue the previous parts onto that and leave to dry. When dry, remove the assembly.



426. From the 0.8mm wood sheet, remove parts 192b and 193b. From the 5mm wood sheet, remove parts 192c and 192e.



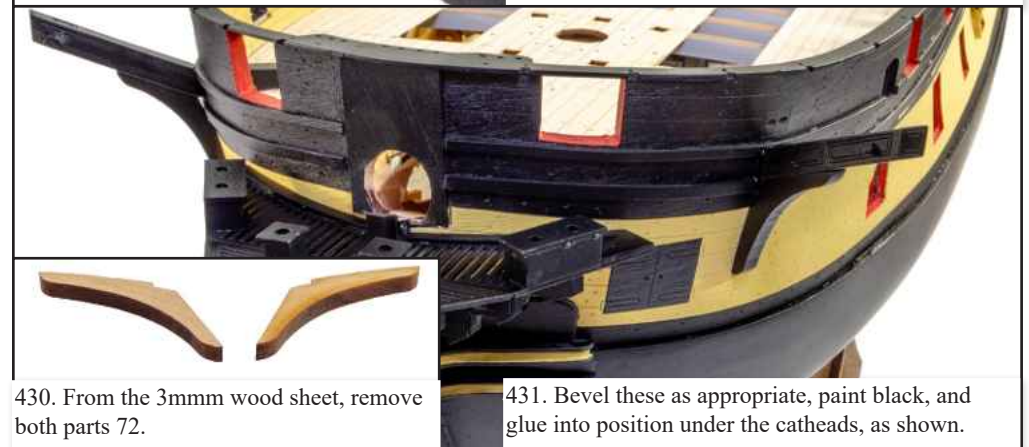
427. Bevel the 5mm parts as required and fit parts to the bow assembly.



428. Paint the assembly in black and glue to the hull.

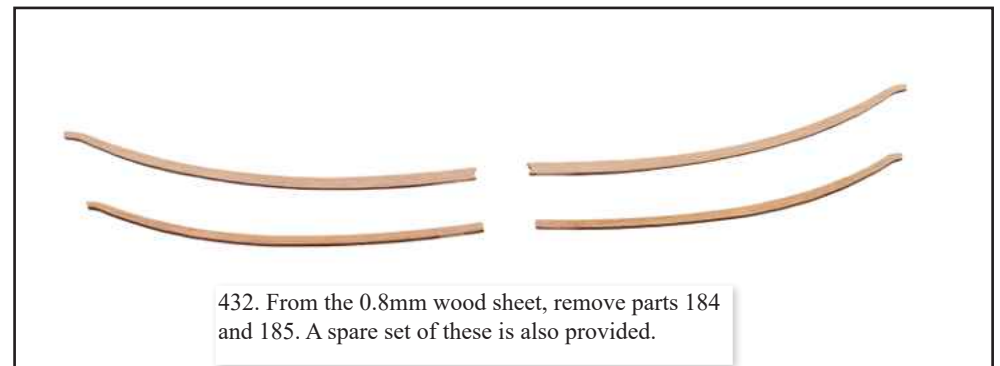


429. You can now paint the catheads in black and glue them into place onto the forecastle, through the bulwarks.

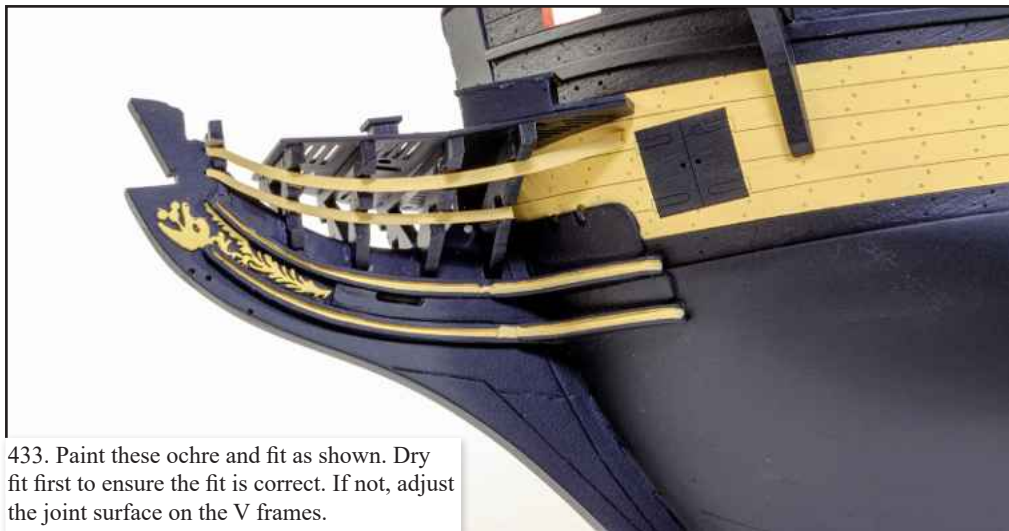


430. From the 3mm wood sheet, remove both parts 72.

431. Bevel these as appropriate, paint black, and glue into position under the catheads, as shown.



432. From the 0.8mm wood sheet, remove parts 184 and 185. A spare set of these is also provided.





439. The shingles can be added to the quarter gallery roof areas, from the laser cut black card. We used spots of CA gel for this. (Or PVA wood glue works fine, too). These are then painted black.



440. Referencing the plans, add the acetate quarter gallery windows into the window recesses. Now paint ochre and glue the window frames PE40, PE41, and PE 42 into place. Note these parts are marked for both left and right sides. Finally, paint and glue the pillars 275, 276, 277, and 278 into place alongside the windows. Again, these are marked for both left and right sides.



441. Referencing the plan sheet, fit the stern acetate windows and frames into place. Referencing is important as there are different parts for both the original and fictional sterns, plus options for posing these in an open position. READ THE PLANS CAREFULLY. Also add the 'SURPRISE' decal. Two style options are included. Decals must be applied to a glossy surface and then later sealed.



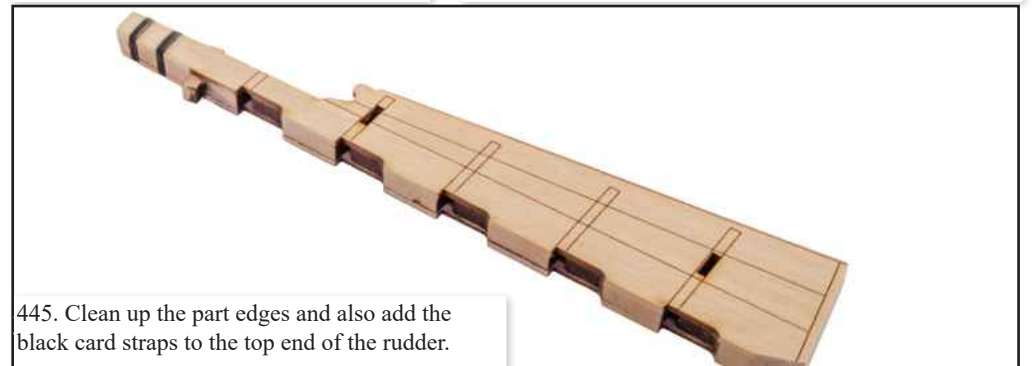
442. Your HMS Surprise will now look like this.



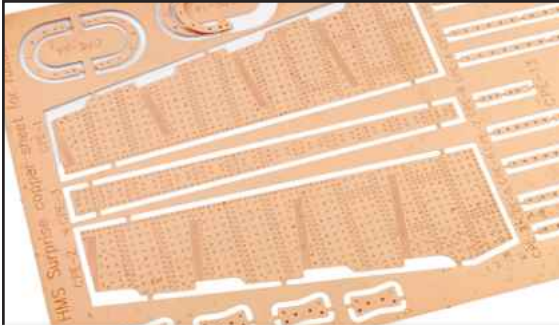
443. From the 3mm wood sheet, remove part 70. From the 1mm wood sheet, remove parts 137 and 138.



444. Glue together as shown. NOTE: An option is provided for tapering the 3mm rudder core. Check the plan for details. Our prototype shows an untapered rudder.



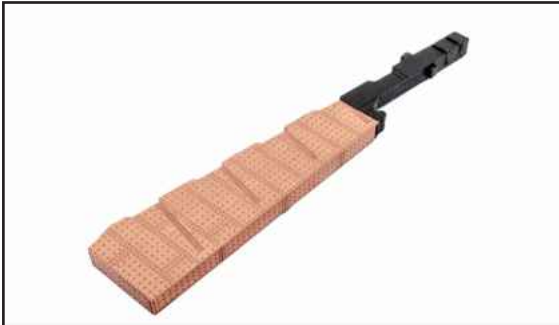
445. Clean up the part edges and also add the black card straps to the top end of the rudder.



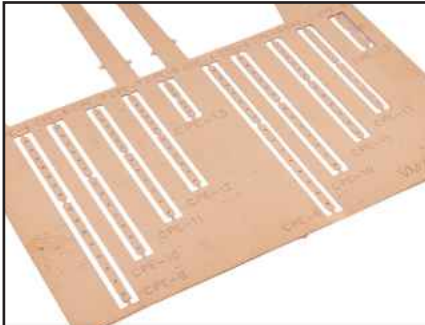
446. Locate the 0.1mm copper sheet shown here and remove CPE-1 and CPE-2. If you tapered the rudder, then you will also need CPE-3.



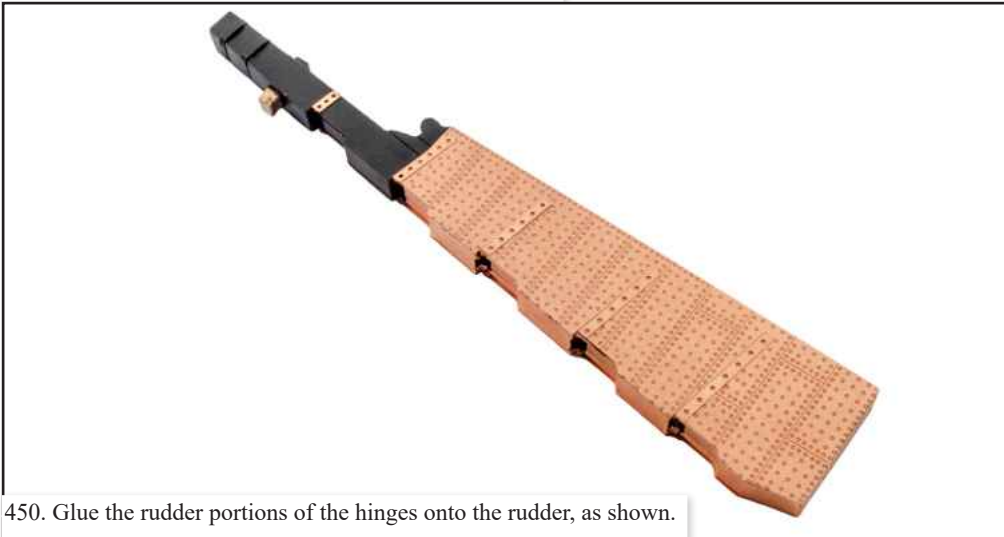
447. At this stage, you can now split up the supplied photo-etch hull copper plates.



448. Copper the rudder as shown, also using plates for the edges if you haven't tapered this assembly.



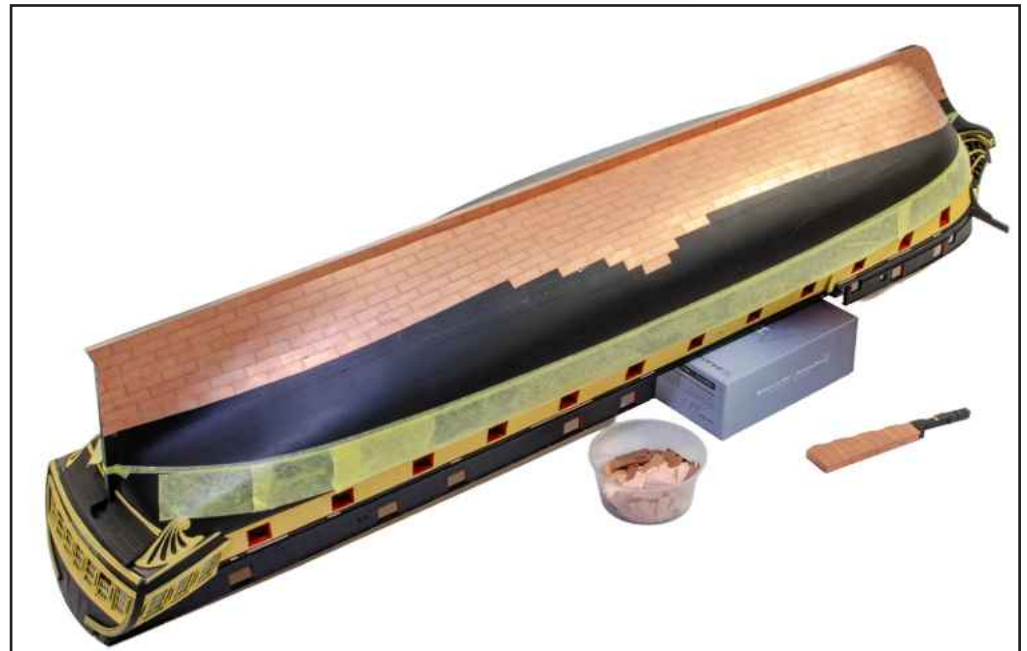
449. Locate the rudder straps on the same copper sheet.



450. Glue the rudder portions of the hinges onto the rudder, as shown.



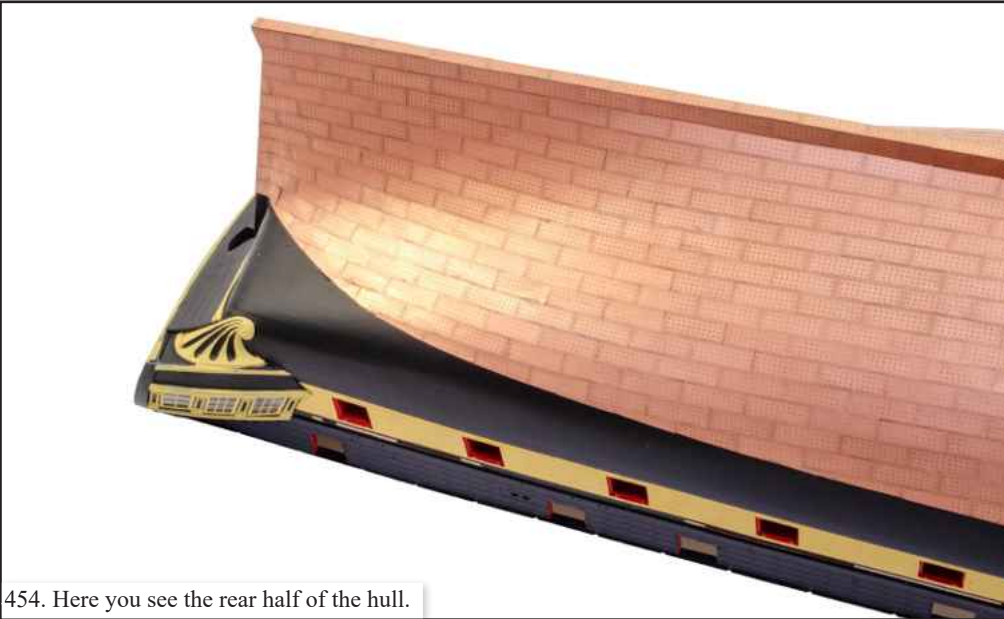
451. Temporarily sit the rudder in place to mark the rearmost waterline position of the hull. Locate the forward waterline position from your plans, and then lightly draw a waterline mark around the whole hull.



452. Run a length of tape along the upper side of the waterline and add more tape above this to protect your paintwork. Starting at the keel, begin to copper the hull, starting with a centre point. Now copper the hull in brick fashion, starting each row from that centre point. Doing this means that any 'run out' will be evenly displaced from centre to bow, and centre to stern. We use Gorilla Glue CA gel for this task. You will need to angle the edges of the plates as you move upwards towards the waterline, in order to prevent gaps.



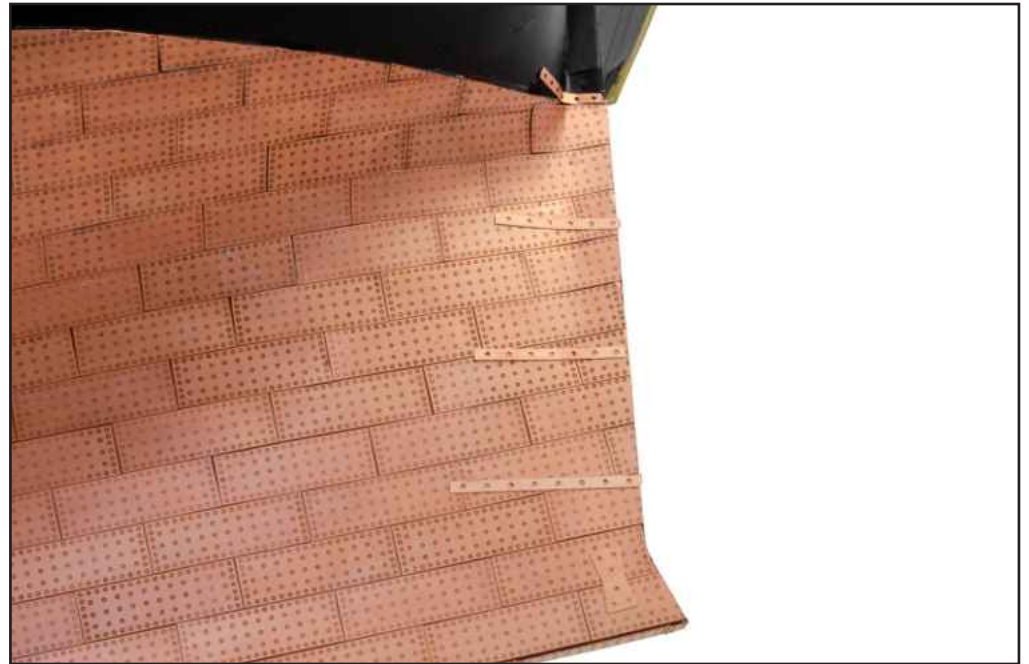
453. When you reach the waterline, mark each copper plate where it crosses that point. If anything, mark this slightly above the waterline and then use a scalpel to cut between the points. Test fit the plate and trim as necessary before finally gluing. Here you see the forward hull completed, with the tape removed.



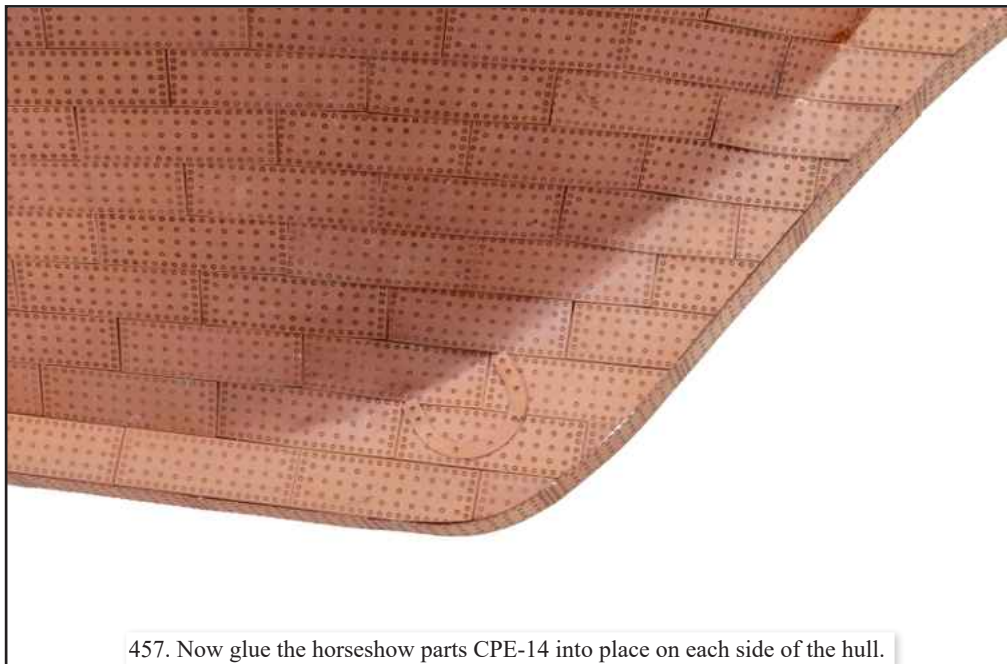
454. Here you see the rear half of the hull.



455. And finally the whole hull, in shot.



456. Holding the rudder in place as reference and glue the rudder copper straps into place. Also glue the copper fishplates CPE-15 into place on both sides of the hull



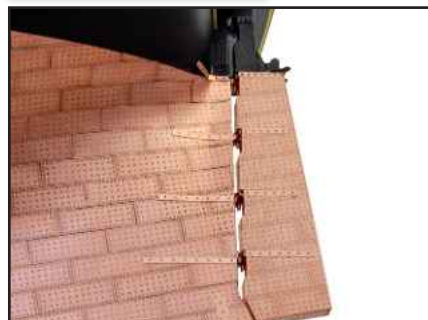
457. Now glue the horseshow parts CPE-14 into place on each side of the hull.



458. Locate the 3D printed rudder brackets F-9. Also part PE77 from the 0.6mm PE sheet.



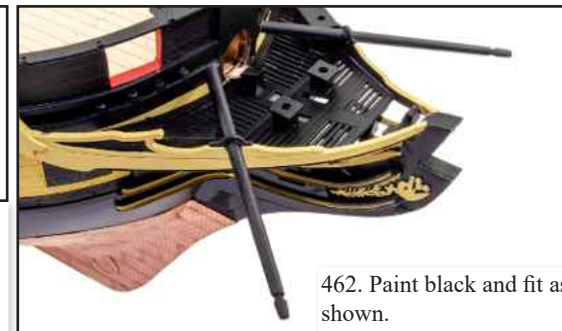
459. Glue as shown here.



460. Glue the rudder into place.



461. Referencing your plan, make the two boomkins from 3mm diameter dowel. Use brass pins (cut short) to later the boomkins to the hull.



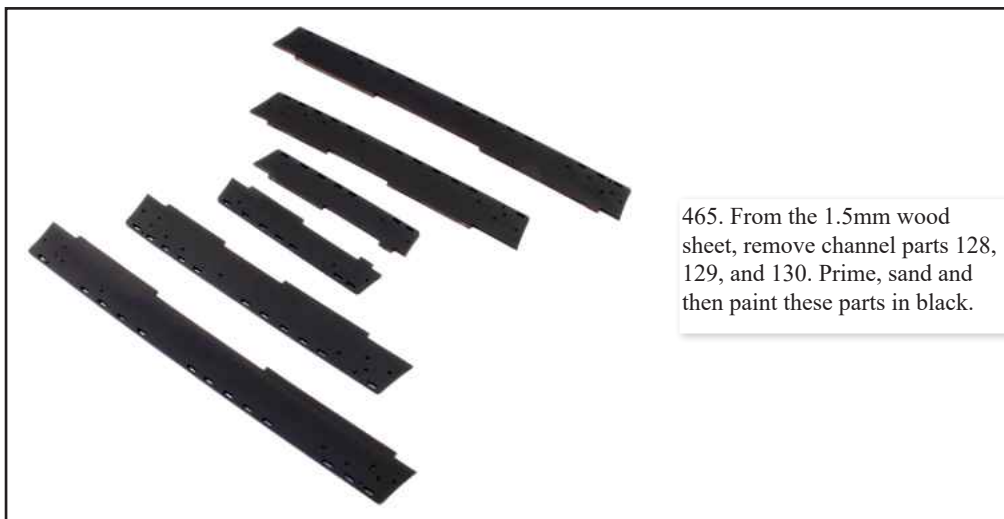
462. Paint black and fit as shown.



463. Fit the lower stern chaser port hinges PE22 as shown. Also add eyelets PE24.



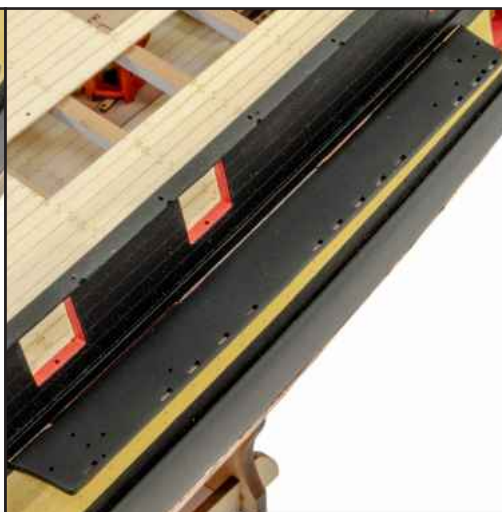
464. Fit the bow chaser port hinges PE21 as shown. Also eyelets PE24.



465. From the 1.5mm wood sheet, remove channel parts 128, 129, and 130. Prime, sand and then paint these parts in black.



466. Fit the fore channels as shown here. All channels should be horizontal to the waterline.



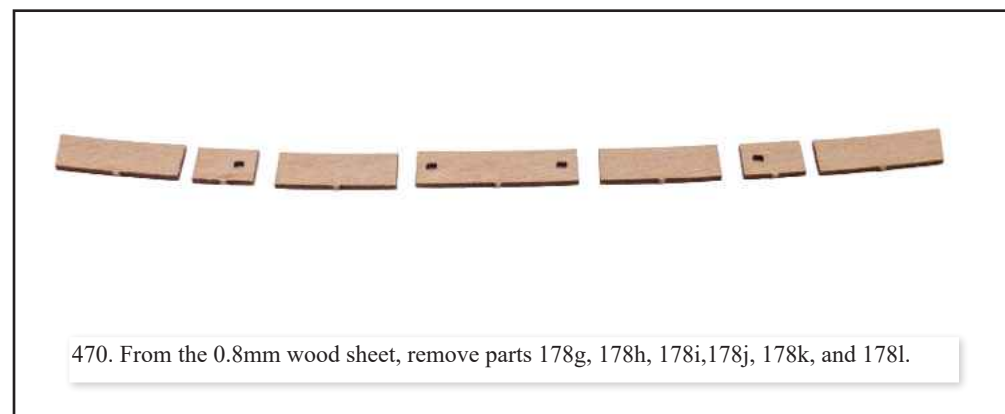
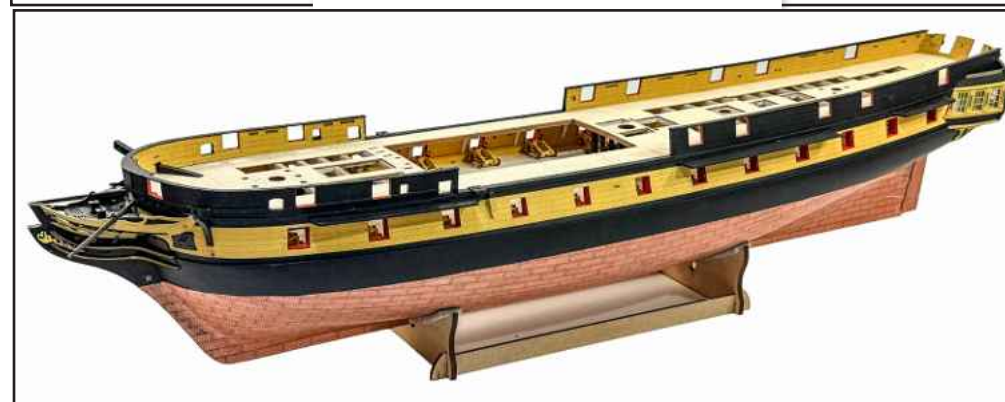
467. Fit the main channels as shown here.



468. Fit the mizzen channels as shown here.



469. HMS Surprise will now look like this.



470. From the 0.8mm wood sheet, remove parts 178g, 178h, 178i, 178j, 178k, and 178l.



471. Paint all parts black except 178i and 178k, and glue those into place on the stern as shown. Also add the 2.5mm thimbles as shown (F-36).



472. From the 4mm wood sheet, remove both parts 64. From the 0.8mm wood sheet, remove parts 188 and 189. From the 0.6mm wood sheet, remove two parts 189a. From the 1mm wood sheet, remove two parts 163a.



473. Assemble as shown.



474. Fit eyelets PE24 to these parts and paint the assemblies in black. Now glue these to the rear gunwales, as shown.



475. Prime and paint all the strops, PE1 and PE5. Referencing your plans, fit the 3mm and 5mm dead-eyes as shown in this sequence.



476. Using your plans as reference, install the 3mm and 5mm deadeye and strop assemblies to the channels, using the relevant chainplate parts. Use brass pins and CA to strap to the hull. At this stage, also fit the eyelets and other PE to the channels. Here you see the completed fore channels.

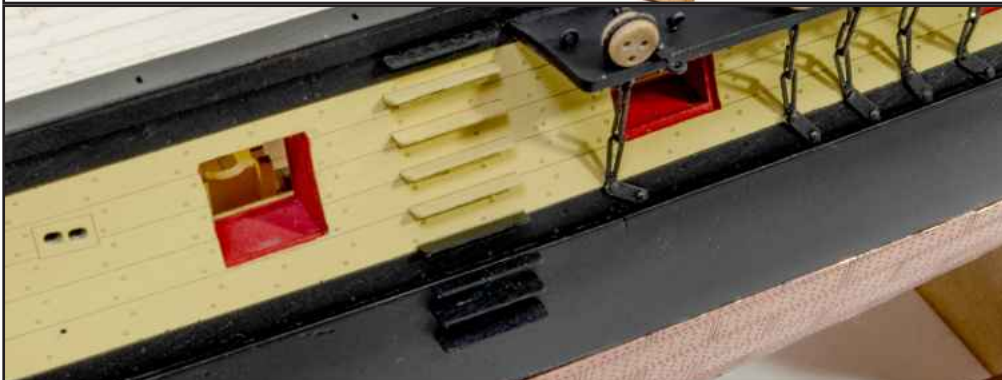


477. Here are the completed main mast channels...

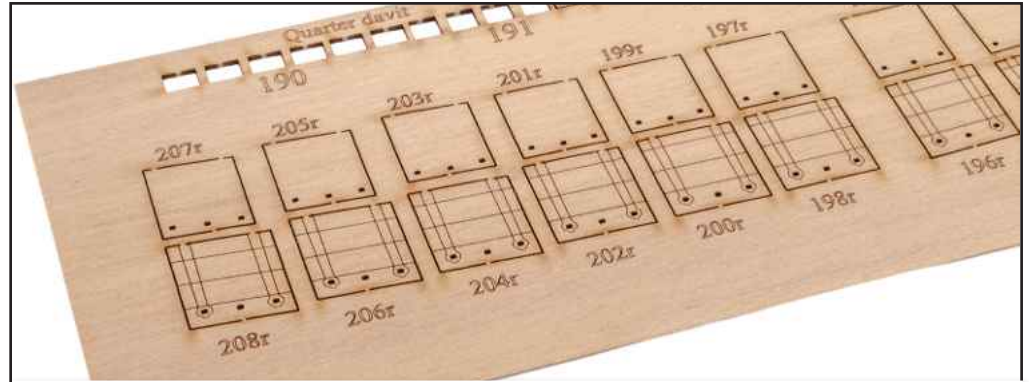


478. ...and finally, the mizzen channels.

479. From the 0.6mm wood sheet, remove parts 255 and 256. Glue together as shown.



480. Paint the parts appropriately to match their hull locations and then glue the completed steps into position.



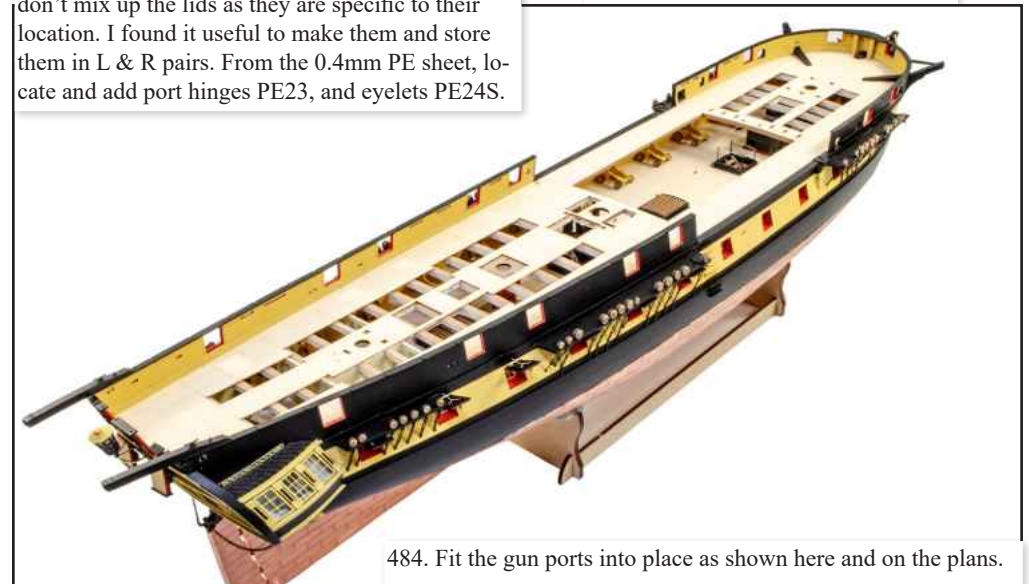
481. Locate the gun port lids parts on the 0.8mm wood sheet. Note that there is a set of port lids for port and starboard sides (left and right, l, r).



482. Assemble the parts as shown, ensuring you don't mix up the lids as they are specific to their location. I found it useful to make them and store them in L & R pairs. From the 0.4mm PE sheet, locate and add port hinges PE23, and eyelets PE24S.



483. Paint the gun port lids as shown.



484. Fit the gun ports into place as shown here and on the plans.



485. Now it's the turn of the stern chaser lids. From the 1mm wood sheet, remove parts 176a, 176b, 177a, 177b, 178b, and 178c.



486. Assemble as shown.



487. From the 0.8mm wood sheet, remove parts 178i and 178k. Glue to the top of the port lids as shown.



488. From the 0.4mm PE sheet, add eyelets PE24S. From the 0.4mm PE sheet, remove parts PE48. Assemble as shown.



489. Paint the port lids in black and finally fit the painted parts 265 and 266.



490. Paint the reverse of the port lids as shown.



491. Locate the lantern parts, paint and assemble as shown on the plan, and fit the brass rod and the 0.4mm PE part PE46 as a bracket. It's important that you use the profile to help shape the brass rod.

492. Fit the lantern as shown and the stern chaser port lids. At this point, you can finish the stern by adding the rudder chain.



493. From the 1.5mm wood sheet, remove parts 303. Paint black as shown.





494. Glue three per side into the locations shown here.



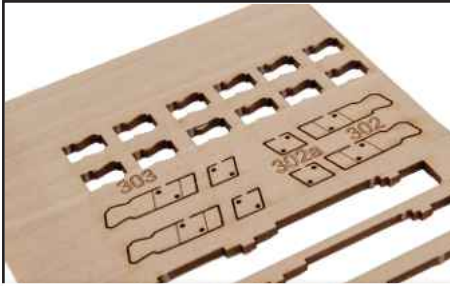
495. From the 1.5mm wood sheet, locate belaying pin racks 307 and 308. Paint black and install as shown here and on plans. From the 0.6mm PE sheet, locate belaying pins PE69. Paint black and fit to the pin racks as shown here.



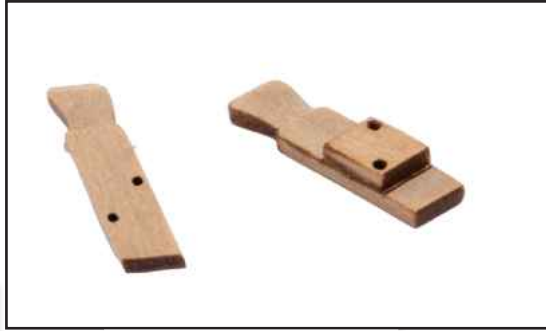
496. From the 1.5mm wood sheet, locate belaying pin racks 305 and 306. Again, paint black, install and then fit the PE69 pins.



497. Finally, locate pin racks 304 from the 1.5mm wood sheet. Paint black, install and fit the belaying pins. Also use the 0.4mm eyelets PE24S and add these to the holes around each gun port; 2 per side.



498. From the 1.5mm wood sheet, locate parts 301, 301a, 302, and 302a. Note that this is a prototype sheet and won't look like yours.



499. Glue together as shown.



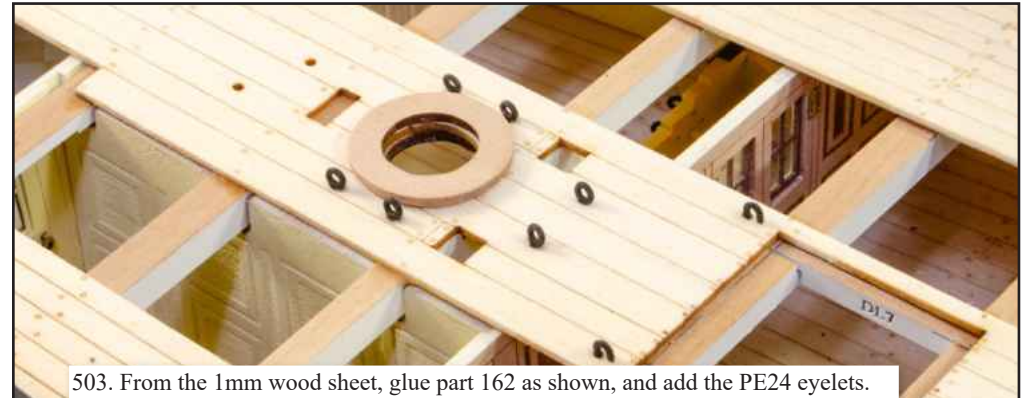
500. Paint ochre and glue into place as shown.



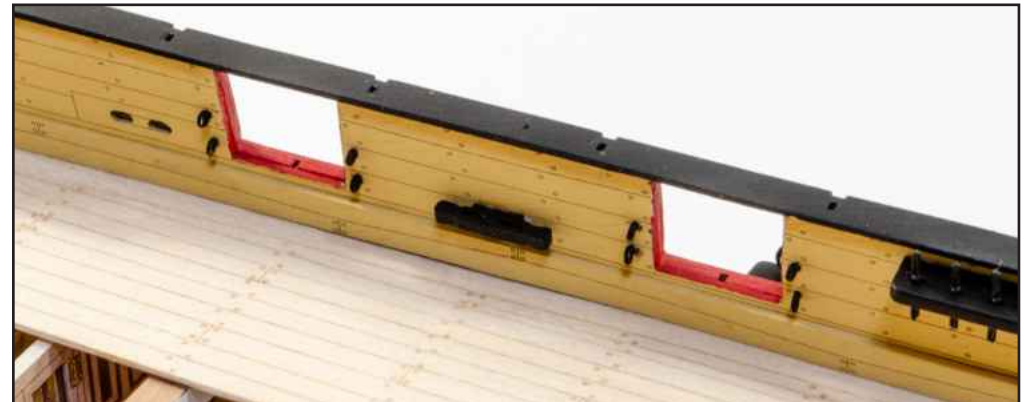
501. At the foremast location glue part 160, found on the 1mm wood sheet. From the 0.4mm PE sheet, add eyelets PE24. At the rear of each gun station, glue a deck loop PE47, also on the 0.4mm PE sheet. Please use the plans for the correct orientation of the gun tackle eye and ring bolts (PE47 & PE47a), as the photos show incorrect orientation and no ring bolt.



502. From the 1mm wood sheet, glue part 161 as shown. Also add PE24 eyelets.



503. From the 1mm wood sheet, glue part 162 as shown, and add the PE24 eyelets.



504. From the 1.5mm wood sheet, locate parts 300, paint black and glue into the position shown...



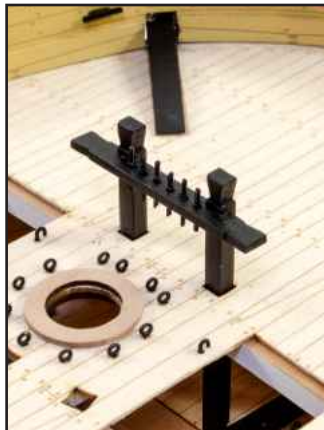
505. ...and also here. From the 1mm wood sheet, remove parts 163 and glue into position in the inner stern, as shown. Two parts 163 need to be glued in the inner bulwark areas, just aft of the catheads. Also add belaying pins to the stern gunwale.



506. From the 3mm wood sheet, remove parts 73. From 1.5mm wood sheet, remove part 124.



507. Assemble as shown.



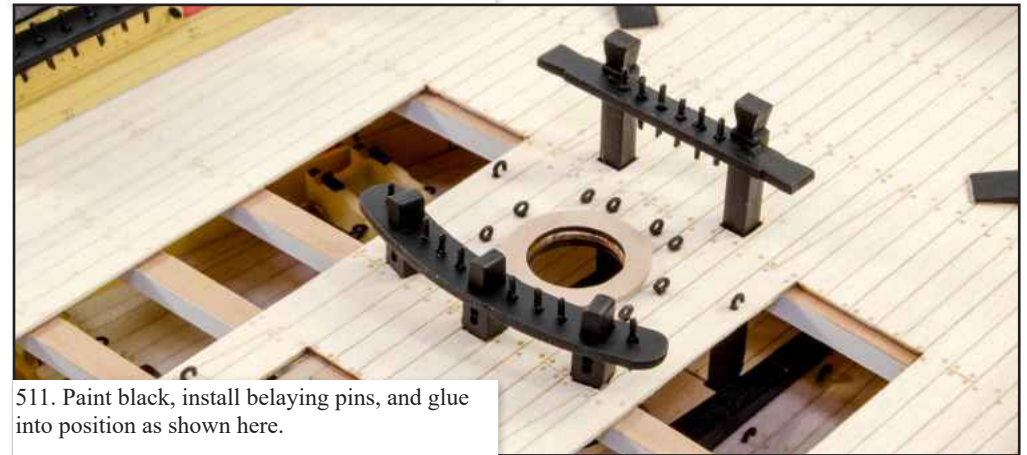
508. Paint black, add belaying pins, and install as shown.



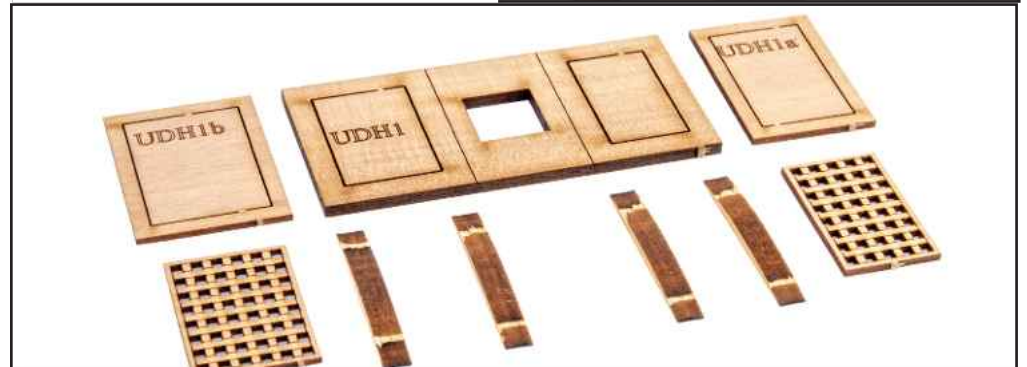
509. From the 3mm wood sheet, remove parts 77. From the 1.5mm wood sheet, remove part 123.



510. Assemble as shown.



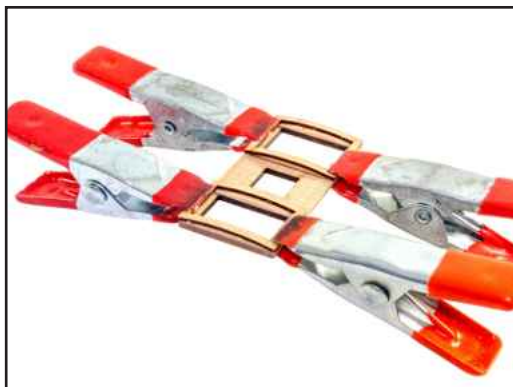
511. Paint black, install belaying pins, and glue into position as shown here.



512. From the 2mm wood sheet, remove part UDH1. From the 1mm wood sheet, remove parts UDH1a, UDH1b, UDH1c, and UDH1d. From the 3mm wood sheet, remove parts UDH1e and UDH1f.



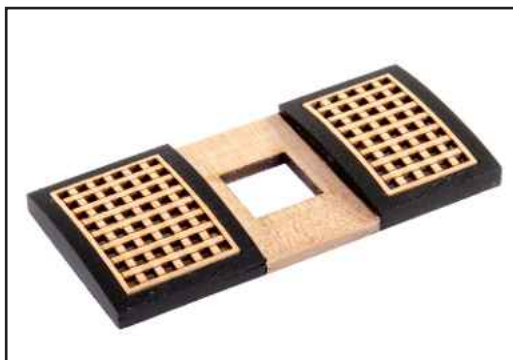
513. Glue UDH1f parts to UDH1.



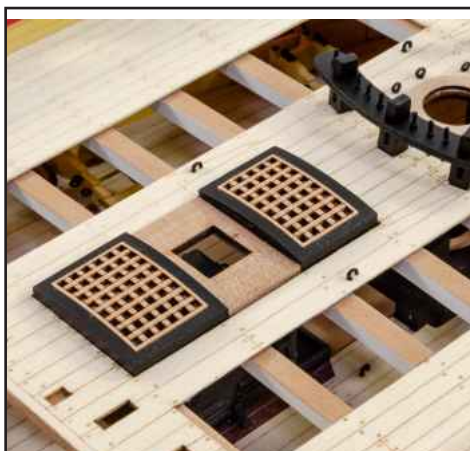
514. Glue UDH1a and UDH1b to the assembly as shown. Clamp until set.



515. Paint as shown.



516. Add the grates UDH1c and UDH1d as shown.



517. Glue the assembly to the deck, as shown.



518. Glue the Brodie Stove trunk F-7 into the socket on top of the stove and glue the 1.5mm wood UDH1e over the top of it, and onto the grate assembly.



519. From the 1.5mm wood sheet remove parts 125, 12R. From the 5mm wood sheet, remove part 56. From the 1mm wood sheet, remove parts 151. From the 3mm wood sheet, remove part 75. From the 0.4mm PE sheet, remove part PE13. You will also need a brass pin and the brass bell F-24.



520. Create the assemblies as shown here.



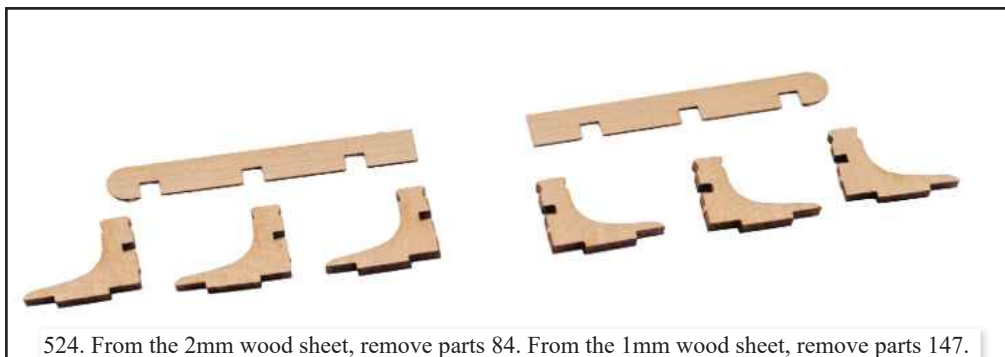
521. Now glue these two assemblies together.



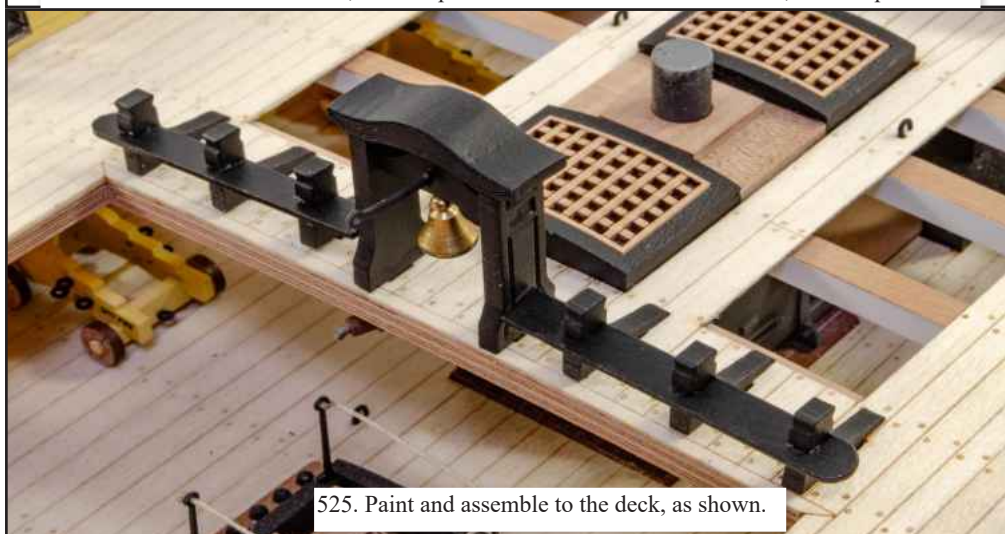
522. Paint the assembly black. Slip the brass pin through the hole in the top of the bell and bend it 90 degrees. Cut the pin to about 3mm long and then drill a hole in the underside of the assembly. Glue the bent pin into that hole so that the bell hangs within. Now glue part PE13 as shown.



523. Glue the completed belfry to the deck.



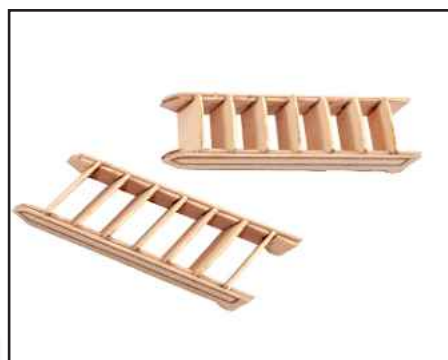
524. From the 2mm wood sheet, remove parts 84. From the 1mm wood sheet, remove parts 147.



525. Paint and assemble to the deck, as shown.



526. Locate the parts for the two sets of gangway ladders, on the 0.6mm wood sheet.



533. Glue parts 251 and 252 together.



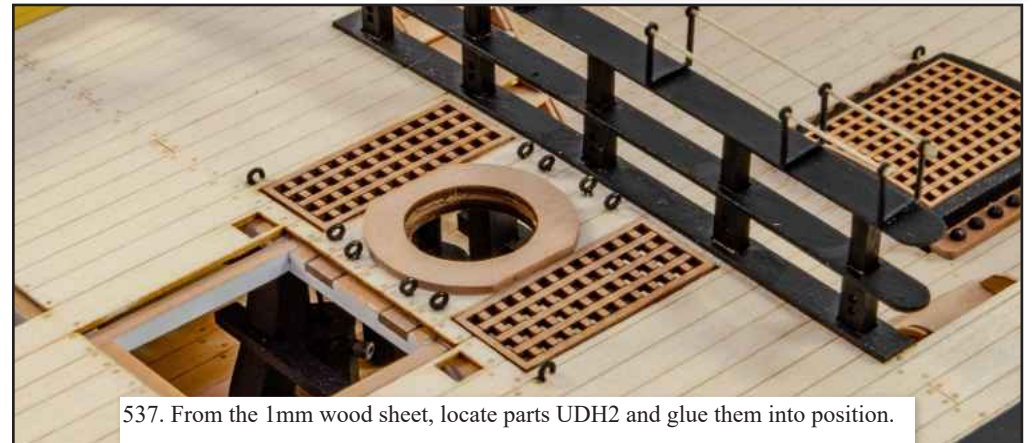
534. Paint the parts and then glue into place as seen here, ensuring the top of the posts locate within the holes in the assembly you just added. You can now paint the posts in black too.



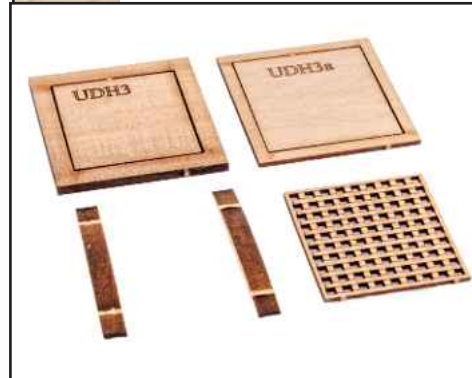
535. From the 0.4mm PE sheet, locate parts PE32, paint them black, and glue them as shown here and on plan.



536. Use 0.5mm natural thread and add this to the assembly.



537. From the 1mm wood sheet, locate parts UDH2 and glue them into position.



538. From the 2mm wood sheet, locate part UDH3. From the 1mm wood sheet, locate parts UDH3a and UDH3b. From the 3mm wood sheet, remove parts UDH3c.



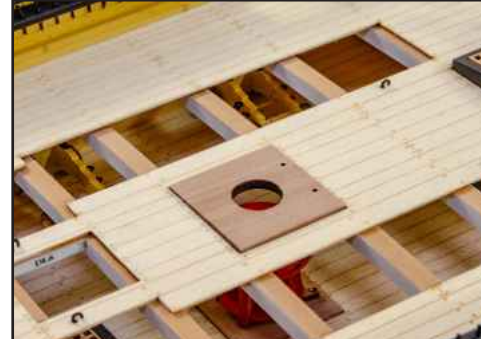
539. Glue UDH3c to UDH3. Now take UDH3a...



540. ...and glue and clamp into position.



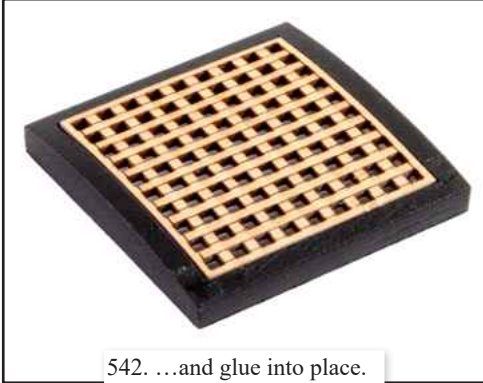
541. Sand the assembly and paint it black. Now take part UHD3b...



546. From the 1.5mm wood sheet, remove part UDH4 and glue into place as shown.



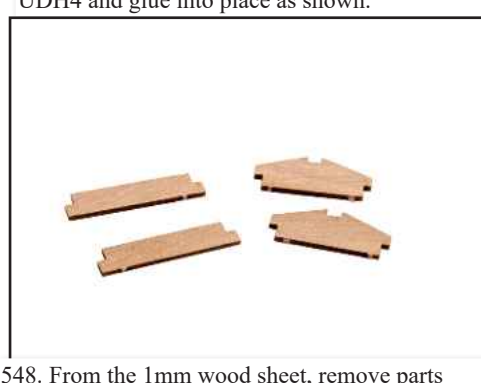
547. Fit the capstan assembly you made earlier and add the capstan pawls 122 from the 1.5mm wood sheet. Fit these using brass pins.



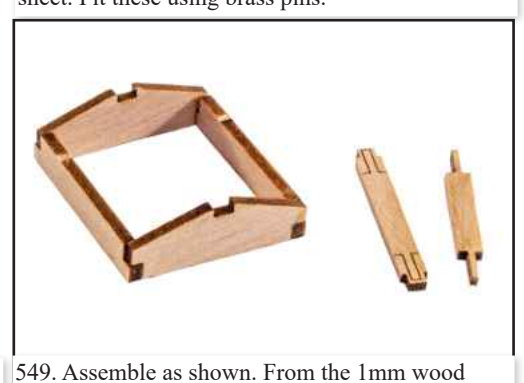
542. ...and glue into place.



543. From the 3mm wood sheet, remove parts 78 and 74.



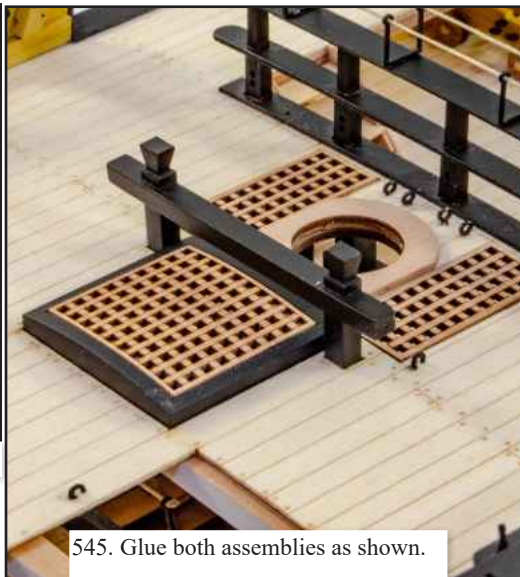
548. From the 1mm wood sheet, remove parts UDH5 and UDH5a.



549. Assemble as shown. From the 1mm wood sheet, remove parts UDH5b and UDH5c.



544. Assemble as shown and then paint black.



545. Glue both assemblies as shown.



550. Glue into place atop the previous assembly and then remove parts UDH5d



551. Glue those parts to the skylight as shown. From the 0.2mm PE sheet, remove parts PP66. Glue these onto the assembly as shown. Also remove parts PE64.



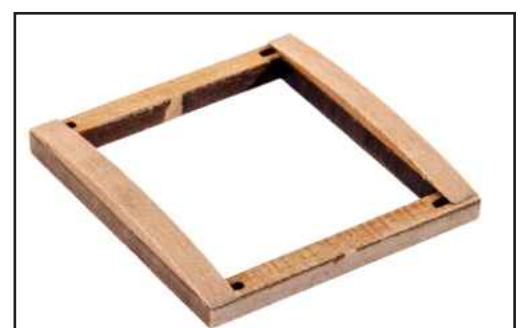
552. Glue the acetate windows AC21 to the reverse of frames PE64. Assemble the unit as shown and paint black.



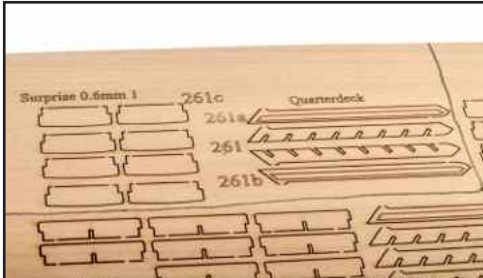
553. The skylight can now be fitted into place.



557. From the 2mm wood sheet, remove parts UDH6 and UDH6a.



558. Assemble as shown.



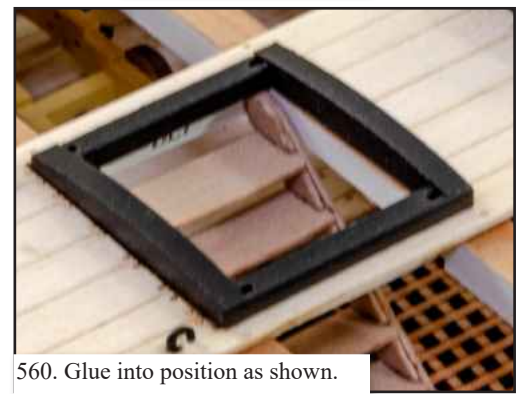
554. Locate the quarterdeck ladders on the 0.6mm wood sheet.



555. Build these as before.



559. Paint the assembly black.



560. Glue into position as shown.



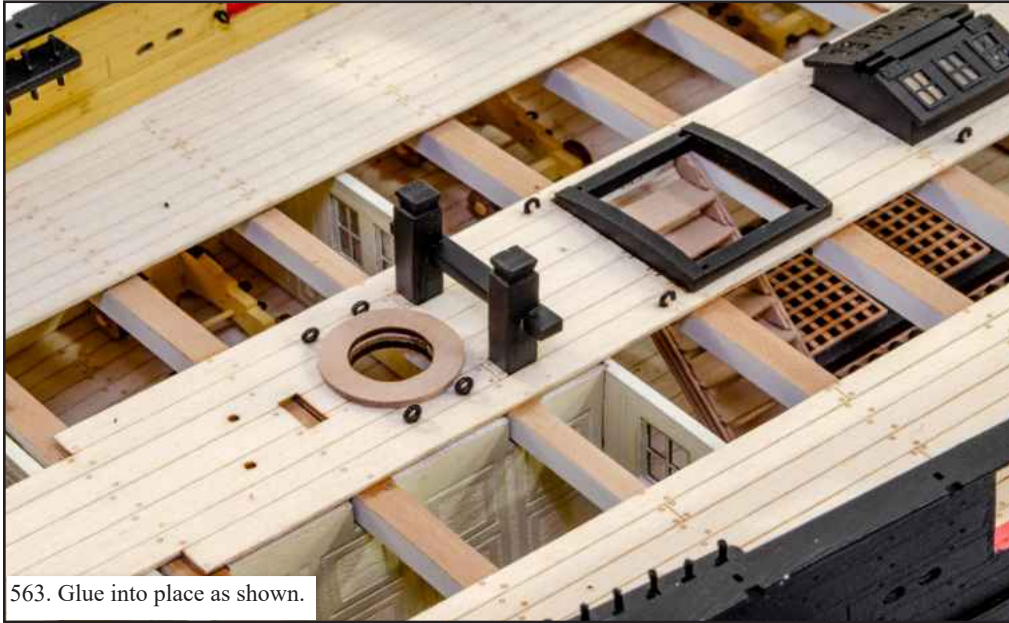
556. Now glue into position as shown, noting the orientation.



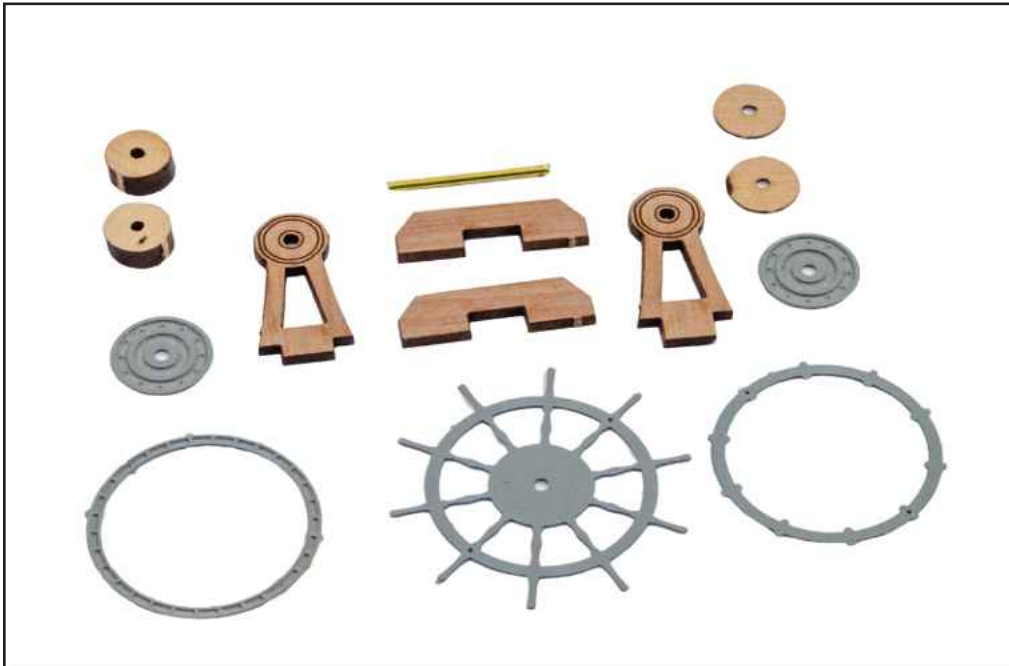
561. From the 3mm wood sheet, remove parts 85. From the 2mm wood sheet, remove part 91.



562. Assemble as shown and paint black.



563. Glue into place as shown.



564. From the 1.5mm wood sheet, remove parts 125, 125R, and 126. From the 0.6mm wood sheet, remove parts 250. From the 3mm wood sheet, remove parts 80. Cut a length of 1mm brass rod 14mm long. From the 0.4mm PE sheet, remove parts PE26, PE27, and PE28.



565. Create the assemblies as shown here, referencing your plan for details.



567. Paint the assemblies and glue them together as shown, using 0.5mm natural thread to wrap around the drum. Leave the thread so it hangs downwards at each end.



566. Complete this drum unit by gluing the 0.6mm discs either side of the centre section. Glue the brass rod into place.



568. Glue the unit into position, threading the ends of the cord through the holes in the deck.



569. LARGE BINNACLE: For Surprise, we provide TWO binnacles, so you can choose your own and its location. Here we see the larger one being built. From the 1mm sheet, remove parts OB3, OB4, OB5, and OB6.



570. Assemble as shown. From the 1mm wood sheet, remove parts OB1 and OB2. From the 0.2mm PE sheet, remove part PE00.



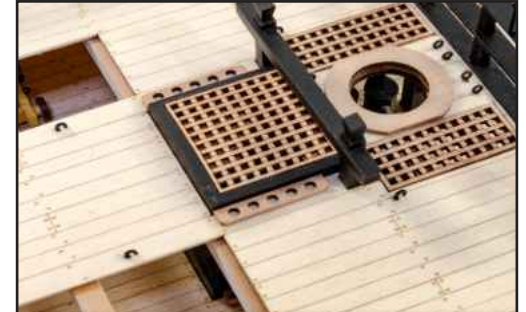
571. Assemble as shown. From the 1mm wood sheet, remove part OB7. Also locate binnacle chimney F-25. (NOTE: only one chimney is supplied as only one binnacle will be used).



572. Assemble as shown.



577. From the 1mm wood sheet, remove parts UDH1g and glue them into place as shown here.



579. From the 1mm wood sheet, remove parts UDH5e and glue them as shown here.



573. SMALL BINNACLE: From the 1mm wood sheet, locate parts SOB4, SOB5, SOB6, and SOB3. You will also need the PE part PE00 used for the previous assembly.



574. Assemble as shown. You will need to cut down the PE part to install a single compass (not shown here). From the 1mm wood sheet, locate parts SOB1 and SOB2.



580. Also from that 1mm wood sheet, remove parts UDH6b and glue as shown here.



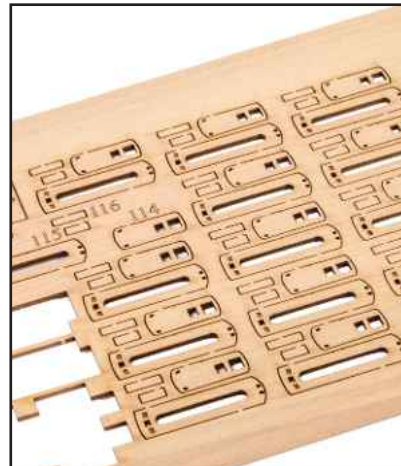
581. From the 0.4mm PE sheet, remove stanchions PE14 and glue into place as shown. Use some 0.25mm natural thread and lash this as shown. You can also now add the cannon balls.



575. Glue those parts to the assemble and the roof SOB7, plus the binnacle chimney.



576. Eyelets PE24S can be added to either side of the binnacle and then the unit glued into position. Here you can see we opted to install the small binnacle



582. Locate these carronade parts on the 1.5mm wood sheet.



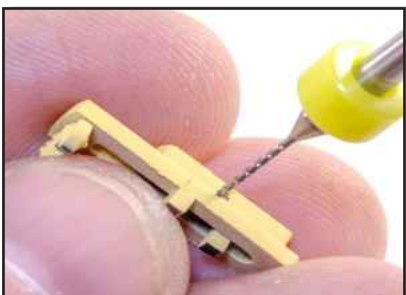
583. Assemble the parts as shown here.



584. Add the 3d-printed resin wheels to each carriage and sand it flush where it protrudes through the cart.



585. Glue the assemblies as shown here. You can now paint the carts in ochre.



586. Drill the eyelet holes in the sides. You will notice an engraved line which is the location of the hole.



587. Add eyelets PE24S from the 0.4mm PE sheet.



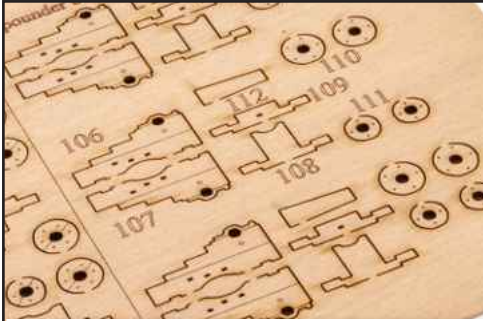
588. From the 0.4mm PS sheet, add parts PE49 and PE49a by opening the loops and passing through the bracket, before closing the loop. Glue into situ as shown. From the Polybak sheets, add parts 285. Note that the kit ones are longer than these prototype parts seen here, and mine were replaced shortly afterwards! You can use brass pins to locate these to the carriage. Also take the carronade barrels and paint them black before gluing to the carts.



589. Mount the guns to the gun ports, locating the forward end into the bulwarks with a brass pin. It's a good idea to very slightly flatten the wheels to create a good surface for the CA glue to adhere to. Here you see the quarterdeck fitted with guns.



590. And here is the forecandle, now equipped with guns.



591. On the 1.5mm wood sheet, locate these parts for the chaser guns.



592. Assemble as shown.



593. Paint the assembly in ochre, insert barrel F-12, and close up the carriage.



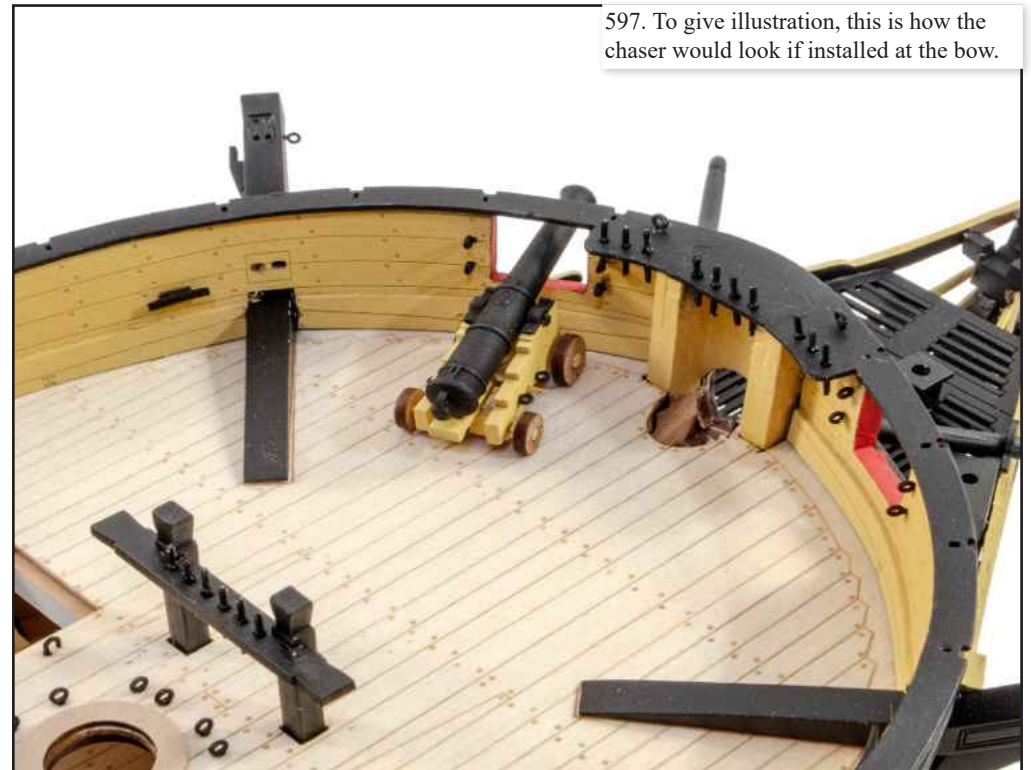
594. Add eyelets PE24S, through bolt PE2- (as on the main gun deck cannon), and finally the cart wheels.



595. If you need to, you can add the quoin for the guns, so it will lower the angle of the gun.

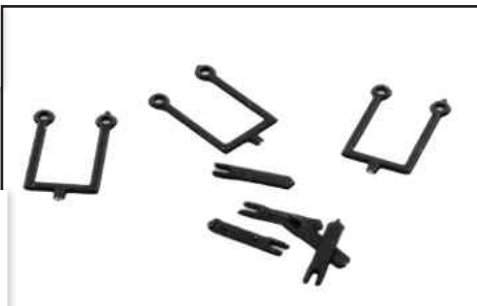


596. We opted to use the chasers at the stern, as mentioned in the fiction books.

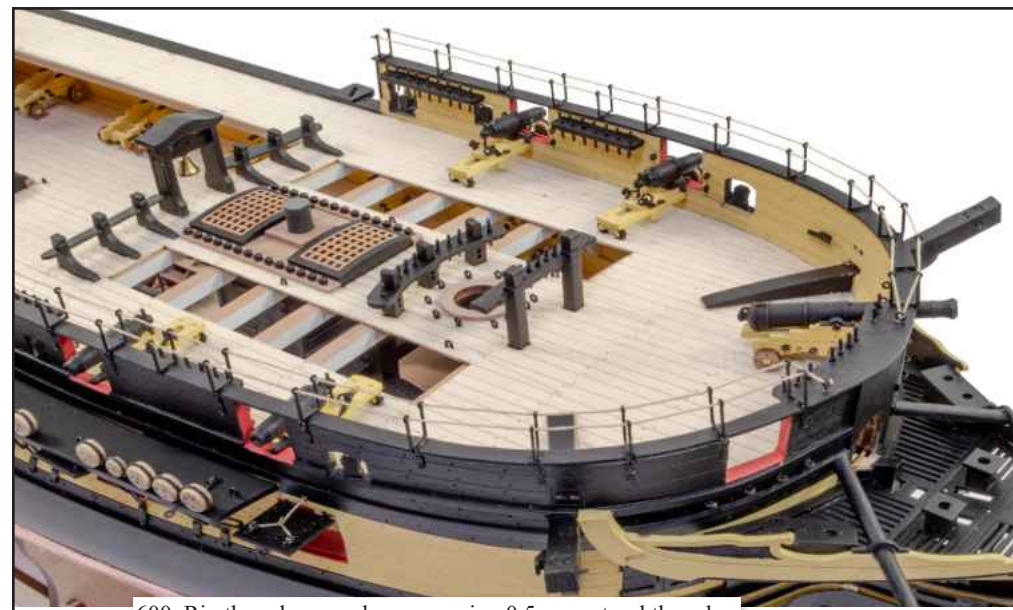


597. To give illustration, this is how the chaser would look if installed at the bow.

598. From the 0.4mm PE sheet, remove parts PE31. Also remove parts PE31a.



599. Glue PE31 into place around the forecastle gunwales. Glue PE31a adjacent to PE31, on the outside of the hull. These have a slot in them into which the outside edge of PE31 sits.



600. Rig these hammock cranes using 0.5mm natural thread.

601. Use the same parts and rig for the hammock cranes along the quarterdeck.





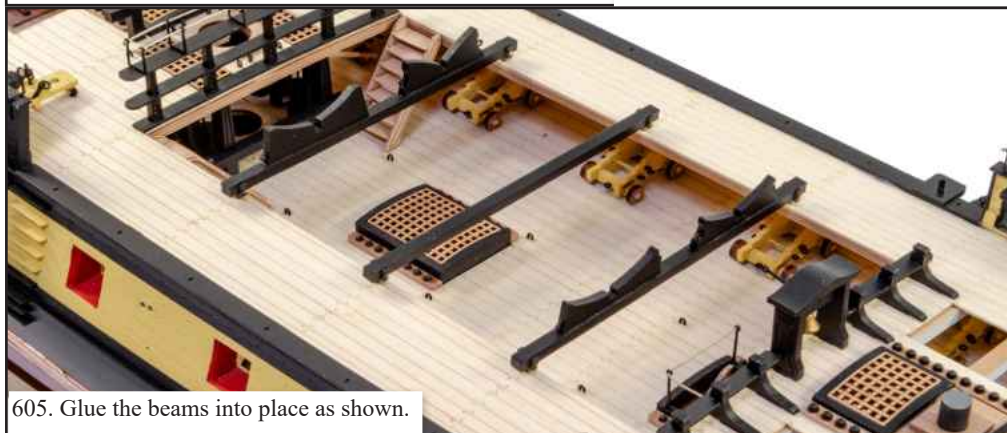
602. From the 3mm wood sheet, remove parts 82.



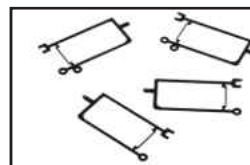
603. Using the plan measurements for reference, glue parts L3, L11, P3, and P9, from the 2mm wood sheet, onto the fore and aft beams. Paint the assemblies black. You will now need the boat beam brackets F-20.



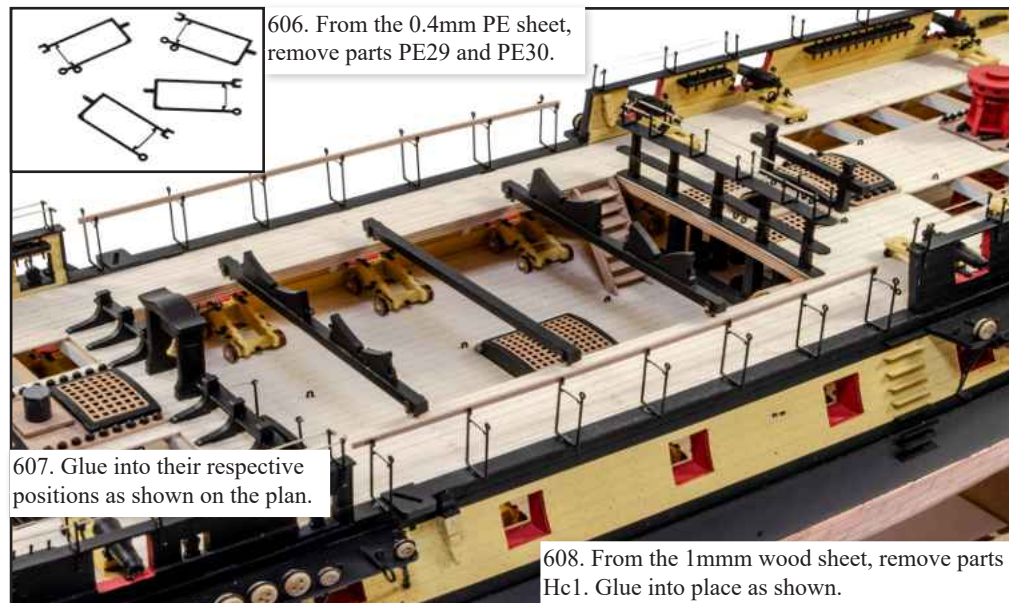
604. Fit the brackets to the beams using brass pins. Also fit 0.4mm PE eyelets PE24 to the assemblies. You can see my chest notes under each beam, indicating fore and aft, and which face points forward.



605. Glue the beams into place as shown.



606. From the 0.4mm PE sheet, remove parts PE29 and PE30.



607. Glue into their respective positions as shown on the plan.

608. From the 1mm wood sheet, remove parts Hc1. Glue into place as shown.



609. Use 0.5mm natural thread and rig the outer eyes of the cradles. You can also use the same rope to add a hand grab from the extra eyelet adjacent to the hull steps.



610. From the 3mm wood sheet, remove parts 81. From the 0.8mm wood sheet, remove parts 163, 190 and 191. From the 0.6mm wood sheet, remove parts 191a.



611. Assemble as shown.



612. From the 0.4mm PE sheet, remove eyelets PE24 and fit as shown. These assemblies can now be painted black.



613. mFrom the 0.4mm PE sheet, remove parts PE25. Bend the parts along the fold line. You will also need some brass pins.



614. Scrape away any paint from the area where the brackets are to be fitted.



615. Use pins to fit the brackets to the hull and then mount the davits as shown, using another brass pin. Touch up any areas where the wood may now be seen.

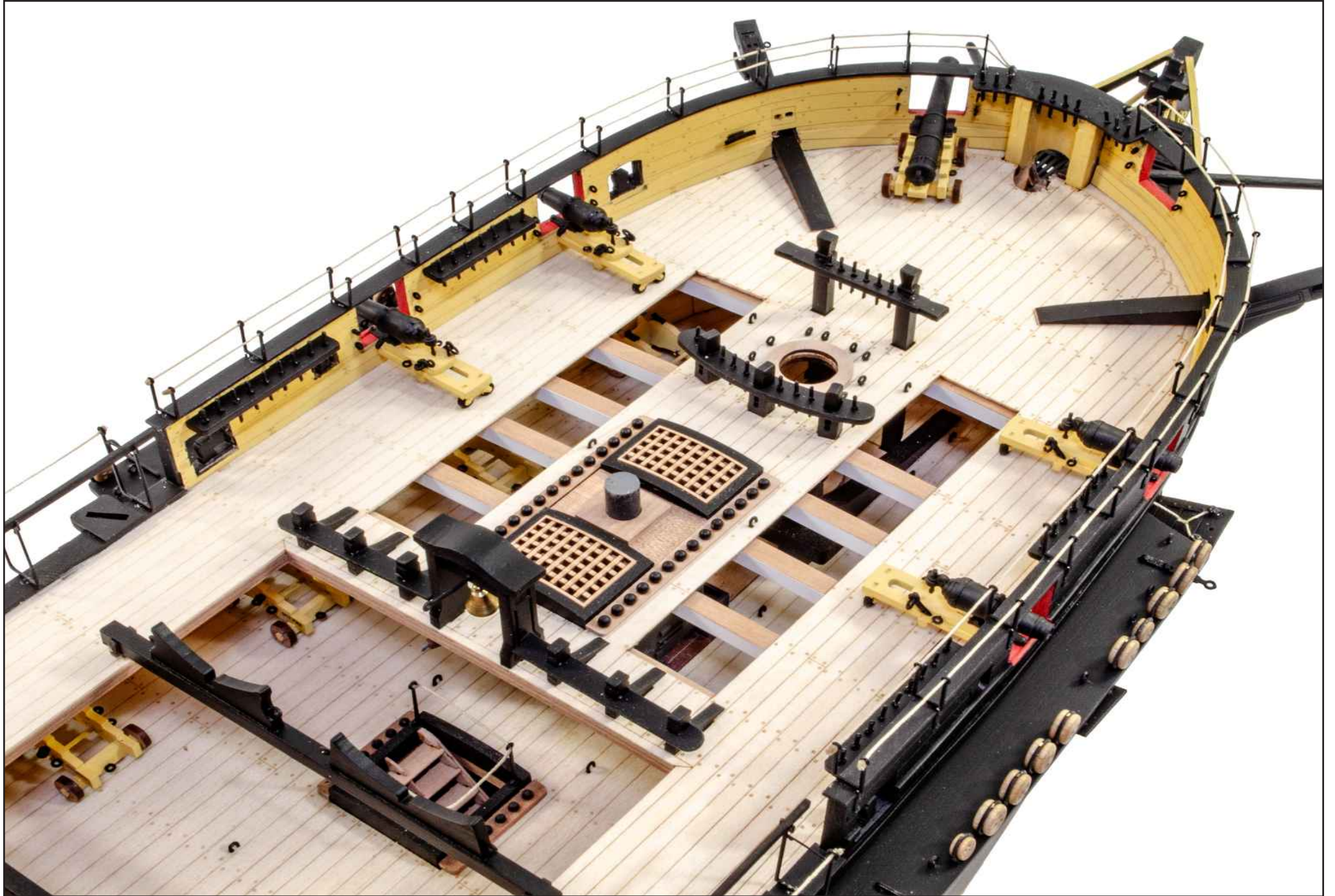


616. Here is how your completed hull will look, yet without boats and figurehead.

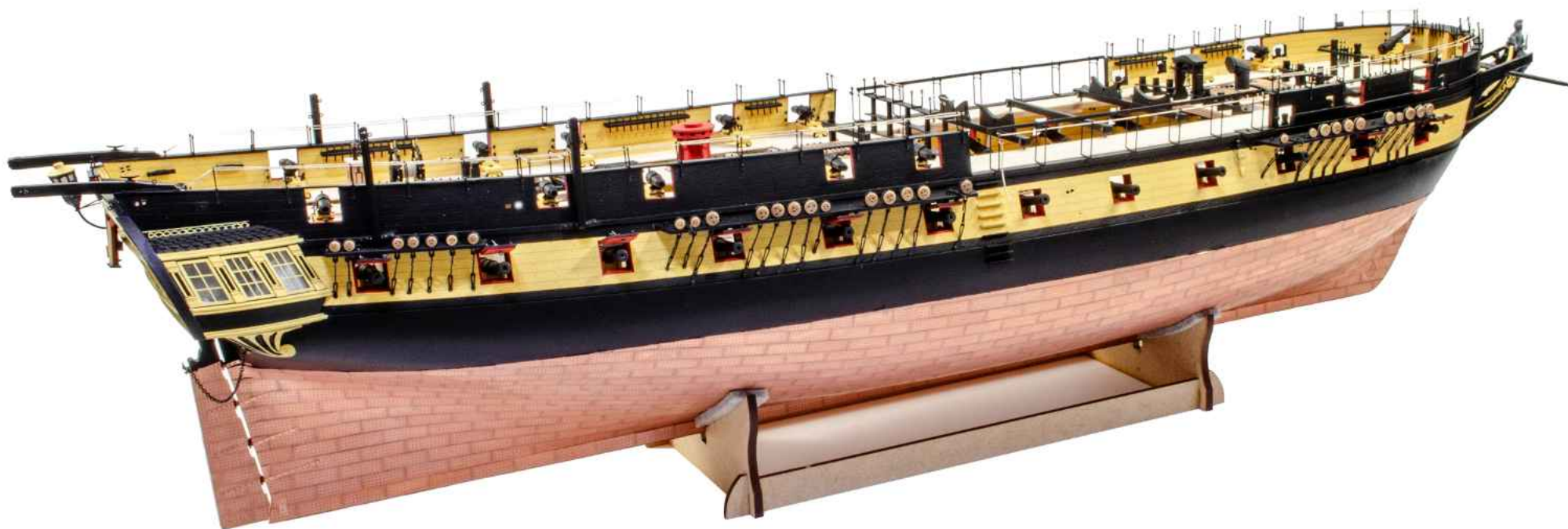


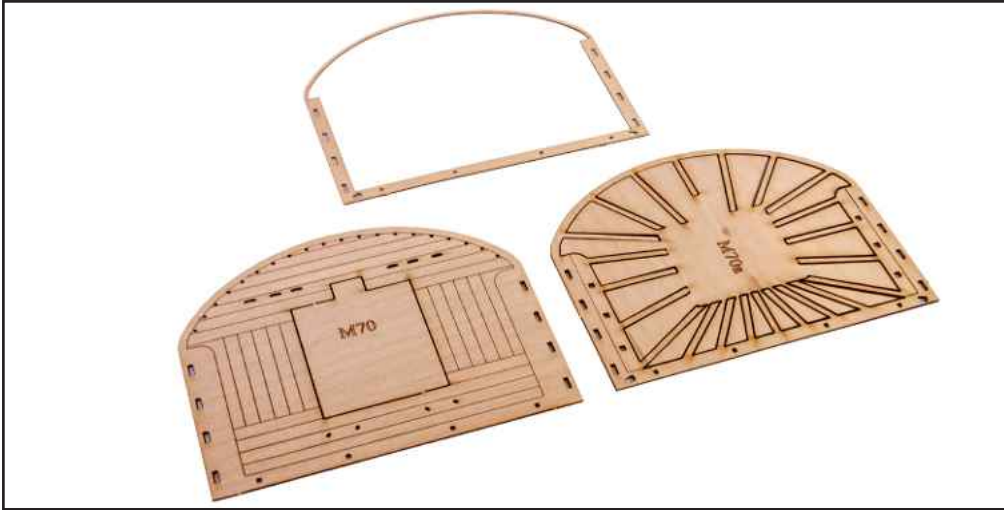




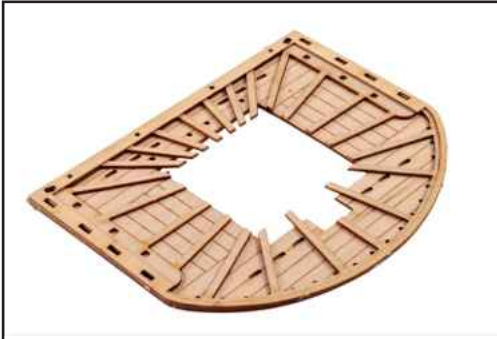








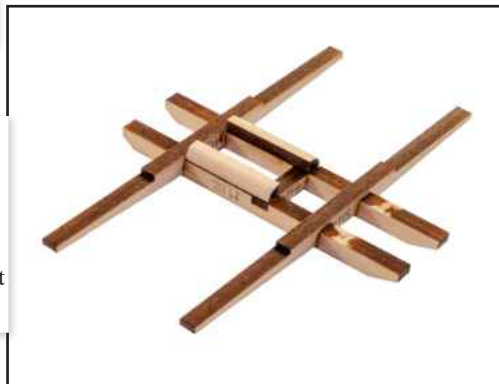
617. From the 0.8mm wood sheet, remove parts M70 and M70a. From the 0.6mm wood sheet, remove part M70b. These are the parts which will create the main mast top.



618. Make sure all parts are perfectly aligned when gluing. We suggest adding weights to ensure the assembly lies flat. When built, also make the mast tops for the fore and mizzen masts.

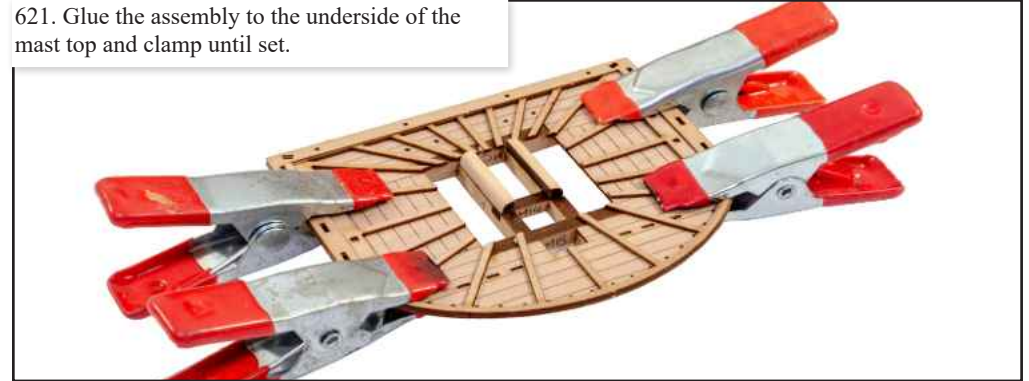


619. From the 3mm wood sheet, remove parts M12, M13, M14, and M15.



620. Assemble as shown. Parts M15 are shaped as shown, before assembly. Check your plans for more details. This assembly belongs to the underside of the Main mast top. Now remove the parts for the fore and mizzen masts, from the same wood sheet. These are clearly marked on that sheet.

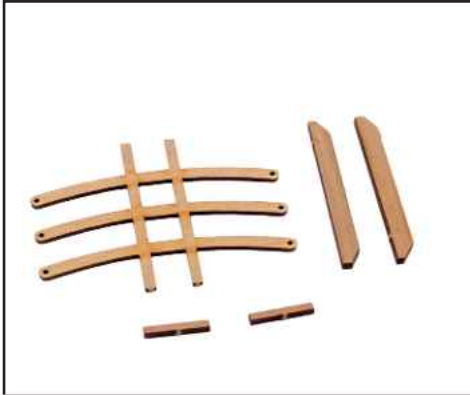
621. Glue the assembly to the underside of the mast top and clamp until set.



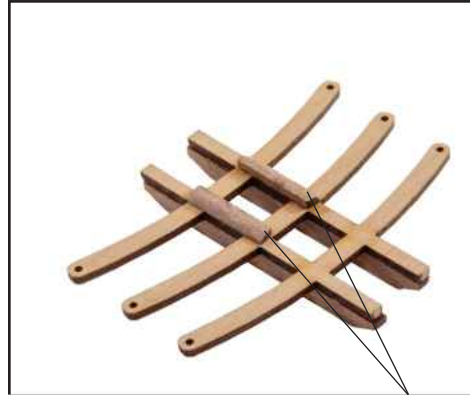
622. Take a length of 12mm dowel and shape as per Plan Sheet 11. Take care in doing this and make your work as accurate as possible. From the 5mm wood sheet, remove part M2. From the 0.8mm wood sheet, remove part M68. From the 1mm wood sheet, remove parts M39, M40, and M41.



623. Assemble the lower mast section as shown here, using your plan as a reference.



624. From the 1mm wood sheet, remove part 44. From the 1.5mm wood sheet, remove parts M32. From the same wood sheet, remove parts M33.



625. Assemble as shown, curving parts M33, as shown on plan.



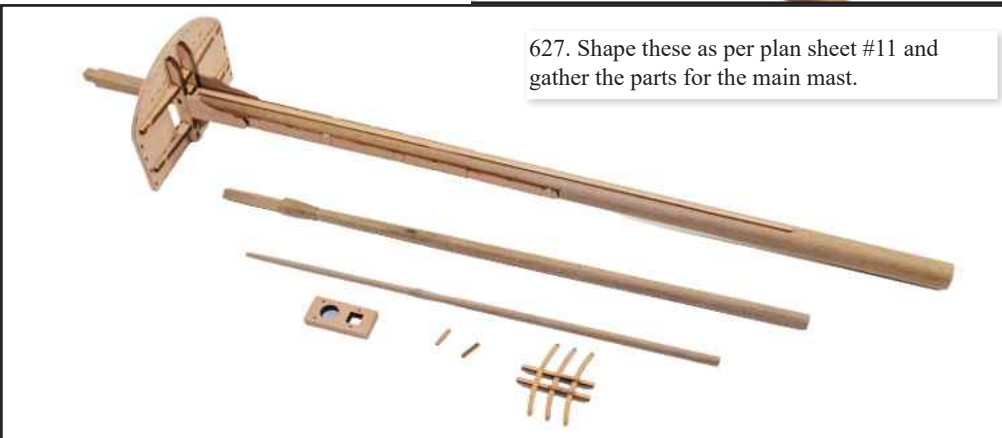
628. Before we assemble, you will need to cut strips of black cartridge paper to fit the iron bands you see here. From the 1.5mm wood sheet, add the mast head cleats. From the 0.6mm wood sheet, remove parts M74 and glue into place along the iron bands as seen here.



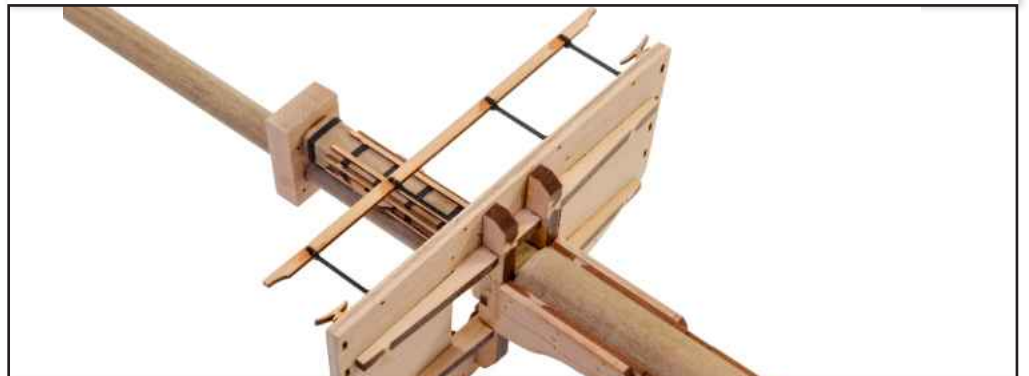
626. You will now need lengths of 8mm and 5mm diameter dowel.



629. Now assemble the middle section with the mast cap block, as shown here and on plan. Notice the fid detail too. These are found on the 1mm wood sheet, as M46.



627. Shape these as per plan sheet #11 and gather the parts for the main mast.



630. From the 1mm wood sheet, remove parts M61 and M63. From the 0.6mm PE sheet, remove parts PE72. Assemble as shown.



631. From the 1mm wood sheet, remove parts M56. Alternatively, you can use parts PE%) from the 0.4mm PE sheet. Fit as shown, taking dimensions from plan sheet #11.



632. For the upper mast as shown here and on plan. Take note of this M72 detail on the plan as it was assembled incorrectly on the prototype. To fit the upper mast section, you will need part M6 from the 3mm wood sheet.



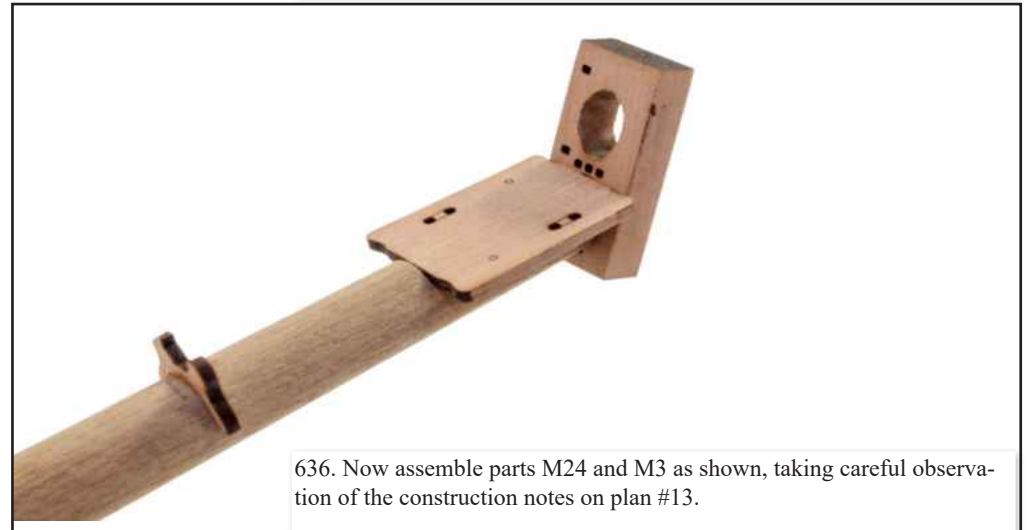
633. From the 1mm wood sheet, remove part M53. Fit as shown. Now, complete the remaining masts in the same fashion. Check plan sheets #10 and #12. Many thinks are very similar to the main mast. In fact, the mizzen mast is simpler to build.



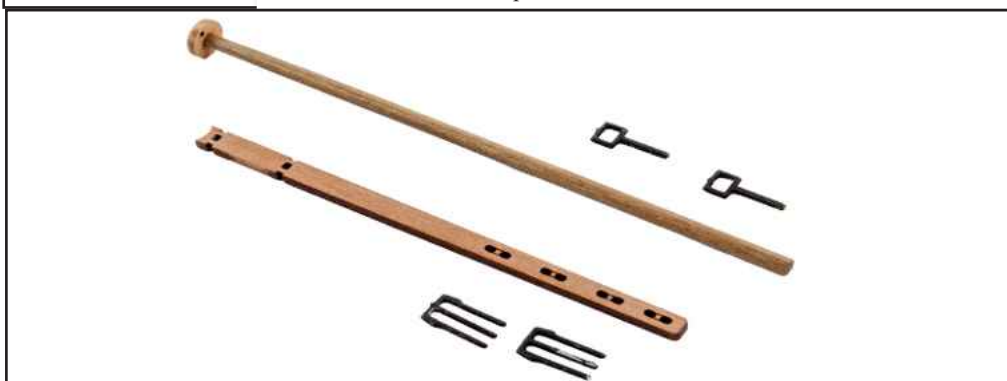
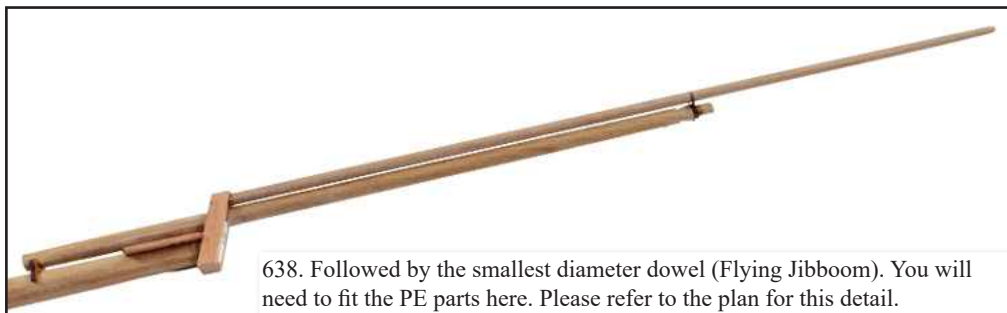
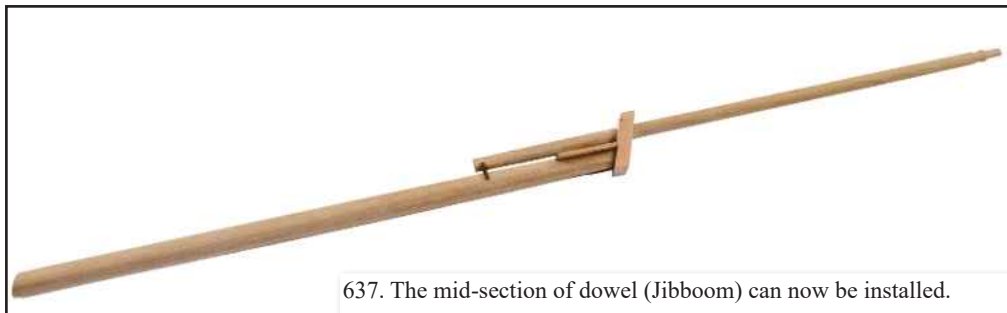
634. We now look at the bowsprit. As per plan sheet #13, take lengths of dowel with diameters, 10mm, 6mm, and 4mm. Shape as per plan. From the 1.5mm wood sheet, remove parts M24 and M29. From the 5mm wood sheet, remove part M3. From the 0.4mm PE sheet, remove parts PE17, PE18, and PE19.

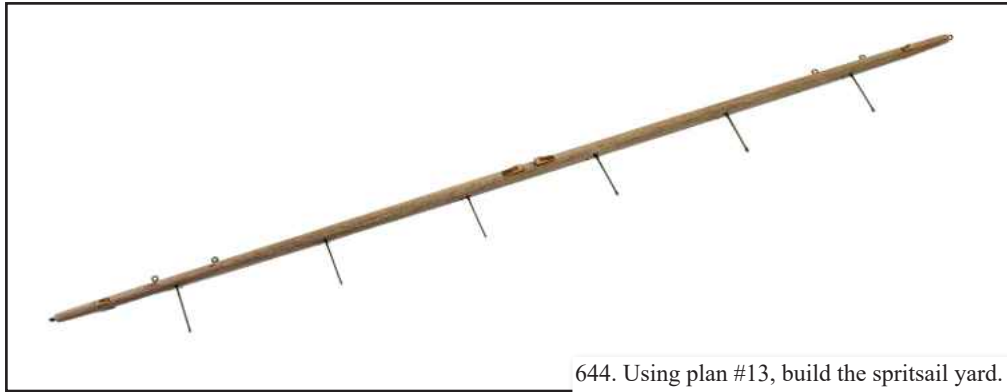


635. Glue M29 into place on the largest down, as shown here and on plan.

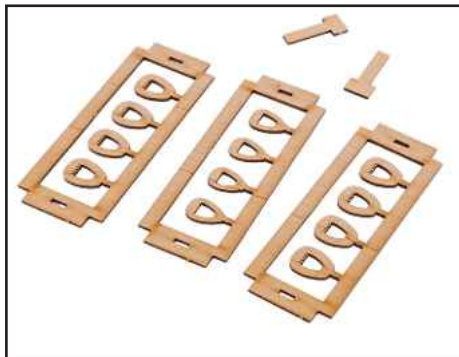


636. Now assemble parts M24 and M3 as shown, taking careful observation of the construction notes on plan #13.

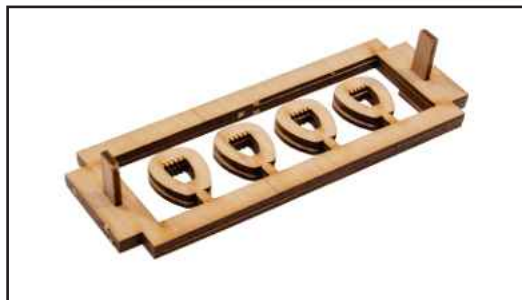




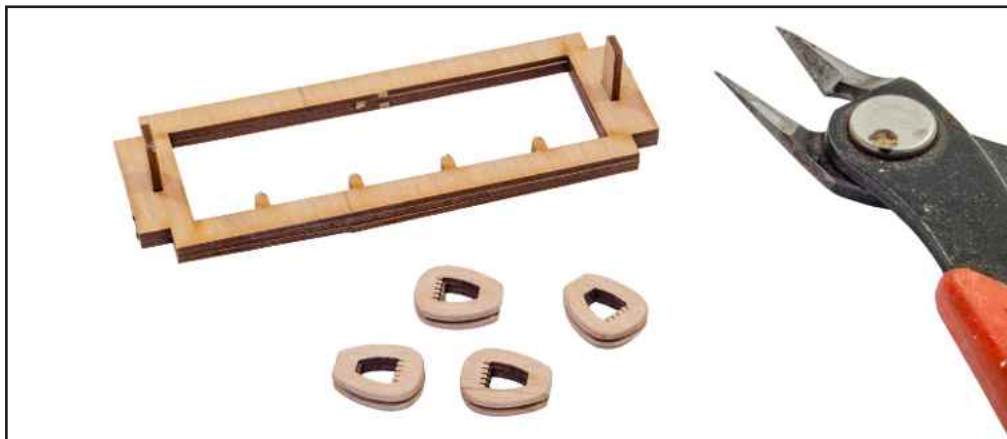
644. Using plan #13, build the spritsail yard.



645. On your 1mm wood sheet, locate the parts to build the 9mm and 10mm closed heart blocks.



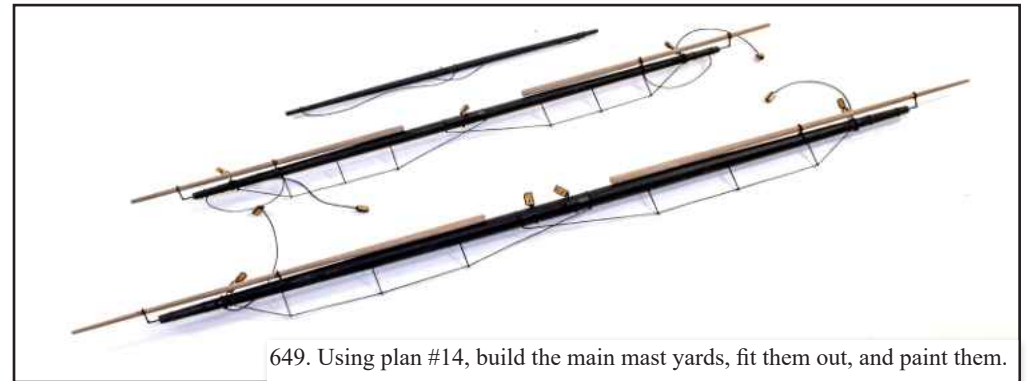
646. Glue the layers together as a sandwich, ensuring that the smaller parts for each set, are in the middle, and the engraved faces are facing outwards. Use the locating pins to hold this together while the glue dries.



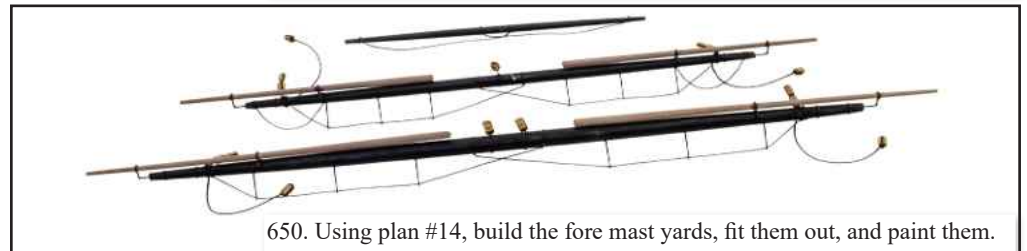
647. Once set, remove the blocks from the job and clean them up using a sanding stick/sponge to round the edges slightly.



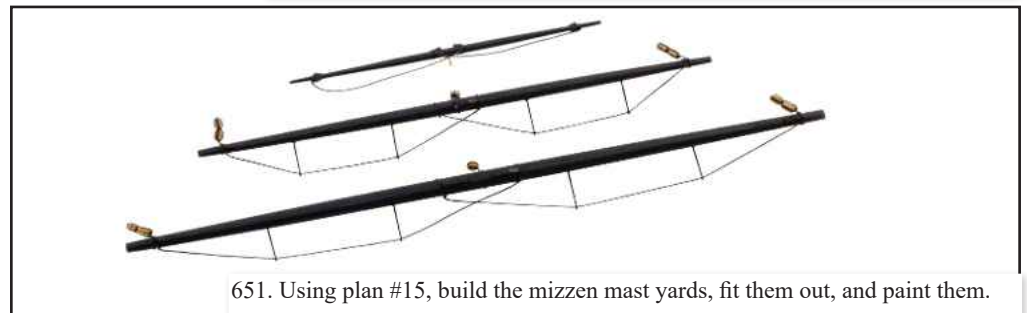
648. You can now paint and fit out the bowsprit and spritsail yard as shown. At this stage, also build and paint the Driver Gaff and Driver Boom, as shown on plan #15.



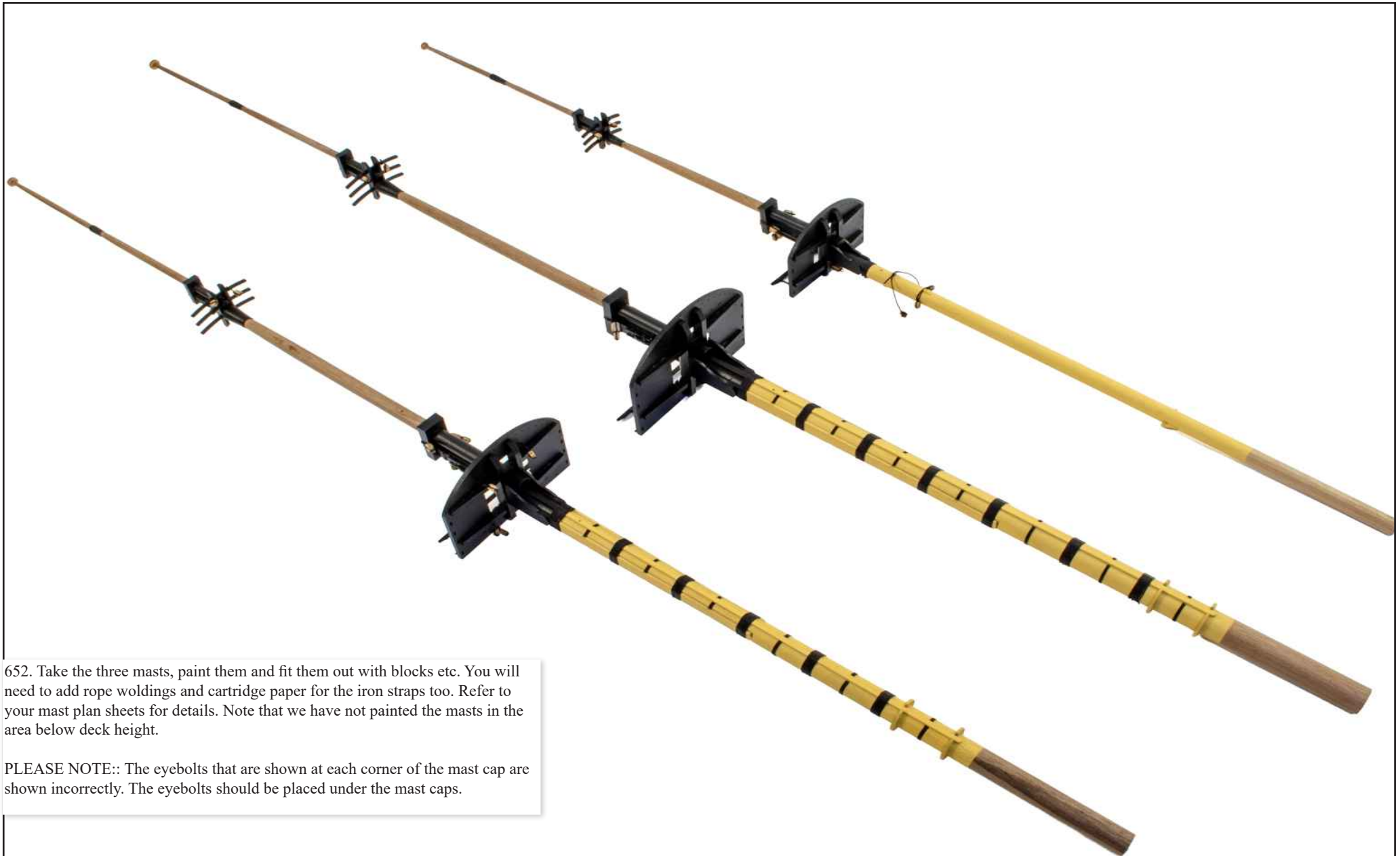
649. Using plan #14, build the main mast yards, fit them out, and paint them.



650. Using plan #14, build the fore mast yards, fit them out, and paint them.

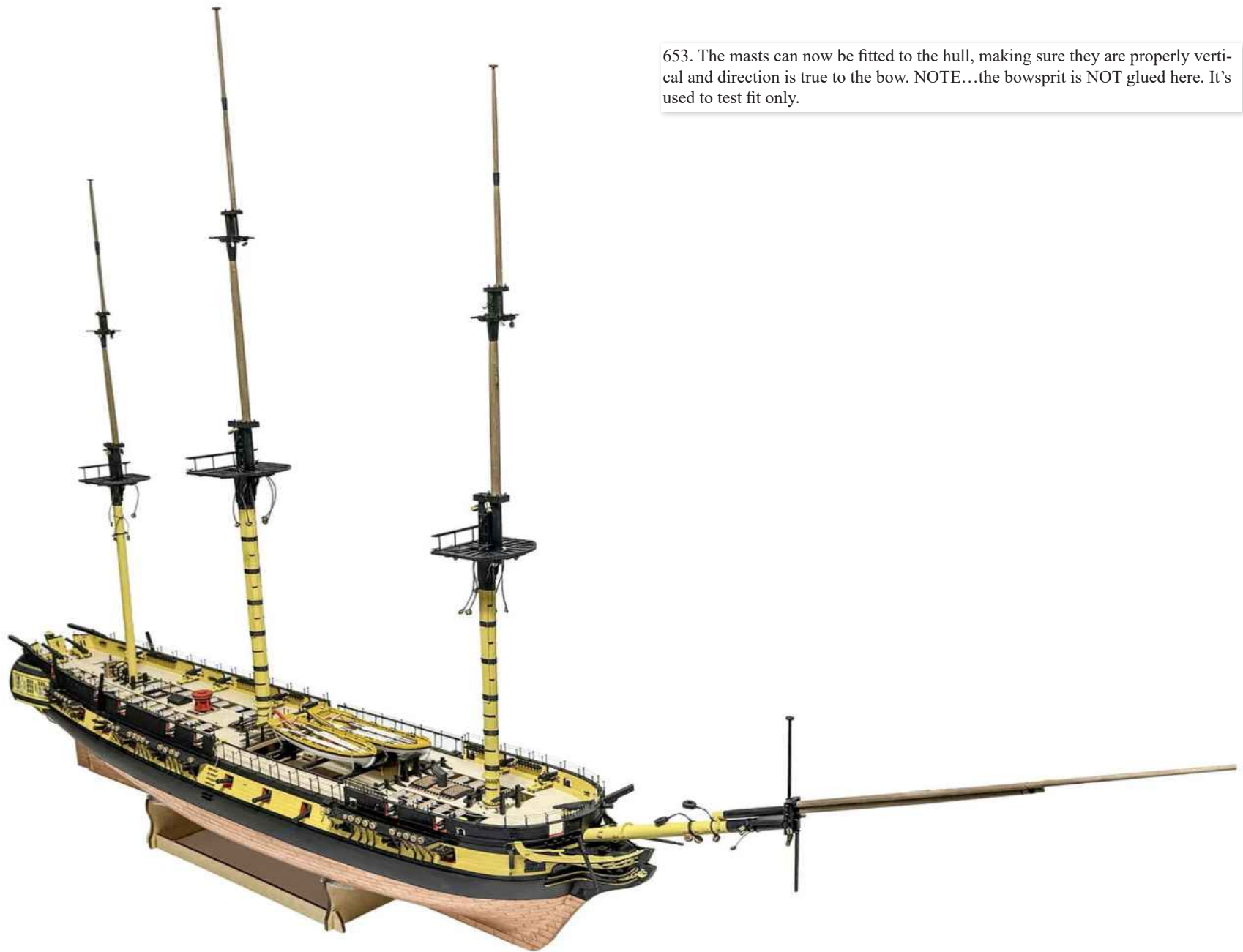


651. Using plan #15, build the mizzen mast yards, fit them out, and paint them.



652. Take the three masts, paint them and fit them out with blocks etc. You will need to add rope woldings and cartridge paper for the iron straps too. Refer to your mast plan sheets for details. Note that we have not painted the masts in the area below deck height.

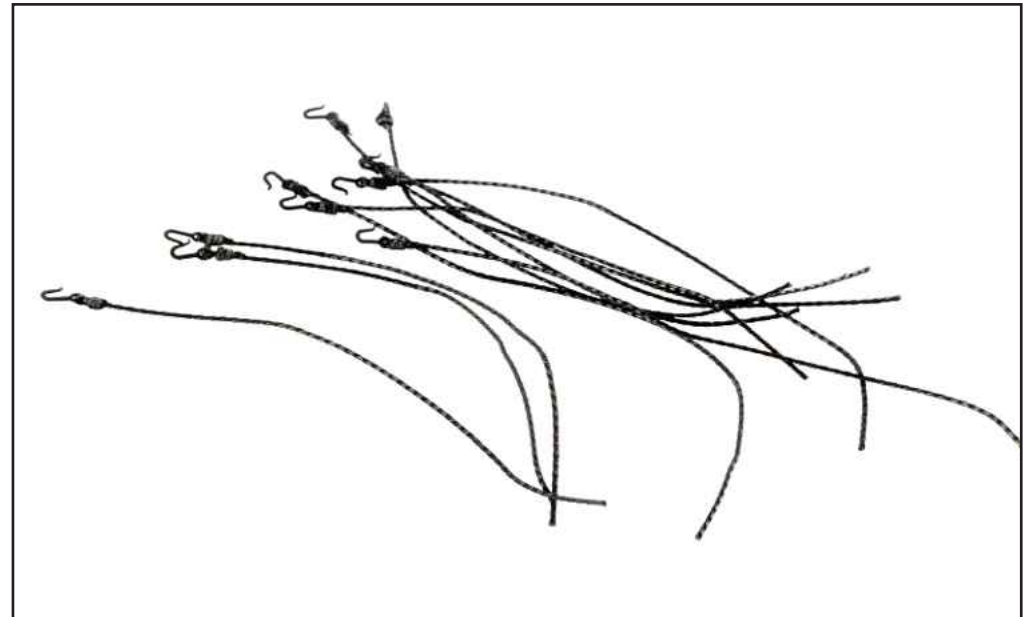
PLEASE NOTE:: The eyebolts that are shown at each corner of the mast cap are shown incorrectly. The eyebolts should be placed under the mast caps.



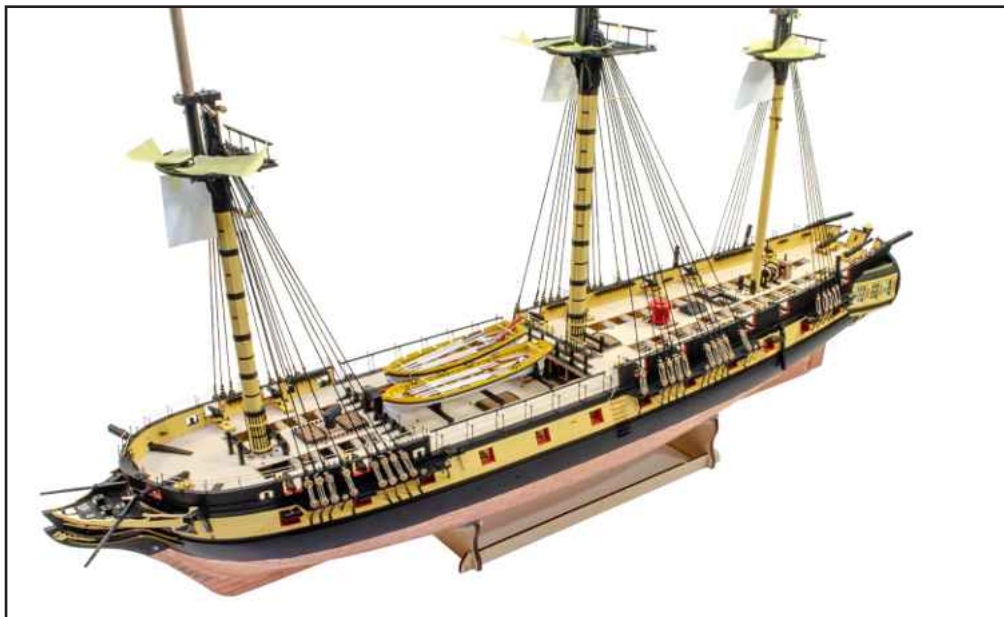
653. The masts can now be fitted to the hull, making sure they are properly vertical and direction is true to the bow. NOTE...the bowsprit is NOT glued here. It's used to test fit only.



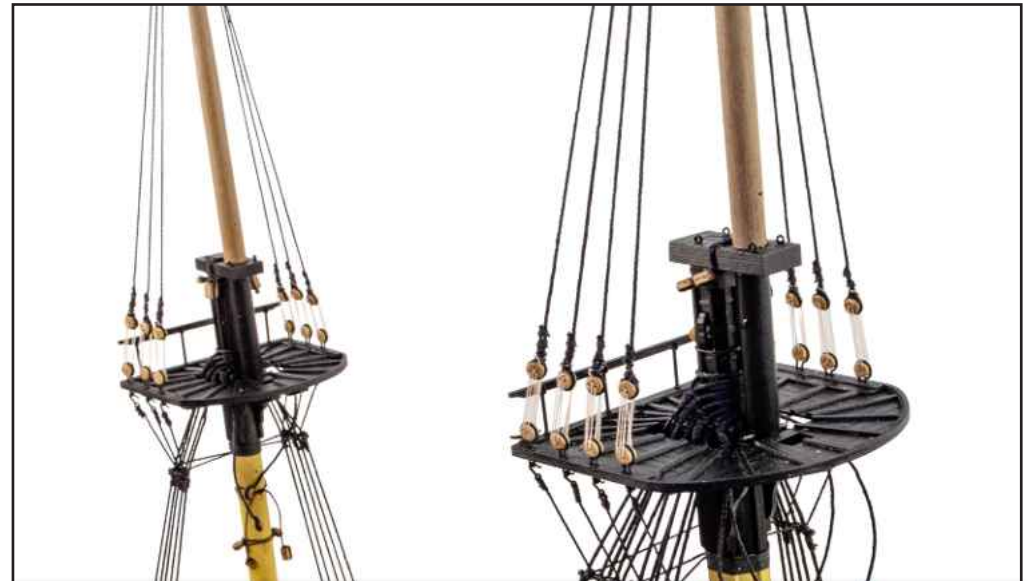
654. Using plan #16, add the lower shroud lines to each mast, taking note of sequence and diameter. The tape here is used to number the various pairs.



656. You now need to make the 22 futtock shroud parts seen here and on your plan.



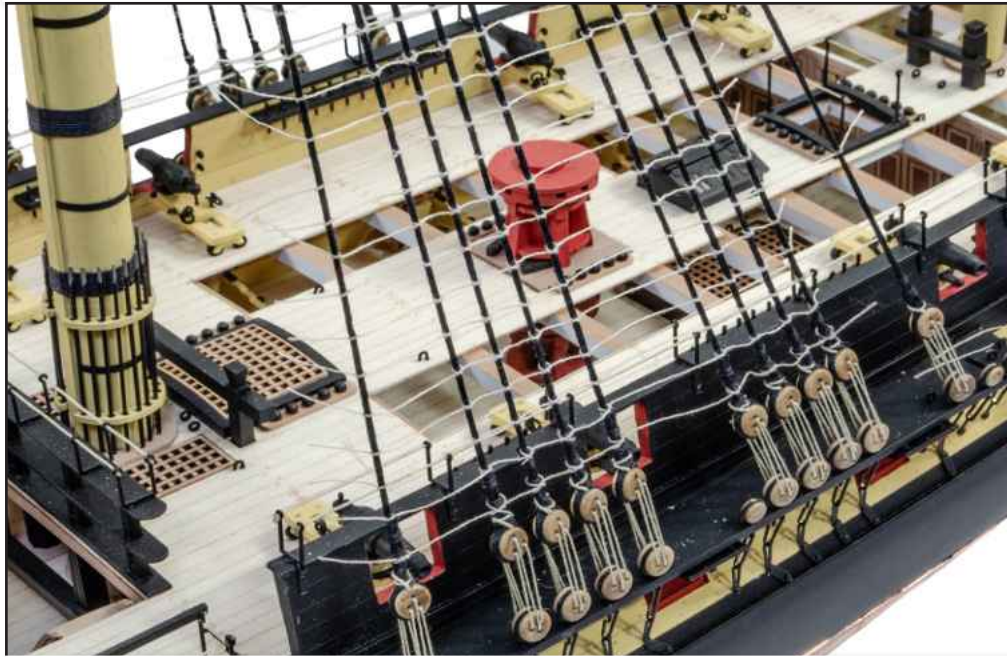
655. Tie the shrouds down the channels as shown on your plan. Once tied, you can add the futtock staves to each set of shrouds, using lengths of 1mm brass wire.



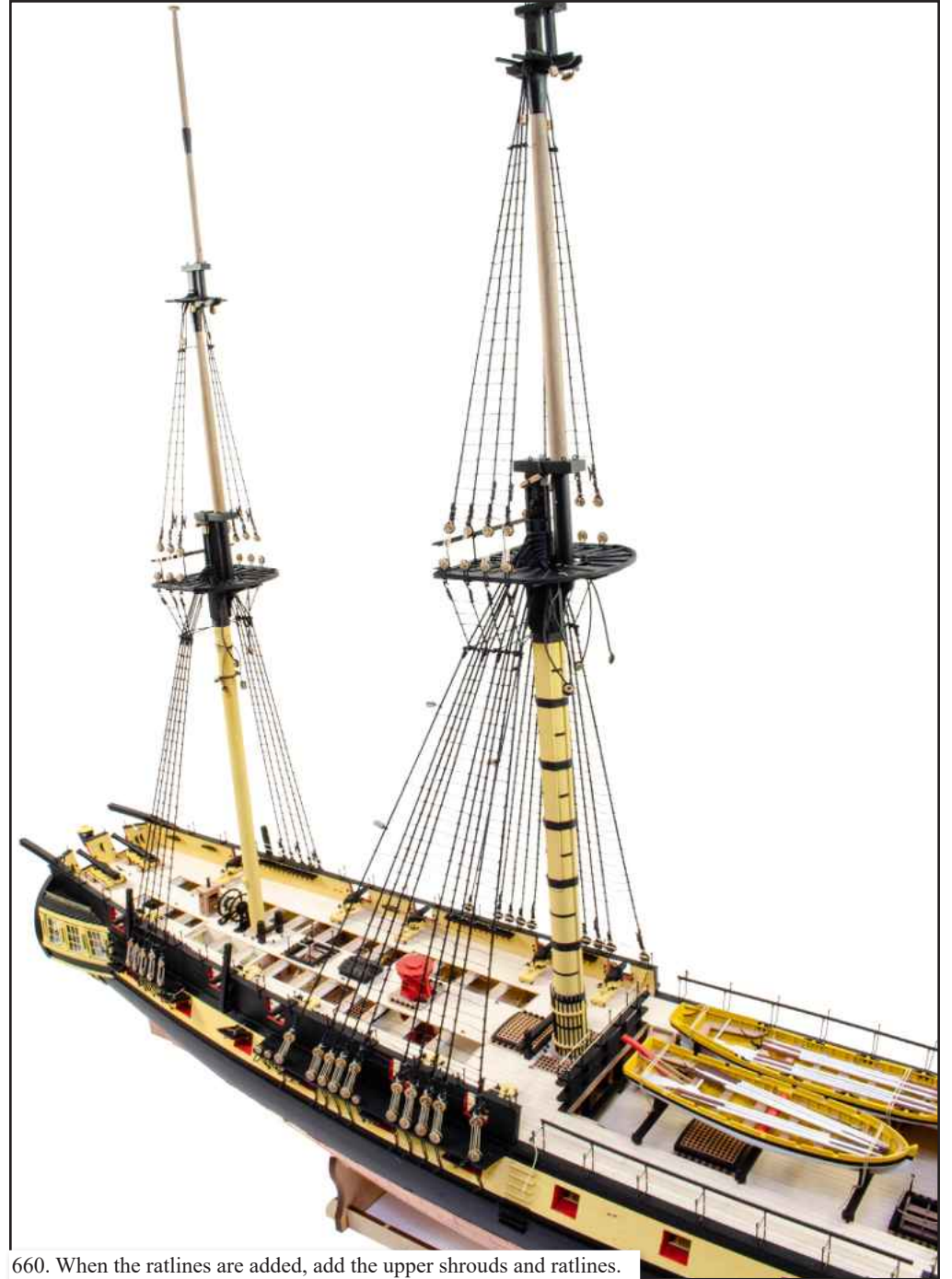
657. Add the 3mm deadeye assemblies to the mast tops. Fit the futtock shrouds as shown by hooking them, lashing them into the deadeye strops, and then over the inside of the futtock staves. You can now add the upper shroud lines and tie them down to the deadeyes as you did on the lower shrouds. Also add the catharpins. This detail is shown on the plan.



658. We now need to add the ratlines. For this, we suggest using a sheet of card which has a series of lines, spaced 6mm apart. You can cut the card to fit behind the shrouds, as a guide. Make sure the lines are horizontal to the waterline.

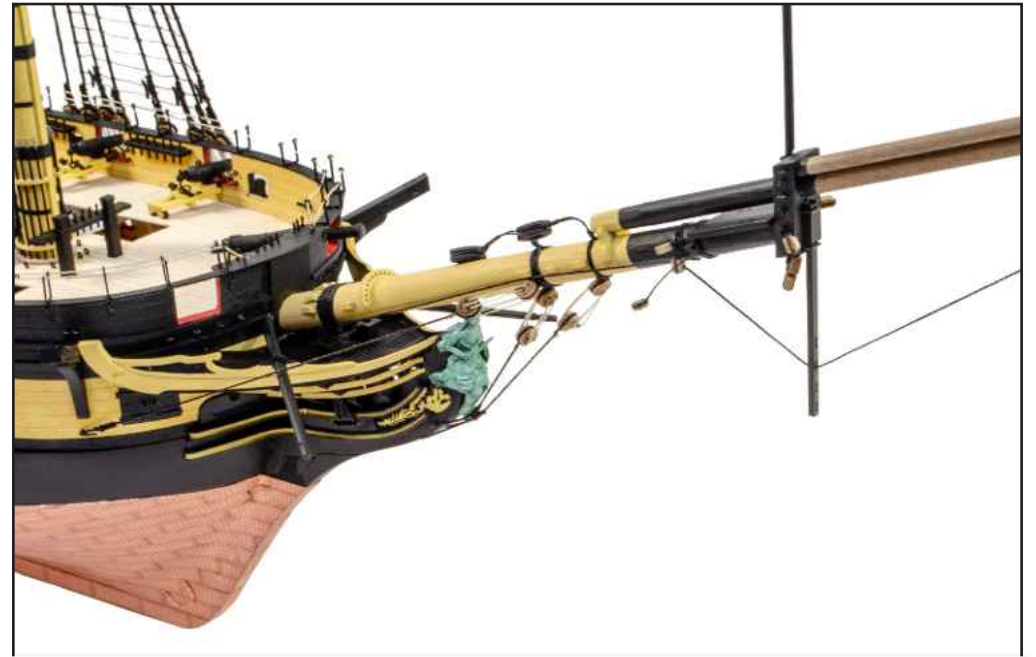


659. Use 0.1mm natural thread to add the ratlines across the shroud lines. Use clove hitch knots as shown on your plan. When you have finished the ratlines, you should seal them with diluted white glue or varnish. From there, you need to either paint them black or stain with Indian ink. For the prototype, I used an AK Black paint pen from Vanguard Models.



660. When the ratlines are added, add the upper shrouds and ratlines.

661. Now add the topgallant shrouds.



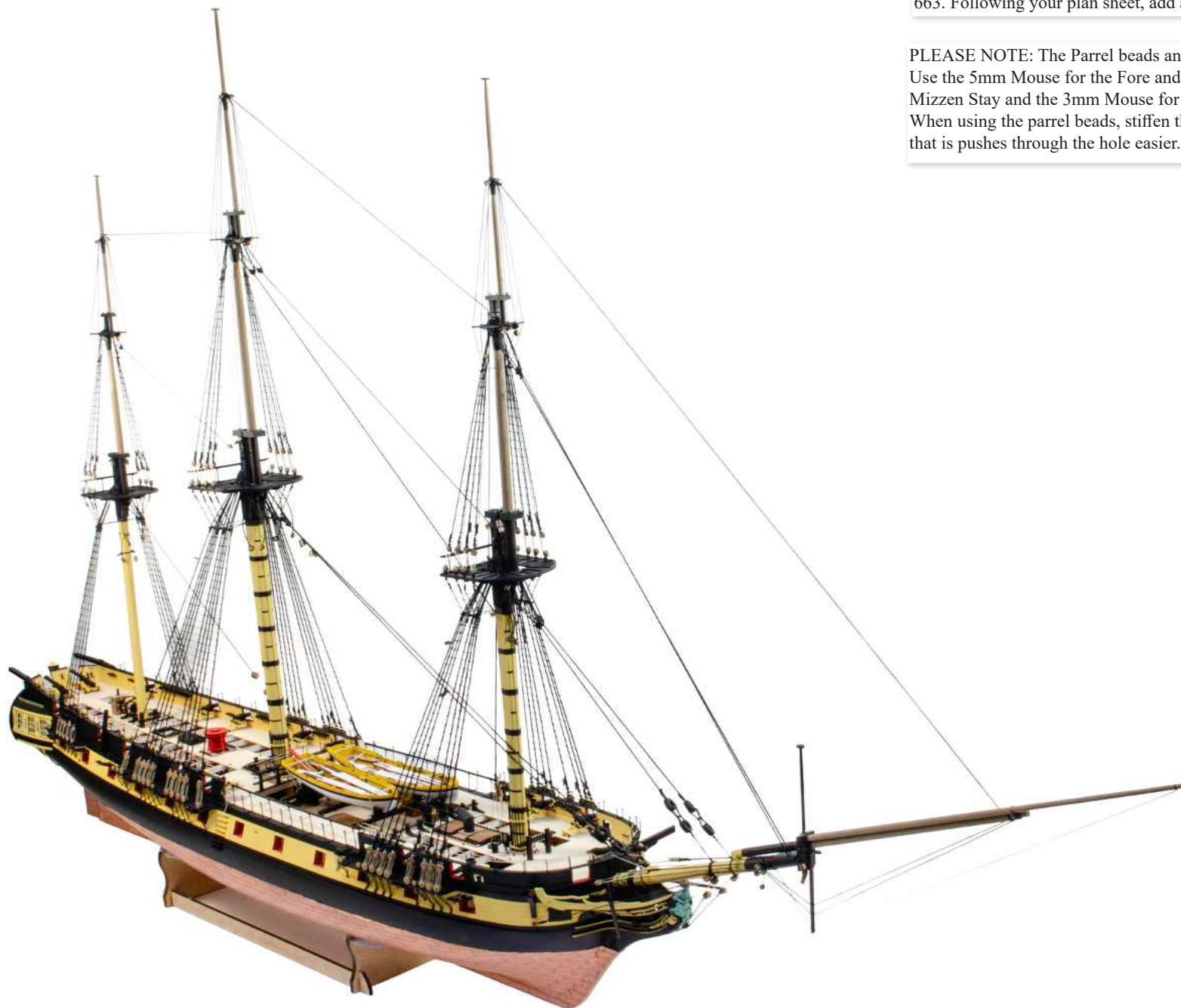
662. You should now fit your painted figurehead. At this point, you can fit the bowsprit and add the gammoning. As I work in a small workshop, it makes sense to fit the bowsprit after the shrouds are done, simply because it makes manoeuvring the hull much easier than adding the ratlines. Rig the bowsprit too.





To the left, the model is shown with her original figurehead. The middle and right picture show the fictional figurehead painted in two different colours. You can choose which you prefer for your model.





663. Following your plan sheet, add all the mast stays as seen here.

PLEASE NOTE: The Parrel beads and Mouse are 3-D printed.
Use the 5mm Mouse for the Fore and Main Stays, the 4mm Mouse for Mizzen Stay and the 3mm Mouse for the Topmast Stays.
When using the parrel beads, stiffen the end of the 0.1mm thread to that it pushes through the hole easier.



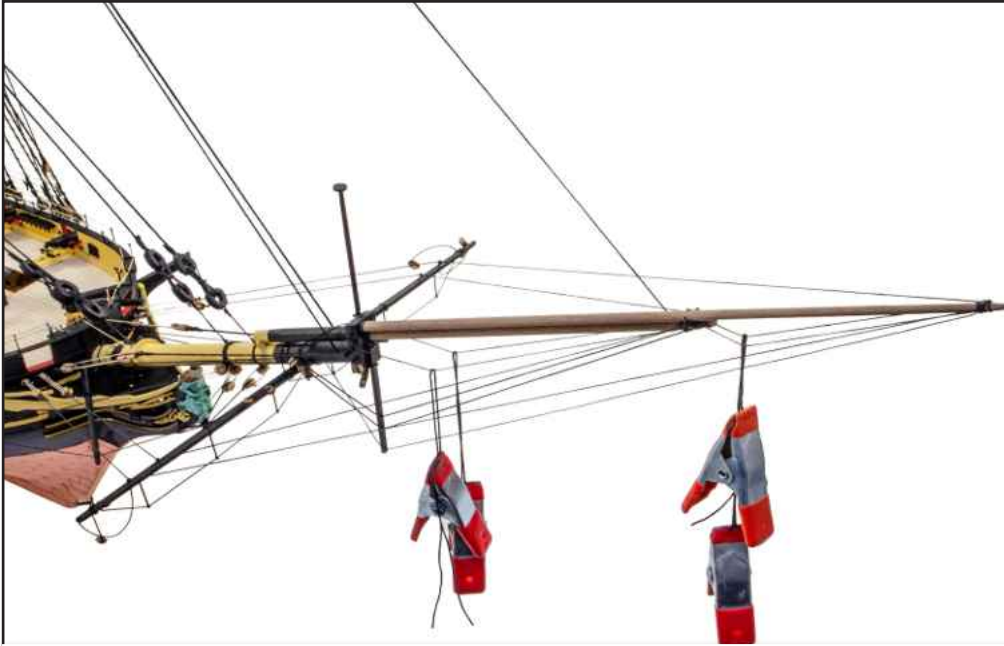
664. With the mast stays in place, you can now add the crowsfeet to all three masts. Take note of the 2mm block assembly with the euphroe block. Make sure you have enough thread to complete the rig for each.



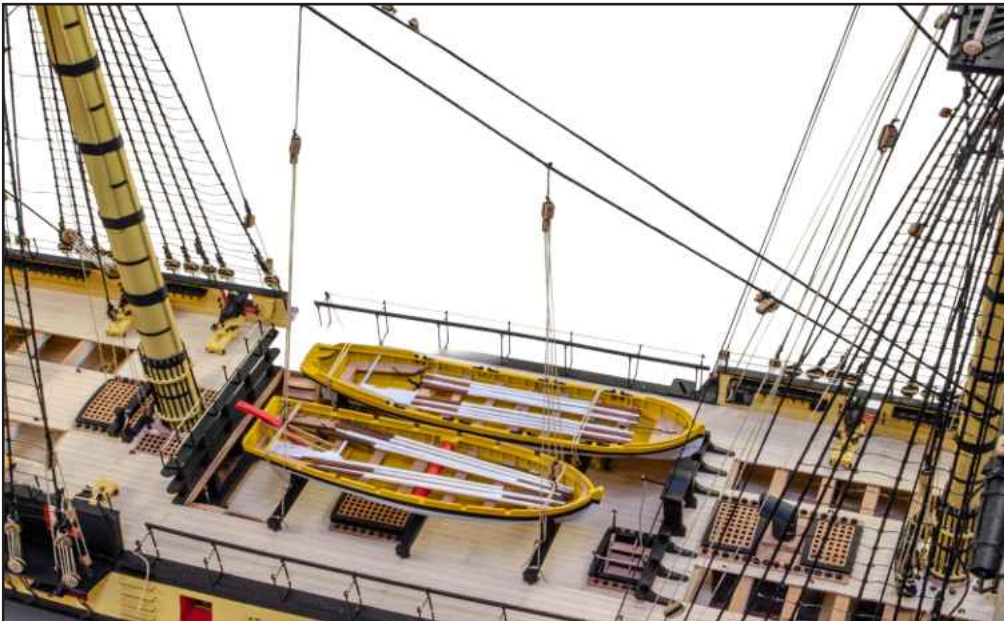
665. You can now fit the mast yards and cross-jack, as well as the driver boom and driver gaff. Take note how they are fitted from the plans. Make these as straight and square to the mast as possible. All yards are pinned using brass rod. Also add the spritsail yard to the bowsprit.

666. Add the backstays. Surprise should now look like this.





667. Rig the bowsprit as per plan. The clamps here are weighting the footropes before glue dots are added for the footings.

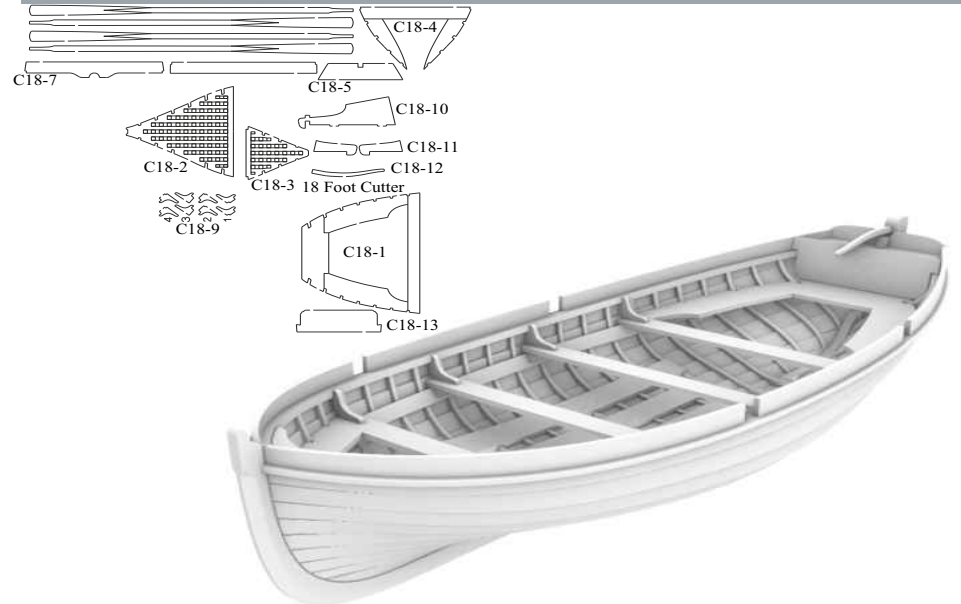
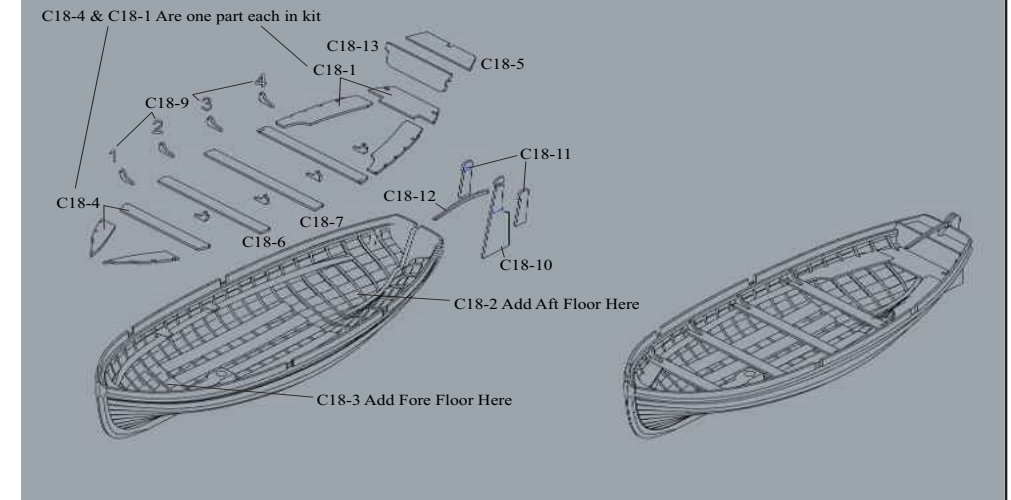


668. Rig the ship's boats. NOTE: You can leave these until after the yard lifts are added, for extra rigging access.

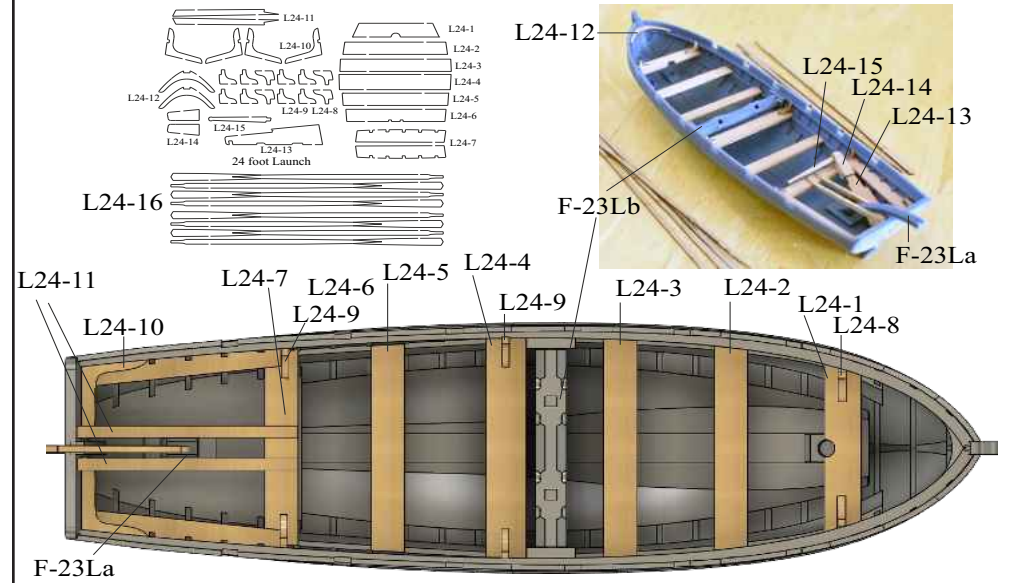
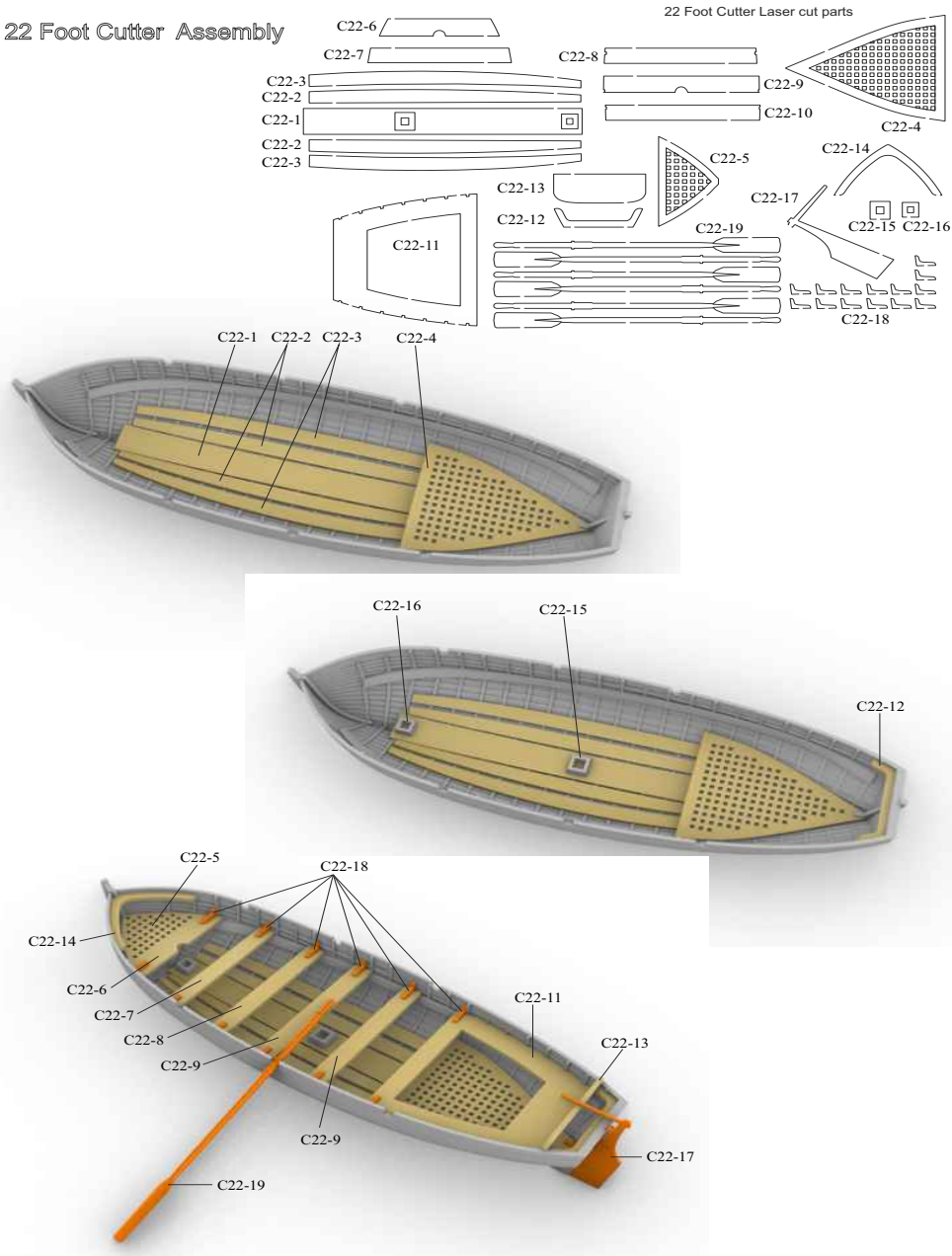
Ships boats assemblies. You can paint the hulls before adding the laser cut pear parts, colours can be seen in the next few photographs of the completed boats.

If you wish to hang the cutters from the stern or quarter davits, you must add an eyebolt to each end by drilling a small hole and inserting and gluing the eyebolt in place, to take the tackle.

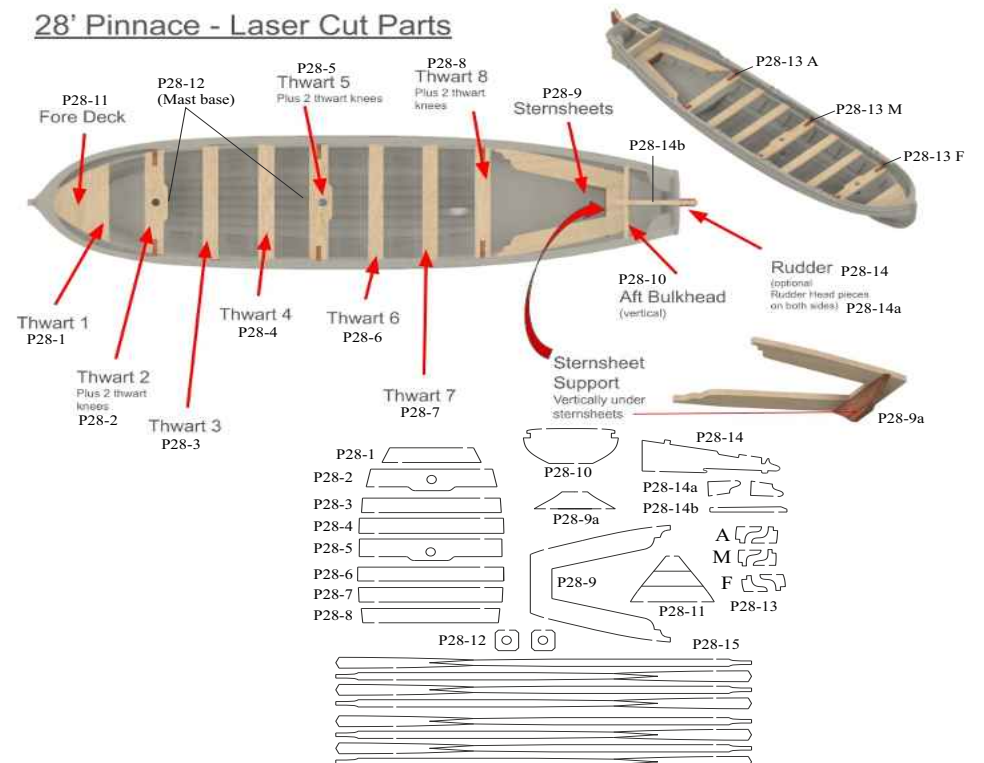
18 Foot Cutter Parts Placement



22 Foot Cutter Assembly



28' Pinnace - Laser Cut Parts





669. Now rig the driver gaff and boom as per plan.



670. Locate the two 3D-printed resin cutter hulls and the wooden parts associated with them. Assemble as shown here and on plans. The colours are a guide. Boats usually were painted in different colours to distinguish them.



671. Rig the davits and hang the boats as shown. Alternatively, you can rig one of the boats from the stern davits.



672. Locate the four 3D-printed resin anchors. From the 1mm wood sheet, remove parts 150. From the 2mm wood sheet, locate parts 94. From the 0.6mm PE sheet, remove parts PE70.



674. Now glue on the facings, parts 150.



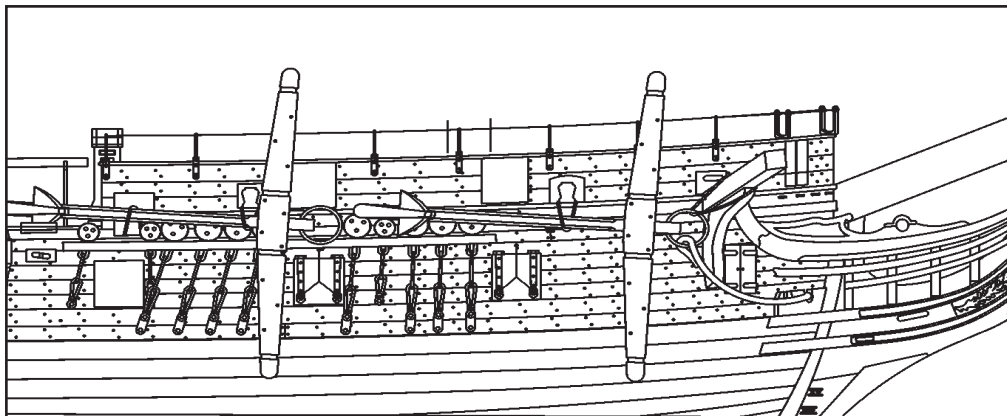
673. Deepen the engraved centres of parts 94 until the anchor comfortably sandwiches between them. Now glue parts 94, trapping the anchor.



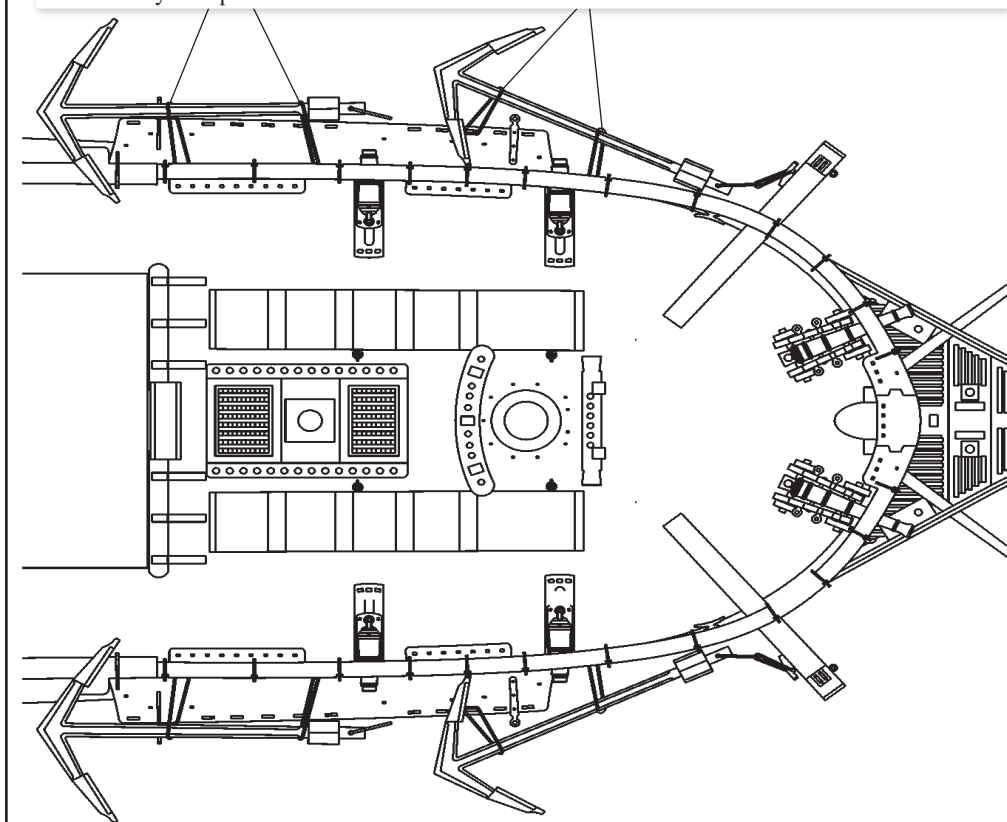
675. Add the PE anchor ring and use black cartridge paper to make the iron bands. We have opted to paint the whole assemblies in black.



676. Hang the anchors as shown, lashing the hawse cable to them, when then slides into the hawse holes above the bolsters. Note how the rear anchor sits into the groove on the waist lower rail.



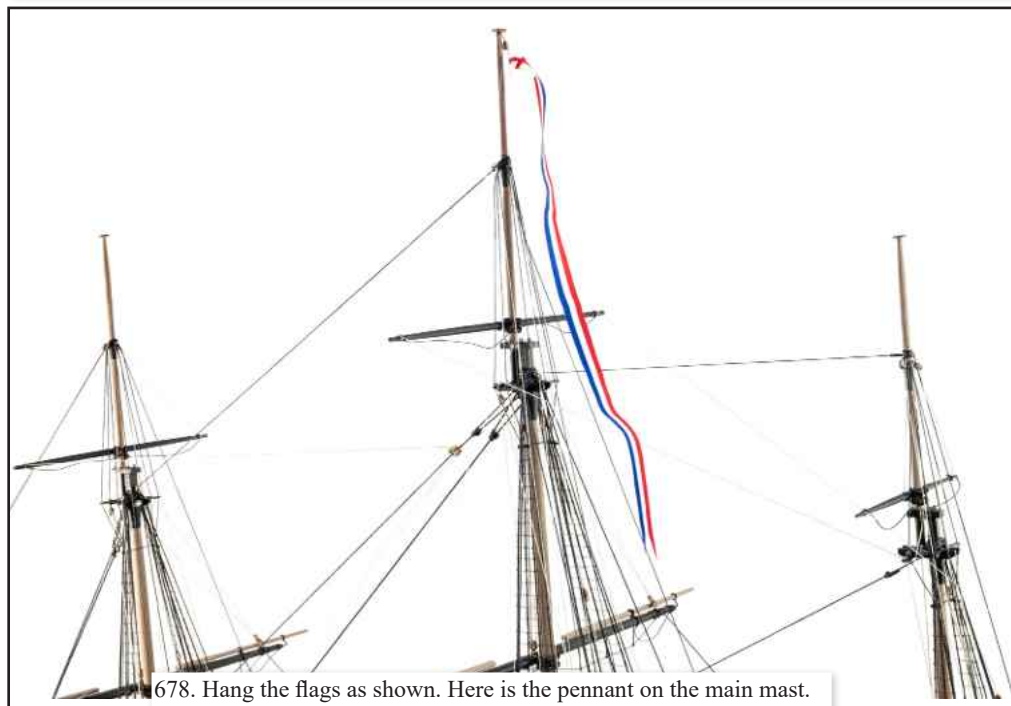
Secure anchors using 0.5mm natural thread tied off onto the nearest tying point on timberheads and lower deadeye strops.



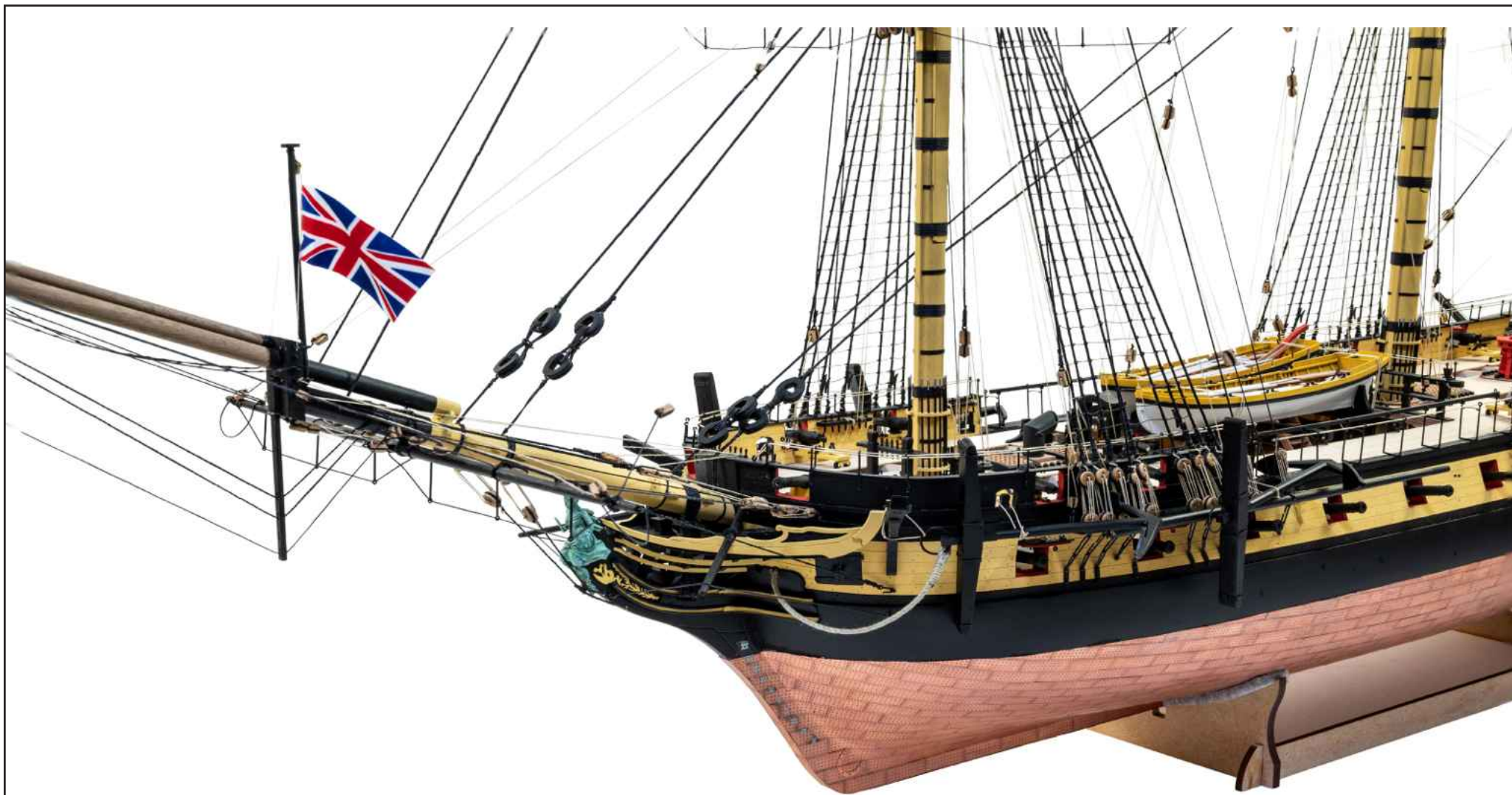
Drawing showing arrangement of anchor stowage



677. Locate your flag set. Before you cut these out, paint some very diluted matt varnish of white glue along the cut edges. This will stop them from fraying.



678. Hang the flags as shown. Here is the pennant on the main mast.



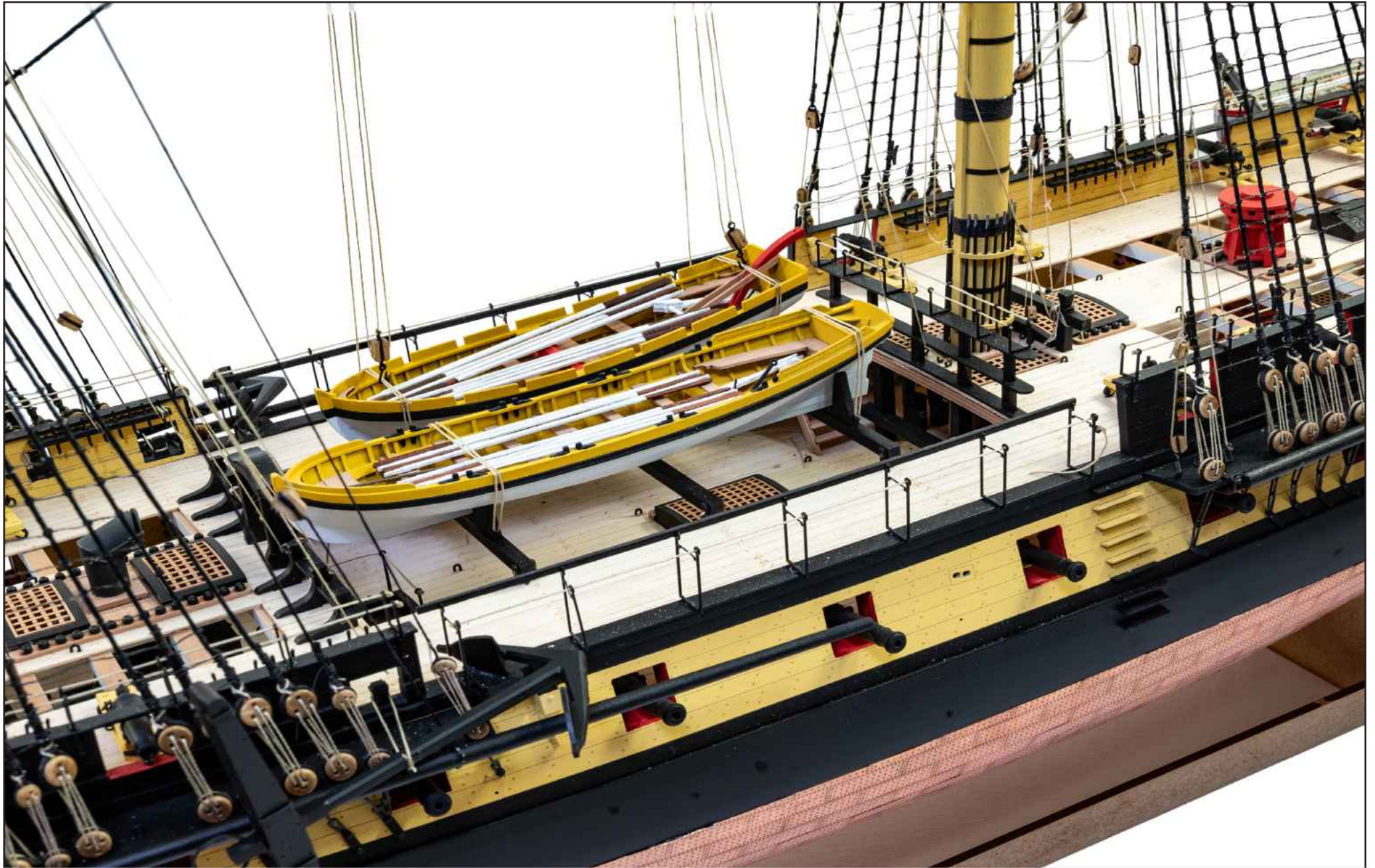
679. Here you see the Jack on the bowsprit flagpole. Now rig the other flags as shown on your plans. They don't all have to be fitted, but we do suggest a minimum of the Jack, pennants, and ensign.

You can use the larger or smaller England flag for the fore mast

Tie standing end of flag rope to an eyelet on lower top or deck

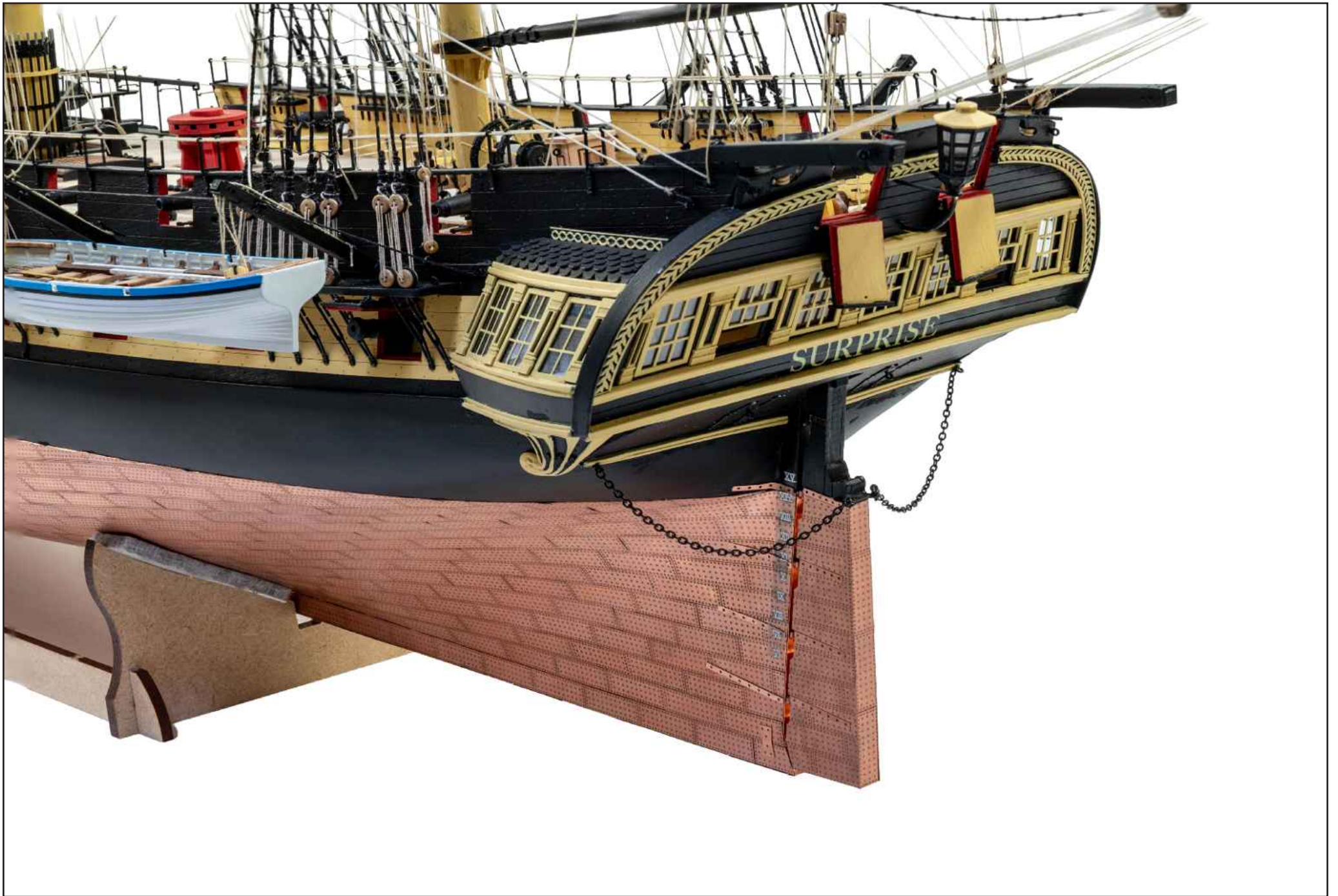
Tie a 2 or 3mm single block to the eyelet at the end of the gaff. Tie the standing end of the thread (0.25mm) to an eyelet near the stern, thread it through the hole in the block and bring it down to another eyelet of belaying point at the stern.

Suggested flag positions if you wish to add a flag to each mast.



Your HMS Surprise is now completed. We hope you've found this project absorbing and engaging, and that it fired your imagination when building such a famous vessel. The voices of Aubrey and Maturin will no doubt be reverberating in whispers around the decks and great cabin.

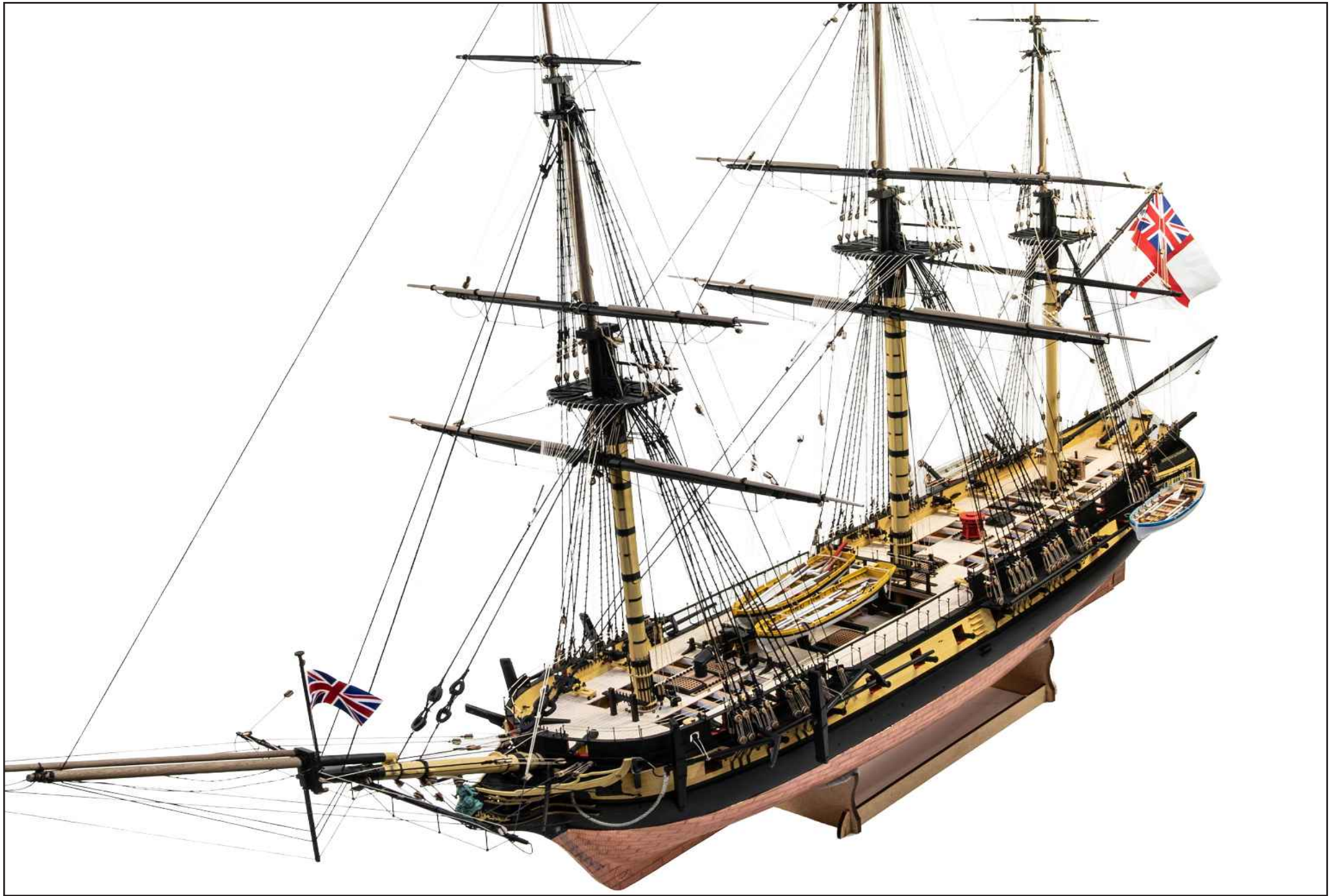












Surprise PARTS LIST

4mm MDF

1	Bulkhead	4mm MDF	1
2	Bulkhead	4mm MDF	1
3	Bulkhead	4mm MDF	1
4	Bulkhead	4mm MDF	1
5	Bulkhead	4mm MDF	1
6	Bulkhead	4mm MDF	1
7	Bulkhead	4mm MDF	1
8	Bulkhead	4mm MDF	1
9	Bulkhead	4mm MDF	2
10	Bulkhead	4mm MDF	1
11	Bulkhead	4mm MDF	1
12	Bulkhead	4mm MDF	1
13	Bulkhead	4mm MDF	1
14	Bulkhead	4mm MDF	1
15	Bulkhead	4mm MDF	1
16	Building Cradle (Fore)	4mm MDF	1
17	Building Cradle (Aft)	4mm MDF	1
18	Stern Quarter Filler Piece	4mm MDF	2
19	Stern Quarter Filler Piece	4mm MDF	2
B1	Bow Frame	4mm MDF	2
J2	Spacer Jig for Bulkhead	4mm MDF	1
J3	Spacer Jig for Bulkhead	4mm MDF	1
J4	Spacer Jig for Bulkhead	4mm MDF	1
J8	Spacer Jig for Bulkhead	4mm MDF	1
J9	Spacer Jig for Bulkhead	4mm MDF	1
J10	Spacer Jig for Bulkhead	4mm MDF	1
J11	Spacer Jig for Bulkhead	4mm MDF	1
J12	Spacer Jig for Bulkhead	4mm MDF	1
J13	Spacer Jig for Bulkhead	4mm MDF	1
J14	Spacer Jig for Bulkhead	4mm MDF	1
J15	Spacer Jig for Bulkhead	4mm MDF	1

3mm MDF

20	Building Cradle Spacer	3mm MDF	2
21	Main Keel	3mm MDF	1
22	Main Keel Side Pattern	3mm MDF	2
23	Gun Deck Beam Ledge	3mm MDF	2
24	Stern Frame (Inner)	3mm MDF	2
25	Stern Frame (Middle)	3mm MDF	2
26	Stern Frame (Outer)	3mm MDF	2
27	Gun Port Longitudinal Frame (Lower)	3mm MDF	2
28	Gun Port Longitudinal Frame (Upper)	3mm MDF	2
71	Prow Gammoning Knee	3mm MDF	1

B2	Bow Frame	3mm MDF	2
B3	Bow Frame	3mm MDF	2
B4	Bow Frame	3mm MDF	2
B5	Bow Frame Base	3mm MDF	2
B6	Lower Bow Pattern	3mm MDF	2
B7	Lower Bow Pattern	3mm MDF	2
B8	Lower Bow Pattern	3mm MDF	2
B9	Upper Bow Longitudinal Frame	3mm MDF	2
B10	Lower Bow Longitudinal Frame	3mm MDF	2
B11	Bow Longitudinal Connecting Frame	3mm MDF	2
CF-1	Transom Pattern	3mm MDF	2
CF-2	Transom Pattern	3mm MDF	2
CF-3	Transom Pattern	3mm MDF	2
CF-4	Transom Pattern	3mm MDF	2
CF-5	Transom Pattern	3mm MDF	2
CF-6	Transom Pattern	3mm MDF	2
GP1	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP2	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP3	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP4	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP5	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP6	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP7	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP8	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP9	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP10	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP11	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP12	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP13	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP14	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP15	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP16	Main Deck Gun Port Vertical Frame	3mm MDF	2
GP17	Main Deck Gun Port Vertical Frame	3mm MDF	2

2mm MDF

29	Gun Deck Inner Support (Front)	2mm MDF	2
30	Gun Deck Inner Support (Middle)	2mm MDF	2
31	Gun Deck Inner Support (Rear)	2mm MDF	2
32	Gun Deck Outer Support	2mm MDF	2
33	Orlop/Hold Deck Section	2mm MDF	1
34	Lower Deck (Fore)	2mm MDF	1
35	Lower Stepped Deck (Aft)	2mm MDF	1
36	Upper Deck Beam Ledge	2mm MDF	2
37	Bulkhead Spacer Stringer	2mm MDF	2
38	Cabin Bulkhead for rudder	2mm MDF	1
39	Stern Frame Connecting Beam	2mm MDF	2
40	Quarter Gallery Door Frame (Fore)	2mm MDF	2

41	Quarter Gallery Door Frame (Aft)	2mm MDF	2
42	Quarter Gallery Door Frame Ledge	2mm MDF	2
43	Quarter Gallery Canopy Spacer	2mm MDF	2
43a	Quarter Gallery Canopy Spacer	2mm MDF	2
44	Quarter Gallery Lower platform	2mm MDF	2
45	Quarter Gallery Upper platform	2mm MDF	2
46	Quarter Gallery Mid-platform	2mm MDF	2
47	Quarter Gallery Filler Pattern	2mm MDF	2
49	Bow 'V' Frame	2mm MDF	1
50	Bow 'V' Frame	2mm MDF	1
50a	Bow 'V' Frame Cross Beam	2mm MDF	1
51	Bow 'V' Frame	2mm MDF	1
51a	Bow 'V' Frame Cross Beam	2mm MDF	1
52	Bow 'V' Frame	2mm MDF	1
52a	Bow 'V' Frame Cross Beam	2mm MDF	1
53	Bow 'V' Frame	2mm MDF	1
60	Quarter Gallery Upper Finishing (Lower)	2mm MDF	2
60a	Quarter Gallery Upper Finishing (Upper)	2mm MDF	2
B12	Hawse Piece	2mm MDF	2
J2a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J3a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J4a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J8a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J9a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J10a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J11a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J12a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J13a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J14a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J15a	Spacer Jig for Bulkhead (Outer)	2mm MDF	2
J48	Spacer Jig for Quarter Bulkhead Tabs	2mm MDF	2
K1	Securing Peg for 3 and 4mm Keel	2mm MDF	16
K2	Securing Peg for Lower Decks	2mm MDF	24

5mm Pear

54	Riding Bitts	5mm Pear	2
55	Main Jeer Bitts	5mm Pear	2
56	Belfry Canopy	5mm Pear	1
192c	Bow Seat of Ease (Double)	5mm Pear	2
192e	Bow Seat of Ease (Single)	5mm Pear	2
M1	Fore Mast Cap	5mm Pear	1
M2	Main Mast Cap	5mm Pear	1
M3	Bowsprit Cap	5mm Pear	1

4mm Pear

57	Riding Bitt Knee	4mm Pear	2
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58	Riding Bitt Cross Beam	4mm Pear	1
59	Main Topsail Sheet Bitts	4mm Pear	2
64	Stern Davit	4mm Pear	2
65	32-Pounder Carronade Support (Optional)	4mm Pear	27
LDH1	Lower Deck Ladder Hatch Coaming (Fore)	4mm Pear	1
LDH2	Lower Deck Main Hatch Coaming	4mm Pear	1
LDH3	Lower Deck Ladder Hatch Coaming (Aft)	4mm Pear	1
LDH5	Lower Aft Deck Hatch Coaming	4mm Pear	1
LDH5d	Camber for Aft Deck Hatch Coaming	4mm Pear	1
GDB0-23	Gun Deck Beam	4mm Pear	1
UDB1-5	Upper Deck Beam	4mm Pear	1
UDB6	Upper Deck Beam	4mm Pear	2
UDB7	Upper Deck Beam	4mm Pear	1
UDB8-10	Upper Deck Beam (Gangway)	4mm Pear	2
UDB11-20	Upper Deck Beam	4mm Pear	1
UDB22	Upper Deck Beam	4mm Pear	1
M4	Mizzen Mast Cap	5mm Pear	1

3mm Pear

66	Prow	3mm Pear	1
67	Keel (Fore)	3mm Pear	1
68	Keel (Aft)	3mm Pear	1
69	Rudder Post	3mm Pear	1
70	Rudder	3mm Pear	1
71	Prow Gammoning Knee	3mm Pear	1
72	Cathead Knee	3mm Pear	2
73	Fore Topsail Sheet Bitts	3mm Pear	2
74	Main Gallows cross Beam	3mm Pear	1
75	Ships Bell Beam	3mm Pear	1
76	Cathead	3mm Pear	2
77	Fore Jeer Bitts	3mm Pear	3
78	Main Bitts (Aft)	3mm Pear	2
79	Main Bitts (Aft) Cross Beam	3mm Pear	1
80	Ships Wheel Centre Drum	3mm Pear	2
81	Quarter Davit	3mm Pear	4
82	Boat Skid Beam	3mm Pear	3
85	Mizzen Bitts	3mm Pear	2
LDH2b	Lower Deck Main Hatch Coaming Camber	3mm Pear	2
LDH5e	Lower Deck Aft Hatch Coaming Camber	3mm Pear	2
UDH1f	Upper Deck Hatch Coaming Camber	3mm Pear	4
UDH3c	Upper Deck Hatch Coaming Camber	3mm Pear	2
M5	Fore Topmast Cap	3mm Pear	1
M6	Main Topmast Cap	3mm Pear	1
M7	Mizzen Topmast Cap	3mm Pear	1
M8	Fore Trestle Tree	3mm Pear	2
M9	Fore Cross Tree	3mm Pear	2
M10	Fore Trestle Tree Chock	3mm Pear	1

M11	Fore Trestle Tree Bolster Pattern	3mm Pear	2
M12	Main Trestle Tree	3mm Pear	2
M13	Main Cross Tree	3mm Pear	2
M14	Main Trestle Tree Chock	3mm Pear	1
M15	Main Trestle Tree Bolster Pattern	3mm Pear	2
M16	Mizzen Trestle Tree	3mm Pear	2
M17	Mizzen Cross Tree	3mm Pear	2
M18	Mizzen Trestle Tree Chock	3mm Pear	1
M19	Mizzen Trestle Tree Bolster Pattern	3mm Pear	2
M20	Mizzen Gaff Jaws	3mm Pear	2
UDB6.5	Upper Deck Beam	3mm Pear	1
UDB21	Upper Deck Beam	3mm Pear	1

2mm Pear

49	Bow 'V' Frame	2mm Pear	2
50	Bow 'V' Frame	2mm Pear	2
50a	Bow 'V' Frame Cross Beam	2mm Pear	2
51	Bow 'V' Frame	2mm Pear	2
51a	Bow 'V' Frame Cross Beam	2mm Pear	2
52	Bow 'V' Frame	2mm Pear	2
52a	Bow 'V' Frame Cross Beam	2mm Pear	2
53	Bow 'V' Frame	2mm Pear	2
83	Main Jeer Bitts Cross Beam	2mm Pear	1
84	Forecastle Brest Beam Bitts and Knee	2mm Pear	6
86	Capstan Whelp	2mm Pear	12
87	Belfry Stanchion	2mm Pear	2
88	Rudder Casing	2mm Pear	1
89a	Quarterdeck Barricade Stanchion	2mm Pear	1
89b	Quarterdeck Barricade Stanchion	2mm Pear	1
89c	Quarterdeck Barricade Stanchion	2mm Pear	1
89d	Quarterdeck Barricade Stanchion	2mm Pear	1
89e	Quarterdeck Barricade Stanchion	2mm Pear	1
90	Cathead Cleat	2mm Pear	2
91	Mizzen Bitts Cross Beam	2mm Pear	1
92	Bowsprit Support (Gun Deck)	2mm Pear	1
93	Main Mast Gallows Cross Beam	2mm Pear	1
94	Anchor Stock (Inner)	2mm Pear	8
95	Optional – 32-Pdr Carronade Slide	2mm Pear	28
96	Optional – 32-Pdr Carronade Carriage	2mm Pear	28
97	Optional – 32-Pdr Carronade Gudgeon	2mm Pear	28
98	Optional – 32-Pdr Carronade Cross Bar	2mm Pear	28
BDL1	Upper Fore Deck Support	2mm Pear	2
B9a	Stem Timber	2mm Pear	2
B10a	Bowsprit Timber	2mm Pear	1
DL1	Upper Deck Carling	2mm Pear	2
DL1a	Upper Deck Carling	2mm Pear	2
DL1b	Upper Deck Carling	2mm Pear	2

DL2	Upper Deck Carling	2mm Pear	2
DL3	Upper Deck Carling	2mm Pear	2
DL4	Upper Deck Carling	2mm Pear	2
DL5	Upper Deck Carling	2mm Pear	2
DL6	Upper Deck Carling	2mm Pear	2
DL7	Upper Deck Carling	2mm Pear	2
GDL2	Gun Deck Carling	2mm Pear	2
GDL2a	Gun Deck Carling	2mm Pear	2
GDL3	Gun Deck Carling	2mm Pear	2
LDH1a	Gun Deck Coaming Camber	2mm Pear	2
LDH3a	Gun Deck Coaming Camber	2mm Pear	2
UDH6a	Upper Deck Coaming Camber	2mm Pear	2
ODH1	Lower Deck Hatch (Fore)	2mm Pear	1
ODH2	Lower Deck Hatch (Mid)	2mm Pear	1
ODH3	Lower Deck Hatch (Aft)	2mm Pear	1
UDH1	Upper Deck Hatch Coaming (Fore)	2mm Pear	1
UDH3	Upper Deck Hatch Coaming (Quarterdeck)	2mm Pear	1
UDH6	Upper Deck Ladderway Coaming (Aft)	2mm Pear	1
M21	Mizzen Boom Jaws	2mm Pear	1
M22	Lower Yard Sling Cleat	2mm Pear	12
M23	Bowsprit Flagstaff	2mm Pear	1
C22-19	22 Foot Cutter Cradle (Aft)	2mm Pear	1
C22-20	22 Foot Cutter Cradle (Fore)	2mm Pear	1
L3	24 Foot Launch Cradle (Fore)	2mm Pear	1
L11	24 Foot Launch Cradle (Aft)	2mm Pear	1
P3	28 Foot Pinnacle Cradle (Fore)	2mm Pear	1
P9	28 Foot Pinnacle Cradle (Aft)	2mm Pear	1
UDK1	Upper Deck Beam Knee	2mm Pear	2
UDK2	Upper Deck Beam Knee	2mm Pear	2
UDK3	Upper Deck Beam Knee	2mm Pear	2
UDK4	Upper Deck Beam Knee (Gangway)	2mm Pear	6
UDK5	Upper Deck Beam Knee	2mm Pear	2
UDK6	Upper Deck Beam Knee	2mm Pear	2
UDK7	Upper Deck Beam Knee	2mm Pear	2
UDK8	Upper Deck Beam Knee	2mm Pear	2
UDK9	Upper Deck Beam Knee	2mm Pear	2
UDK10	Upper Deck Beam Knee	2mm Pear	2
UDK11	Upper Deck Beam Knee	2mm Pear	2
UDK12	Upper Deck Beam Knee	2mm Pear	2
UDK13	Upper Deck Beam Knee	2mm Pear	2
UDK14	Upper Deck Beam Knee	2mm Pear	2
UDK15	Upper Deck Beam Knee	2mm Pear	2

1.5mm Pear

99	9-Pdr Carriage Side (Left)	1.5mm Pear	24
100	9-Pdr Carriage Side (Right)	1.5mm Pear	24
101	9-Pdr Carriage Front Axle	1.5mm Pear	24
102	9-Pdr Carriage Rear Axle	1.5mm Pear	24
103	9-Pdr Carriage Front Wheel	1.5mm Pear	48
104	9-Pdr Carriage Rear Wheel	1.5mm Pear	48
105	9-Pdr Carriage Quion	1.5mm Pear	24
106	6-Pdr Carriage Side (Left)	1.5mm Pear	2
107	6-Pdr Carriage Side (Right)	1.5mm Pear	2
108	6-Pdr Carriage Front Axle	1.5mm Pear	2
109	6-Pdr Carriage Rear Axle	1.5mm Pear	2
110	6-Pdr Carriage Front Wheel	1.5mm Pear	4
111	6-Pdr Carriage Rear Wheel	1.5mm Pear	4
112	6-Pdr Carriage Quion	1.5mm Pear	2
113	18-Pdr Carronade Slide	1.5mm Pear	14
114	18-Pdr Carronade Carriage	1.5mm Pear	14
115	18-Pdr Carronade Gudgeon	1.5mm Pear	14
116	18-Pdr Carronade Cross Bar	1.5mm Pear	14
117	Bow Cheek (Inner Pattern)	1.5mm Pear	4
118	Gun Deck Inner Bulwark Cleat	1.5mm Pear	8
119	Bow Bulwark Rabet	1.5mm Pear	2
120	Capstan Drumhead (Middle)	1.5mm Pear	2
121	Capstan Drumhead (Top – Upper Deck)	1.5mm Pear	1
122	Capstan Pawl	1.5mm Pear	2
123	Fore Bitts Belaying Rail (Aft of Foremast)	1.5mm Pear	1
124	Fore Bitts Belaying Rail (Front of Foremast)	1.5mm Pear	1
125	Ships Wheel Standard (Front)	1.5mm Pear	1
125R	Ships Wheel Standard (Rear)	1.5mm Pear	1
126	Ships Wheel Standard Base	1.5mm Pear	2
127	Ships Stove Flooring	1.5mm Pear	1
128	Fore Channel	1.5mm Pear	2
129	Main Channel	1.5mm Pear	2
130	Mizzen Channel	1.5mm Pear	2
300	Cavel Cleat (Horizontal)	1.5mm Pear	8
301	Cavel Cleat (Left Vertical)	1.5mm Pear	2
301a	Cavel Cleat Chock (Left Vertical)	1.5mm Pear	2
302	Cavel Cleat (Right Vertical)	1.5mm Pear	2
302a	Cavel Cleat Chock (Right Vertical)	1.5mm Pear	2
303	Timberhead (For Fore Bulwarks)	1.5mm Pear	12
304	Inner Bulwark Belaying Pin Rail	1.5mm Pear	2
305	Inner Bulwark Belaying Pin Rail	1.5mm Pear	2
306	Inner Bulwark Belaying Pin Rail	1.5mm Pear	2
307	Inner Bulwark Belaying Pin Rail	1.5mm Pear	2
308	Inner Bulwark Belaying Pin Rail	1.5mm Pear	2
DL8	Upper Deck Fore Mast Base	1.5mm Pear	1
DL9	Upper Deck Main Mast Base	1.5mm Pear	1

DL10	Upper Deck Capstan Base	1.5mm Pear	1
DL11	Upper Deck Mizzen Mast Base	1.5mm Pear	1
GDL0	Gun Deck Fore Mast Base	1.5mm Pear	1
GDL4	Gun Deck Main Mast Base	1.5mm Pear	1
GDL5	Gun Deck Main Pump Base	1.5mm Pear	1
GDL6	Gun Deck Capstan Base	1.5mm Pear	1
GDL7	Gun Deck Mizzen Mast Base	1.5mm Pear	1
GDL8	Gun Deck Fore Mast Base	1.5mm Pear	1
LDH4	Gun Deck Capstan Platform	1.5mm Pear	1
UDH4	Upper Deck Capstan Platform	1.5mm Pear	1
UDH1e	Stove Chimney Cover	1.5mm Pear	1
LDH1b	Gun Deck Shot Garland	1.5mm Pear	2
LDH2d	Gun Deck Shot Garland	1.5mm Pear	2
LDH3b	Gun Deck Shot Garland	1.5mm Pear	2
LDH5f	Gun Deck Shot Garland	1.5mm Pear	2
M24	Bowsprit Bee	1.5mm Pear	1
M25	Mast Head Cleat	1.5mm Pear	12
M26	Topsail Yard Cleat	1.5mm Pear	8
M27	Yard Cleat	1.5mm Pear	41
M28	Dolphin Striker (Post 1800)	1.5mm Pear	2
M29	Bowsprit Jibboom Saddle	1.5mm Pear	1
M30	Fore Topmast Trestle Tree	1.5mm Pear	2
M31	Fore Topmast Trestle Tree Bolster	1.5mm Pear	2
M32	Main Topmast Trestle Tree	1.5mm Pear	2
M33	Main Topmast Trestle Tree Bolster	1.5mm Pear	2
M34	Mizzen Topmast Trestle Tree	1.5mm Pear	2
M35	Mizzen Topmast Trestle Tree Bolster	1.5mm Pear	2

1mm Pear

131	Prow Outer Facing (Left)	1mm Pear	1
132	Prow Outer Facing (Right)	1mm Pear	1
133	Keel Outer Facing (Right)	1mm Pear	1
134	Keel Outer Facing (Left)	1mm Pear	1
135	Rudder Post Outer Facing (Right)	1mm Pear	1
136	Rudder Post Outer Facing (Left)	1mm Pear	1
137	Rudder Outer Facing (Right)	1mm Pear	1
138	Rudder Outer Facing (Left)	1mm Pear	1
139	Manger Wall (Left)	1mm Pear	1
140	Manger Wall (Right)	1mm Pear	1
141	Bowsprit Board Outer Facing	1mm Pear	1
142	Gangway Outer Facing (Fore)	1mm Pear	1
143	Gangway Outer Facing (Left)	1mm Pear	1
144	Gangway Outer Facing (Right)	1mm Pear	1
145	Gangway Outer Facing (Aft)	1mm Pear	1
146	Gun Deck Foremast Platform	1mm Pear	1
147	Forecastle Cross Beam	1mm Pear	2
148	Quarterdeck Barricade Lower Beam	1mm Pear	1

149	Quarterdeck Barricade Middle Beam	1mm Pear	1	Ob3	Optional Binnacle (Large) Top Spacer	1mm Pear	1
150	Anchor Outer Facing	1mm Pear	8	Ob4	Optional Binnacle (Large) Bottom Spacer	1mm Pear	1
151	Belfry Canopy Outer Facing	1mm Pear	2	Ob5	Optional Binnacle (Large) Compass Shelf	1mm Pear	1
152	Cathead Outer Facing (Right Fore)	1mm Pear	1	Ob6	Optional Binnacle (Large) Side	1mm Pear	2
153	Cathead Outer Facing (Right Aft)	1mm Pear	1	Ob7	Optional Binnacle (Large) Top	1mm Pear	1
154	Cathead Outer Facing (Left Aft)	1mm Pear	1	OS-1	Original Stern (Inner)	1mm Pear	1
155	Cathead Outer Facing (Left Fore)	1mm Pear	1	OS-2	Original Stern (Outer)	1mm Pear	1
156	Capstan Upper Chock	1mm Pear	2	SOB1	Optional Binnacle (Small) Front	1mm Pear	1
157	Capstan Lower Chock	1mm Pear	2	SOB2	Optional Binnacle (Small) Rear	1mm Pear	1
158	Capstan Drumhead (Base)	1mm Pear	2	SOB3	Optional Binnacle (Small) Side	1mm Pear	2
159	Bow Cheek Filing Piece	1mm Pear	2	SOB4	Optional Binnacle (Small) Top Spacer	1mm Pear	1
159a	Bolster	1mm Pear	2	SOB5	Optional Binnacle (Small) Bottom Spacer	1mm Pear	1
160	Fore Mast Base	1mm Pear	2	SOB6	Optional Binnacle (Small) Compass Shelf	1mm Pear	1
161	Main Mast Base	1mm Pear	2	SOB17	Optional Binnacle (Small) Top	1mm Pear	1
162	Mizzen Mast Base	1mm Pear	2				
163	Small Cleat	1mm Pear	12	UDH1a	Upper Deck Hatch Coaming	1mm Pear	1
163a	Small Cleat for Stern Davit	1mm Pear	4	UDH1c	Upper Deck Hatch Grating	1mm Pear	1
164	Cathead End Capping	1mm Pear	2	UDH1b	Upper Deck Hatch Coaming	1mm Pear	1
165	Cathead Sheave Pattern	1mm Pear	4	UDH1d	Upper Deck Hatch Grating	1mm Pear	1
166	Aft cabin Rudder Bench	1mm Pear	1	UDH1g	Upper Deck Hatch Shot Garland	1mm Pear	2
167	Aft cabin Rudder Bench Bulkhead Facing	1mm Pear	1	UDH2	Pump Scuttle Grating	1mm Pear	2
168	Aft cabin Rudder Box Capping	1mm Pear	1	UDH3a	Upper Deck Hatch Coaming	1mm Pear	1
169	Capstan Drumhead (Top)	1mm Pear	2	UDH3b	Upper Deck Hatch Grating	1mm Pear	1
170	Right Upper/Lower Hair Bracket	1mm Pear	1	UDH3d	Upper Deck Hatch Shot Garland	1mm Pear	2
171	Left Upper/Lower Hair Bracket	1mm Pear	1	UDH5	Skylight End Pattern	1mm Pear	2
172	Lower Stern Counter (Inner)	1mm Pear	1	UDH5a	Skylight Side	1mm Pear	2
173	Lower Stern Counter (Outer)	1mm Pear	1	UDH5b	Skylight Top Cross beam	1mm Pear	1
174	Lower Stern Counter Rail (Left)	1mm Pear	1	UDH5c	Skylight Top Cross beam Cap	1mm Pear	1
175	Lower Stern Counter Rail (Right)	1mm Pear	1	UDH5d	Skylight Window Frame	1mm Pear	2
176	Inner Main Stern Fascia (Fiction)	1mm Pear	1	UDH5e	Upper Deck Hatch Shot Garland	1mm Pear	2
176a	Stern Chase Port (Inner Left)	1mm Pear	1	UDH6b	Upper Deck Hatch Shot Garland	1mm Pear	2
176b	Stern Chase Port (Outer Left)	1mm Pear	1	LDH2a	Gun Deck Deck Hatch Coaming	1mm Pear	1
177	Outer Main Stern Fascia (Fiction)	1mm Pear	1	LDH2c	Gun Deck Hatch Grating	1mm Pear	1
177a	Stern Chase Port (Inner Right)	1mm Pear	1	LDH5a	Gun Deck Hatch Coaming	1mm Pear	1
177b	Stern Chase Port (Outer Right)	1mm Pear	1	LDH5b	Gun Deck Hatch Grating	1mm Pear	1
178	Stern Rail	1mm Pear	1	LDH5c	Gun Deck Hatch Grating	1mm Pear	1
178a	Stern Rail (Upper Centre)	1mm Pear	1	K3	Locator Key for Prow, Keel and Rudder Post	1mm Pear	18
178b	Stern Rail (Left Stern Chase Port)	1mm Pear	1	K4	Locator Key for Part 119	1mm Pear	6
178c	Stern Rail (Right Stern Chase Port)	1mm Pear	1	K5	Locator Key for Parts J2-J15	1mm Pear	60
179	Stern Counter Rail	1mm Pear	1	HC1	Gangway Stanchion Rail	1mm Pear	2
J-141	Optional Jig For Part 141	1mm Pear	1	FC1	Forecastle Capping/Gunwale (Front)	1mm Pear	1
CF1	Captain's Cabin Sideboard Front	1mm Pear	1	FC2	Forecastle Capping/Gunwale (Sides)	1mm Pear	2
CF2	Captain's Cabin Sideboard Rear	1mm Pear	1	FC3	Quarter Bulwark Capping/Gunwale	1mm Pear	2
CF3	Captain's Cabin Infernal Spacer	1mm Pear	2	M36	Fore Mast Cheek	1mm Pear	2
CF4	Captain's Cabin Sideboard Side	1mm Pear	2	M37	Fore Mast Bib (Left)	1mm Pear	1
CF5	Captain's Cabin Sideboard Top	1mm Pear	1	M38	Fore Mast Bib (Right)	1mm Pear	1
Ob1	Optional Binnacle (Large) Front	1mm Pear	1	M39	Main Mast Cheek	1mm Pear	2
Ob2	Optional Binnacle (Large) Rear	1mm Pear	1	M40	Main Mast Bib (Left)	1mm Pear	1

M41	Main Mast Bib (Right)	1mm Pear	1
M42	Mizzen Mast Bib (Right)	1mm Pear	1
M42a	Mizzen Mast Bib (Left)	1mm Pear	1
M43	Fore Topmast Cross Tree	1mm Pear	1
M44	Main Topmast Cross Tree	1mm Pear	1
M45	Mizzen Topmast Cross Tree	1mm Pear	1
M46	Fore and Main Topmast Fid	1mm Pear	2
M47	Fore and Main Topgallant Mast Fid	1mm Pear	2
M48	Mizzen Topmast Fid	1mm Pear	1
M49	Mizzen Topgallant Mast Fid	1mm Pear	1
M50	Mast/Yard Cleat	1mm Pear	96
M51	Upper Mast/Yard Cleat	1mm Pear	32
M52	Fore Topgallant Mast Cap	1mm Pear	1
M53	Main Topgallant Mast Cap	1mm Pear	1
M54	Mizzen and Flagstaff Mast Cap	1mm Pear	2
M55	Fore Boarding Pike Ring (Optional to PE)	1mm Pear	2
M56	Main Boarding Pike Ring (Optional to PE)	1mm Pear	2
M57	Mizzen Boom Jaws Support	1mm Pear	2
M58	Mizzen Boom Jaws Support Knee	1mm Pear	5
M59	Fore/Main/Mizzen Cheek Block	1mm Pear	6
M60	Bowsprit Fairlead Saddle	1mm Pear	2
M61	Lower Top Cleat	1mm Pear	6
M62	Fore Top Stanchion Rail	1mm Pear	1
M63	Main Top Stanchion Rail	1mm Pear	1
M64	Mizzen Top Stanchion Rail	1mm Pear	1
M65	9mm Closed Heart Block Outer Cheeks	1mm Pear	2
M65a	9mm Closed Heart Block Inner Cheeks	1mm Pear	1
M65b	9mm Closed Heart Block Locating Key	1mm Pear	2
M66	10mm Closed Heart Block Outer Cheeks	1mm Pear	2
M66a	10mm Closed Heart Block Inner Cheeks	1mm Pear	1
M66b	10mm Closed Heart Block Locating Key	1mm Pear	2
M80	Shroud Cleat	1mm Pear	54

0.8mm Pear (100x500mm)

60b	Quarter Upper Finishing Pattern	0.8mm Pear	2
60c	Quarter Upper Finishing Fretwork (Right)	0.8mm Pear	2
60d	Quarter Upper Finishing Fretwork (Left)	0.8mm Pear	2
178d	Stern Rail Outer Pattern (Lower)	0.8mm Pear	1
178e	Stern Rail Outer Pattern (Upper)	0.8mm Pear	1
178g	Stern Tafferal Capping	0.8mm Pear	2
178h	Stern Tafferal Capping	0.8mm Pear	1
178i	Stern Tafferal Capping (Chase Port)	0.8mm Pear	1
178j	Stern Tafferal Capping	0.8mm Pear	1
178k	Stern Tafferal Capping (Chase Port)	0.8mm Pear	1
178l	Stern Tafferal Capping	0.8mm Pear	1
179a	Stern Counter Rail Outer Pattern	0.8mm Pear	1
180-L	Quarter Gallery Lower Counter	0.8mm Pear	2

180-I	Quarter Gallery Window Pattern (Inner)	0.8mm Pear	2
180-OR	Quarter Gallery Window Pattern (Outer Right)	0.8mm Pear	2
180-OL	Quarter Gallery Window Pattern (Outer Left)	0.8mm Pear	2
184	Bow Rail (Upper)	0.8mm Pear	2
185	Bow Rail (Lower)	0.8mm Pear	2
186	Hand Pump Handle (Short)	0.8mm Pear	4
187	Hand Pump Handle (Tall)	0.8mm Pear	2
188	Stern Davit Sheave Block	0.8mm Pear	4
189	Stern Davit End Cap	0.8mm Pear	2
190	Quarter Davit Sheave Block	0.8mm Pear	8
191	Quarter Davit End Cap	0.8mm Pear	4
192	Bow Gratings	0.8mm Pear	1
192a	Bow Gratings Extra Support	0.8mm Pear	1
192b	Bow Seat of Ease Double Bench Top	0.8mm Pear	2
192d	Bow Seat of Ease Single Bench Top	0.8mm Pear	2
193I	Gun Port Lid (Inner Left)	0.8mm Pear	1
193R	Gun Port Lid (Inner Right)	0.8mm Pear	1
194I	Gun Port Lid (Outer Left)	0.8mm Pear	1
194R	Gun Port Lid (Outer Right)	0.8mm Pear	1
195I	Gun Port Lid (Inner Left)	0.8mm Pear	1
195R	Gun Port Lid (Inner Right)	0.8mm Pear	1
196I	Gun Port Lid (Outer Left)	0.8mm Pear	1
196R	Gun Port Lid (Outer Right)	0.8mm Pear	1
197I	Gun Port Lid (Inner Left)	0.8mm Pear	1
197R	Gun Port Lid (Inner Right)	0.8mm Pear	1
198I	Gun Port Lid (Outer Left)	0.8mm Pear	1
198R	Gun Port Lid (Outer Right)	0.8mm Pear	1
199I	Gun Port Lid (Inner Left)	0.8mm Pear	1
199R	Gun Port Lid (Inner Right)	0.8mm Pear	1
200I	Gun Port Lid (Outer Left)	0.8mm Pear	1
200R	Gun Port Lid (Outer Right)	0.8mm Pear	1
201I	Gun Port Lid (Inner Left)	0.8mm Pear	1
201R	Gun Port Lid (Inner Right)	0.8mm Pear	1
202I	Gun Port Lid (Outer Left)	0.8mm Pear	1
202R	Gun Port Lid (Outer Right)	0.8mm Pear	1
203I	Gun Port Lid (Inner Left)	0.8mm Pear	1
203R	Gun Port Lid (Inner Right)	0.8mm Pear	1
204I	Gun Port Lid (Outer Left)	0.8mm Pear	1
204R	Gun Port Lid (Outer Right)	0.8mm Pear	1
205I	Gun Port Lid (Inner Left)	0.8mm Pear	1
205R	Gun Port Lid (Inner Right)	0.8mm Pear	1
206I	Gun Port Lid (Outer Left)	0.8mm Pear	1
206R	Gun Port Lid (Outer Right)	0.8mm Pear	1
207I	Gun Port Lid (Inner Left)	0.8mm Pear	1
207R	Gun Port Lid (Inner Right)	0.8mm Pear	1
208I	Gun Port Lid (Outer Left)	0.8mm Pear	1
208R	Gun Port Lid (Outer Right)	0.8mm Pear	1
209	Screen Bulkhead Fore Front	0.8mm Pear	1

210	Screen Bulkhead Fore Back	0.8mm Pear	1
210a	Screen Bulkhead Edging Piece	0.8mm Pear	4
211	Screen Bulkhead Aft Front	0.8mm Pear	1
212	Screen Bulkhead Aft Back	0.8mm Pear	1
212a	Screen Bulkhead Edging Piece	0.8mm Pear	4
213	Screen Bulkhead Left Side	0.8mm Pear	1
214	Screen Bulkhead Right Side	0.8mm Pear	1
215	Upper Side Rail (Aft Right)	0.8mm Pear	1
215a	Upper Side Rail (Fore Right)	0.8mm Pear	1
216	Upper Side Rail (Aft Left)	0.8mm Pear	1
216a	Upper Side Rail (Fore Left)	0.8mm Pear	1
215	Upper Side Rail (Aft Right)	0.8mm Pear	1
217	Chess Tree Inner	0.8mm Pear	2
218	Chess Tree Middle	0.8mm Pear	2
219	Chess Tree Outer	0.8mm Pear	2
238	Mid-Deck Gunwale	0.8mm Pear	2
239	Mid-Deck Gunwale Anchor Stock Chock	0.8mm Pear	2
239a	Mid-Deck Anchor Stock Chock Lower	0.8mm Pear	2
286L	Bow Main Rail (Left)	0.8mm Pear	1
286La	Bow Main Rail (Left Outer)	0.8mm Pear	1
286b	Bow Main Rail End Piece	0.8mm Pear	2
286R	Bow Main Rail (Left)	0.8mm Pear	1
286Ra	Bow Main Rail (Left Outer)	0.8mm Pear	1
C22-1	22-Foot Cutter Floor	0.8mm Pear	1
C22-2	22-Foot Cutter Floor	0.8mm Pear	2
C22-3	22-Foot Cutter Floor	0.8mm Pear	2
C22-4	22-Foot Cutter Rear Floor	0.8mm Pear	1
C22-5	22-Foot Cutter Front Floor	0.8mm Pear	1
C22-6	22-Foot Cutter Seat	0.8mm Pear	1
C22-7	22-Foot Cutter Seat	0.8mm Pear	1
C22-8	22-Foot Cutter Seat	0.8mm Pear	1
C22-9	22-Foot Cutter Seat	0.8mm Pear	1
C22-10	22-Foot Cutter Seat	0.8mm Pear	1
C22-11	22-Foot Cutter Stern Sheets	0.8mm Pear	1
C22-12	22-Foot Cutter Rear Knee	0.8mm Pear	1
C22-13	22-Foot Cutter Stern Bulkhead	0.8mm Pear	1
C22-14	22-Foot Cutter Bow Knee	0.8mm Pear	1
C22-15	22-Foot Cutter Main Mast Base	0.8mm Pear	1
C22-16	22-Foot Cutter Fore Mast Base	0.8mm Pear	1
C22-17	22-Foot Cutter Rudder	0.8mm Pear	1
C22-18	22-Foot Cutter Seat Knee	0.8mm Pear	14
L24-1	24-Foot Launch Seat	0.8mm Pear	1
L24-2	24-Foot Launch Seat	0.8mm Pear	1
L24-3	24-Foot Launch Seat	0.8mm Pear	1
L24-4	24-Foot Launch Seat	0.8mm Pear	1
L24-5	24-Foot Launch Seat	0.8mm Pear	1
L24-6	24-Foot Launch Seat	0.8mm Pear	1

L24-7	24-Foot Launch Seat (Stern)	0.8mm Pear	1
L24-8	24-Foot Launch Seat Knee	0.8mm Pear	4
L24-9	24-Foot Launch Seat Knee	0.8mm Pear	8
L24-10	24-Foot Launch Stern Knee	0.8mm Pear	2
L24-11	24-Foot Launch Stern Davit Support	0.8mm Pear	2
L24-12	24-Foot Launch Bow Knee	0.8mm Pear	1
L24-13	24-Foot Launch Rudder	0.8mm Pear	1
L24-14	24-Foot Launch Rudder Top Sides	0.8mm Pear	1
L24-15	24-Foot Launch Tiller Arm	0.8mm Pear	1
L24-16	24-Foot Launch Oar	0.8mm Pear	8
P28-1	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-2	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-3	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-4	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-5	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-6	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-7	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-8	28-Foot Pinnacle Seat	0.8mm Pear	1
P28-9	28-Foot Pinnacle Stern Sheets	0.8mm Pear	1
P28-9a	28-Foot Pinnacle Stern Bulkhead	0.8mm Pear	1
P28-10	28-Foot Pinnacle Rear Bulkhead	0.8mm Pear	1
P28-11	28-Foot Pinnacle Bow Floor	0.8mm Pear	1
P28-12	28-Foot Pinnacle Mast Base	0.8mm Pear	2
P28-13	28-Foot Pinnacle Seat Knee	0.8mm Pear	6
P28-14	28-Foot Pinnacle Rudder	0.8mm Pear	1
P28-14a	28-Foot Pinnacle Rudder Top Side Cap	0.8mm Pear	2
P28-14b	28-Foot Pinnacle Tiller Arm	0.8mm Pear	1
P28-15	22 Foot Cutter and 28-Foot Pinnacle Oar	0.8mm Pear	16
M67	Fore Mast Side Fish	0.8mm Pear	1
M68	Main Mast Side Fish	0.8mm Pear	1
M69	Fore Top Platform	0.8mm Pear	1
M69a	Fore Top Platform Gunwale	0.8mm Pear	1
M70	Main Top Platform	0.8mm Pear	1
M70a	Main Top Platform Gunwale	0.8mm Pear	1
M71	Mizzen Top Platform	0.8mm Pear	1
M71a	Mizzen Top Platform Gunwale	0.8mm Pear	1

0.8mm Pear (150x800mm)

220	Bulwark Middle pattern (Right)	0.8mm Pear	1
220a	Forecastle Bulwark Middle pattern (Right)	0.8mm Pear	1
221	Bulwark Middle pattern (Left)	0.8mm Pear	1
221a	Forecastle Bulwark Middle pattern (Left)	0.8mm Pear	1
220	Bulwark Middle pattern (Right)	0.8mm Pear	1
222	Gundeck Inner Left Bulwark (Fore)	0.8mm Pear	1
223	Gundeck Inner Left Bulwark (Middle)	0.8mm Pear	1
224	Gundeck Inner Left Bulwark (Aft)	0.8mm Pear	1
225	Gundeck Inner Right Bulwark (Fore)	0.8mm Pear	1

226	Gundeck Inner Right Bulwark (Middle)	0.8mm Pear	1
227	Gundeck Inner Right Bulwark (Aft)	0.8mm Pear	1
228	Gundeck Inner Left Bulwark Spirketting (Fore)	0.8mm Pear	1
229	Gundeck Inner Left Bulwark Spirketting (Mid)	0.8mm Pear	1
230	Gundeck Inner Left Bulwark Spirketting (Aft)	0.8mm Pear	1
231	Gundeck Inner Right Bulwark Spirketting (Fore)	0.8mm Pear	1
232	Gundeck Inner Right Bulwark Spirketting (Mid)	0.8mm Pear	1
233	Gundeck Inner Right Bulwark Spirketting (Aft)	0.8mm Pear	1
234	Gundeck Inner Right Bulwark Ledge (Fore)	0.8mm Pear	1
235	Gundeck Inner Right Bulwark Ledge (Aft)	0.8mm Pear	1
236	Gundeck Inner Left Bulwark Ledge (Fore)	0.8mm Pear	1
237	Gundeck Inner Left Bulwark Ledge (Aft)	0.8mm Pear	1
242	Outer Bulwarks (Right)	0.8mm Pear	1
242a	Outer Forecastle Bulwarks (Right)	0.8mm Pear	1
242b	Forecastle Bulwark Upper Rail (Front Right)	0.8mm Pear	1
242c	Forecastle Bulwark Upper Rail (Front Rear)	0.8mm Pear	1
243	Outer Bulwarks (Left)	0.8mm Pear	1
243a	Outer Forecastle Bulwarks (Left)	0.8mm Pear	1
243b	Forecastle Bulwark Upper Rail (Front Left)	0.8mm Pear	1
243c	Forecastle Bulwark Upper Rail (Front Left)	0.8mm Pear	1
244	Optional Bow Chaser/Bridle Port Lid	0.8mm Pear	4

0.8mm Pear (100x600mm)

245	Forecastle Inner Bulwark (Left)	0.8mm Pear	1
2245a	Forecastle Inner Spirketting (Fore Left)	0.8mm Pear	1
245b	Forecastle Inner Spirketting (Aft Left)	0.8mm Pear	1
245c	Forecastle Bulwark End Cap	0.8mm Pear	2
246	Quarterdeck Inner Bulwark (Left)	0.8mm Pear	1
246a	Quarterdeck Inner Bulwark Spirketting (Left)	0.8mm Pear	1
247	Forecastle Inner Bulwark (Left)	0.8mm Pear	1
247a	Forecastle Inner Spirketting (Fore Right)	0.8mm Pear	1
247b	Forecastle Inner Spirketting (Aft Right)	0.8mm Pear	1
248	Quarterdeck Inner Bulwark (Right)	0.8mm Pear	1
248a	Quarterdeck Inner Bulwark Spirketting (Right)	0.8mm Pear	1
248c	Quarterdeck Bulwark End Cap	0.8mm Pear	2

0.6mm Pear

180a	Quarter gallery Rail (Left Upper)	0.6mm Pear	1
180b	Quarter gallery Rail for Part 180a	0.6mm Pear	1
180c	Quarter gallery Rail (Left Mid)	0.6mm Pear	1
180d	Quarter gallery Rail for Part 180c	0.6mm Pear	1
180e	Quarter gallery Rail (Left Lower)	0.6mm Pear	1
180f	Quarter gallery Rail for Part 180e	0.6mm Pear	1
181a	Quarter gallery Rail (Right Upper)	0.6mm Pear	1
181b	Quarter gallery Rail for Part 181a	0.6mm Pear	1
181c	Quarter gallery Rail (Right Mid)	0.6mm Pear	1

181d	Quarter gallery Rail for Part 181c	0.6mm Pear	1
181e	Quarter gallery Rail (Right Lower)	0.6mm Pear	1
180f	Quarter gallery Rail for Part 181e	0.6mm Pear	1
189a	Stern Davit Decorative End Cap	0.6mm Pear	2
191a	Quarter Davit Decorative End Cap	0.6mm Pear	4
249	Hand Pump Base for Gun Deck	0.6mm Pear	2
250	Ships Wheel Drum End Cap	0.6mm Pear	2
251	Quarterdeck Barricade Upper Rail (Lower)	0.6mm Pear	1
252	Quarterdeck Barricade Upper Rail (Upper)	0.6mm Pear	1
253	Bow Cheek Outer Pattern	0.6mm Pear	8
254	Cabin Window Pillar Moulding	0.6mm Pear	6
255	Side Step Lower Moulding	0.6mm Pear	20
256	Side Step	0.6mm Pear	20
257	Orlop Ladder Side (Inner)	0.6mm Pear	2
257a	Orlop Ladder Side (Outer Left)	0.6mm Pear	1
257b	Orlop Ladder Side (Outer Right)	0.6mm Pear	1
257c	Orlop Ladder Step	0.6mm Pear	8
258	Gun Deck Ladder Side (Fore Inner)	0.6mm Pear	3
258a	Gun Deck Ladder Side (Outer Left)	0.6mm Pear	1
258b	Gun Deck Ladder Side (Outer Right)	0.6mm Pear	1
258c	Gun Deck Ladder Step	0.6mm Pear	10
259	Gun Deck Ladder Side (Aft Inner)	0.6mm Pear	3
259a	Gun Deck Ladder Side (Outer Left)	0.6mm Pear	1
259b	Gun Deck Ladder Side (Outer Right)	0.6mm Pear	1
259c	Gun Deck Ladder Step	0.6mm Pear	10
260	Gangway Ladder Side (Fore Inner)	0.6mm Pear	4
260a	Gangway Deck Ladder Side (Outer Left)	0.6mm Pear	2
260b	Gangway Deck Ladder Side (Outer Right)	0.6mm Pear	2
260c	Gangway Deck Ladder Step	0.6mm Pear	16
261	Quarterdeck Ladder Side (Fore Inner)	0.6mm Pear	2
261a	Quarterdeck Deck Ladder Side (Outer Left)	0.6mm Pear	2
261b	Quarterdeck Deck Ladder Side (Outer Right)	0.6mm Pear	2
261c	Quarterdeck Deck Ladder Step	0.6mm Pear	8
286c	Bow headrail Decorative Panelling	0.6mm Pear	2
189a	Stern Davit Decorative End Cap	0.6mm Pear	2
SC-1	Stern Capping	0.6mm Pear	2
C18-1	18 Foot Cutter Stern Sheets	0.6mm Pear	1
C18-2	18 Foot Cutter Stern Floor	0.6mm Pear	1
C18-3	18 Foot Cutter Fore Floor	0.6mm Pear	1
C18-4	18 Foot Cutter Fore Seats	0.6mm Pear	1
C18-5	18 Foot Cutter Seat	0.6mm Pear	1
C18-6	18 Foot Cutter Seat	0.6mm Pear	1
C18-7	18 Foot Cutter Seat	0.6mm Pear	1
C18-9	18 Foot Cutter Seat Knee	0.6mm Pear	8
C18-10	18 Foot Cutter Rudder	0.6mm Pear	1
C18-11	18 Foot Cutter Rudder Top Capping	0.6mm Pear	2
C18-12	18 Foot Cutter Rudder Tiller Arm	0.6mm Pear	1
C18-13	18 Foot Cutter Rear Bulkhead	0.6mm Pear	1

C18-14	18 Foot Cutter Oar	0.6mm Pear	4
M69b	Fore Top Upper Capping	0.6mm Pear	1
M70b	Main Top Upper Capping	0.6mm Pear	1
M71b	Mizzen Top Upper Capping	0.6mm Pear	1
M72	Topmast Sheave Outer Panel	0.6mm Pear	6
M73	Fore Batten	0.6mm Pear	10
M74	Main Batten	0.6mm Pear	10
M75	Mizzen Batten	0.6mm Pear	10
M73	Parrel Rib	0.6mm Pear	62

0.6mm PolyBak

262	Stern Tafferel Edging Decoration (Left)	0.6mm PolyBak	1
263	Stern Tafferel Edging Decoration (Right)	0.6mm PolyBak	1
264	Stern Tafferel Edging Decoration (Centre)	0.6mm PolyBak	1
265	Stern Tafferel Edging (Left Chaser)	0.6mm PolyBak	1
266	Stern Tafferel Edging (Right Chaser)	0.6mm PolyBak	1
267	Stern Pillar	0.6mm PolyBak	1
268	Stern Pillar	0.6mm PolyBak	1
269	Stern Pillar	0.6mm PolyBak	1
270	Stern Pillar	0.6mm PolyBak	1
271	Stern Pillar	0.6mm PolyBak	1
272	Stern Pillar	0.6mm PolyBak	1
273	Stern Pillar	0.6mm PolyBak	1
274	Stern Pillar	0.6mm PolyBak	1
275R	Quarter Gallery Piller (Right)	0.6mm PolyBak	1
275L	Quarter Gallery Piller (Left)	0.6mm PolyBak	1
276R	Quarter Gallery Piller (Right)	0.6mm PolyBak	1
276L	Quarter Gallery Piller (Left)	0.6mm PolyBak	1
277R	Quarter Gallery Piller (Right)	0.6mm PolyBak	1
277L	Quarter Gallery Piller (Left)	0.6mm PolyBak	1
278R	Quarter Gallery Piller (Right)	0.6mm PolyBak	1
278L	Quarter Gallery Piller (Left)	0.6mm PolyBak	1
279	Prow Hair Outer Decoration (Left Upper)	0.6mm PolyBak	1
280	Prow Hair Outer Decoration (Left Lower)	0.6mm PolyBak	1
281	Prow Hair Outer Decoration (Right Upper)	0.6mm PolyBak	1
282	Prow Hair Outer Decoration (RightLower)	0.6mm PolyBak	1
279	Prow Hair Outer Decoration (Left Upper)	0.6mm PolyBak	1
283	Prow Trail Board Decoration (Right)	0.6mm PolyBak	1
284	Prow Trail Board Decoration (Left)	0.6mm PolyBak	1
285	18-Pounder carronade Sill Bracket	0.6mm PolyBak	18

0.2mm Clear Acetate

Ac1	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac2	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac3	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac4	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac5	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac6	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac7	Fictional Stern Window Glass	0.2mm Clear Acetate	1
Ac8	Quarter Gallery Window Glass	0.2mm Clear Acetate	2
Ac9	Quarter Gallery Window Glass	0.2mm Clear Acetate	2
Ac10	Quarter Gallery Window Glass	0.2mm Clear Acetate	2
Ac11	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac12	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac13	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac14	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac15	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac16	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac17	As Built Stern Window Glass	0.2mm Clear Acetate	1
Ac18	Screen Bulkhead Window Glass	0.2mm Clear Acetate	4
Ac19	Screen Bulkhead Window Glass	0.2mm Clear Acetate	4
Ac20	Screen Bulkhead Window Glass	0.2mm Clear Acetate	4
Ac21	Skylight Window Glass	0.2mm Clear Acetate	4

4mm Clear Acetate

AS-1	Display Stand Cradle (Aft)	4mm Clear Acetate	1
AS-2	Display Stand Cradle (Fore)	4mm Clear Acetate	1
AS-3	Display Stand Spacer	4mm Clear Acetate	2
AS-4	Display Stand Nameplate Support	4mm Clear Acetate	2

0.8mm Limewood

SLD-1	False orlop Deck Planking	0.8mm Limewood	1
SLD-2	Fore Lower Deck Planking	0.8mm Limewood	1
SLD-3	Aft Lower Deck Planking	0.8mm Limewood	1
SLD-4	Gun Deck Planking	0.8mm Limewood	1
SLD-5	Upper Deck Planking	0.8mm Limewood	1
SLD-6	Fore Upper Deck Planking Insert (left)	0.8mm Limewood	1
SLD-7	Fore Upper Deck Planking Insert (Right)	0.8mm Limewood	1
SLD-8	Aft Upper Deck Planking Insert (Right)	0.8mm Limewood	1
SLD-9	Aft Upper Deck Planking Insert (left)	0.8mm Limewood	1

White Card

SWC-1	Cabin Chequered Floor	White Card	1
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Black Card

BC-A	Quarter Gallery Shingle	Black Card	12
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Black/Gold or white Lasermix 1.5mm

Nameplate	Blk/Gold Lasermix 1.5mm		2
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0.4mm Photo-Etched Brass – Sheet 1

PE-1	5mm Deadeye Strop	0.4mm PE	40
PE-2	Chainplate Upper Link (12.2mm)	0.4mm PE	51
PE-3	Chainplate Middle Link (8.8mm)	0.4mm PE	48
PE-4	Chainplate Preventer Link	0.4mm PE	50
PE-5	3.5mm Deadeye Strop	0.4mm PE	32
PE-6	Chainplate Upper Link (11mm)	0.4mm PE	34
PE-7	Chainplate Lower Link (7.3mm)	0.4mm PE	32
PE-8	3.5mm Futtock Strop	0.4mm PE	24
PE-9	Futtock Hook	0.4mm PE	31
PE-10	Rigging Hook	0.4mm PE	64
PE-11	Hand Pump Rod	0.4mm PE	8
PE-12	Main Lower Stunsail Boom Front Bracket	0.4mm PE	4
PE-13	Ships Bell Bracket	0.4mm PE	2
PE-14	Stanchion	0.4mm PE	20
PE-15	Lower Top Block Toggle	0.4mm PE	26
PE-16	Yard Footrope Stirrup	0.4mm PE	50
PE-17	Jibboom/Flying Jibboom Iron	0.4mm PE	2
PE-18	Jibboom Ring (2 Thimbles)	0.4mm PE	1
PE-19	Jibboom Ring (3 Thimbles)	0.4mm PE	1
PE-20	Cannon Carriage Through-Bolt	0.4mm PE	34
PE-21	Bow Chaser Lid Hinge	0.4mm PE	10
PE-22	Lower Stern Chaser Lid Hinge	0.4mm PE	12
PE-23	Main Gun Port Lid Hinge	0.4mm PE	48
PE-24	Large Eyebolt (0.9mm Hole)	0.4mm PE	240
PE-24S	Small Eyebolt (0.6mm Hole)	0.4mm PE	704
PE-25	Quarter Davit Bracket	0.4mm PE	10
PE-26	Ship's Wheel Main Body	0.4mm PE	2
PE-27	Ship's Wheel Inner Rim	0.4mm PE	4
PE-28	Ship's Wheel Outer Rim	0.4mm PE	4

0.4mm Photo-Etched Brass – Sheet 2

PE-24S	Small Eyebolt (0.8mm Hole Use for GP Hinges)	0.4mm PE	704
PE-29	Mid Deck Hammock Crane with Eyebolt	0.4mm PE	4
PE-30	Mid Deck Hammock Crane	0.4mm PE	14
PE-31	Quarter and Fore Bulwark Hammock Crane	0.4mm PE	60
PE-32	Quarterdeck Barricade Hammock Crane	0.4mm PE	8
PE-33	Stern Window Frame (Fiction)	0.4mm PE	1
PE-34	Stern Window Frame (Fiction)	0.4mm PE	1
PE-35	Stern Window Frame (Fiction)	0.4mm PE	1
PE-36	Stern Window Frame (Fiction)	0.4mm PE	1
PE-37	Stern Window Frame (Fiction)	0.4mm PE	1
PE-38	Stern Window Frame (Fiction)	0.4mm PE	1
PE-39	Stern Window Frame (Fiction)	0.4mm PE	1
PE-34a	Stern Window Frame Upper (Fiction)	0.4mm PE	1
PE-35a	Stern Window Frame Upper (Fiction)	0.4mm PE	1
PE-36a	Stern Window Frame Upper (Fiction)	0.4mm PE	1
PE-37a	Stern Window Frame Upper (Fiction)	0.4mm PE	1
PE-38a	Stern Window Frame Upper (Fiction)	0.4mm PE	1
PE-34b	Stern Window Frame Open (Fiction)	0.4mm PE	1
PE-35b	Stern Window Frame Open (Fiction)	0.4mm PE	1
PE-36b	Stern Window Frame Open (Fiction)	0.4mm PE	1
PE-37b	Stern Window Frame Open (Fiction)	0.4mm PE	1
PE-38b	Stern Window Frame Open (Fiction)	0.4mm PE	1
PE-34c	Stern Window Frame Closed	0.4mm PE	1
PE-35c	Stern Window Frame Closed	0.4mm PE	1
PE-36c	Stern Window Frame Closed	0.4mm PE	1
PE-37c	Stern Window Frame Closed	0.4mm PE	1
PE-38c	Stern Window Frame Closed	0.4mm PE	1
PE-40R	Quarter Gallery Window Frame (Right)	0.4mm PE	1
PE-40L	Quarter Gallery Window Frame (Left)	0.4mm PE	1
PE-41R	Quarter Gallery Window Frame (Right)	0.4mm PE	1
PE-41L	Quarter Gallery Window Frame (Left)	0.4mm PE	1
PE-42R	Quarter Gallery Window Frame (Right)	0.4mm PE	1
PE-42L	Quarter Gallery Window Frame (Left)	0.4mm PE	1
PE-43	Main Euphroe Block	0.4mm PE	1
PE-44	Fore Euphroe Block	0.4mm PE	1
PE-45	Mizzen Euphroe Block	0.4mm PE	1
PE-46	Stern Lantern Support Iron	0.4mm PE	1
PE-47	Deck Eyebolt for Ring	0.4mm PE	250
PE-47a	Ring For PE-47	0.4mm PE	250

0.4mm Photo-Etched Brass – Sheet 3

PE-24S	Small Eyebolt (0.8mm Hole)	0.4mm PE	128
PE-31a	Quarter and Fore Hammock Crane Bracket	0.4mm PE	60
PEO-33	Stern Window Frame (Original)	0.4mm PE	1

PEO-34	Stern Window Frame (Original)	0.4mm PE	1
PEO-35	Stern Window Frame (Original)	0.4mm PE	1
PEO-36	Stern Window Frame (Original)	0.4mm PE	1
PEO-37	Stern Window Frame (Original)	0.4mm PE	1
PEO-38	Stern Window Frame (Original)	0.4mm PE	1
PEO-39	Stern Window Frame (Original)	0.4mm PE	1
PE-48	Upper Stern Chaser Port Lid Hinge	0.4mm PE	8
PE-49	18 and 32-Pounder Carronade Iron Plate	0.4mm PE	96
PE-49a	18 and 32-Pounder Carronade Ring	0.4mm PE	96
PE-50	Main Mast Boarding Pike Ring	0.4mm PE	2
PE-51	Fore Mast Boarding Pike Ring	0.4mm PE	2
PE-52	Lower Stunsail Boom Iron (Outer)	0.4mm PE	4
PE-53	Upper Stunsail Boom Iron (Outer)	0.4mm PE	4
PE-54	Eyebolts for Ships Boats	0.4mm PE	16
PE-55	Grab-Hook for Ships Boats	0.4mm PE	4
PE-56	Kedge Anchor Arm for Ships Boats	0.4mm PE	4
PE-57	Kedge Anchor Main Body for Ships Boats	0.4mm PE	4

0.25mm Photo-Etched Brass Sheet

PE-58	Screen Bulkhead Window Frame	0.25mm PE	2
PE-59	Screen Bulkhead Window Frame	0.25mm PE	2
PE-60	Screen Bulkhead Window Frame	0.25mm PE	2
PE-61	Screen Bulkhead Window Frame	0.25mm PE	2
PE-62	Screen Bulkhead Window Frame	0.25mm PE	2
PE-63	Screen Bulkhead Window Frame	0.25mm PE	2
PE-64	Skylight Window Frame	0.25mm PE	2
PE-65	Skylight Hatch Hinge	0.25mm PE	6
PE-66	Screen Bullhead Door Hinge	0.25mm PE	30
PE-67	Cannon Flintlock	0.25mm PE	33
PE-68	Stern Lantern Frame	0.25mm PE	1
PE-00	Large Binnacle Compass Plate (Optional)	0.25mm PE	1

0.6mm Photo-Etched Brass

PE-69	Scale Belaying Pin	0.6mm PE	
	189		
PE-70	Anchor Ring	0.6mm PE	4
PE-71	Boarding Pike	0.6mm PE	47
PE-72	Lower Top Stanchion	0.6mm PE	14
PE-73	Lower Stunsail Boom Gooseneck	0.6mm PE	4
PE-74	Lower Stunsail Boom Iron (Fore/Main Channel)	0.6mm PE	4
PE-74L	Lower Yard Stunsail Boom Iron	0.6mm PE	4
PE-75	Upper Yard Stunsail Boom Iron	0.6mm PE	4
PE-76	Upper and Lower Stunsail Boom Iron (Outer)	0.6mm PE	8
PE-77	Rudder Emergency Chain Bracket	0.6mm PE	1
PE-78	Dolphin Striker Bracket	0.6mm PE	3
PE-79	Bowsprit Flagstaff Bracket	0.6mm PE	3

0.10mm Photo-Etched Copper Sheet

CPE-0	64th Scale Copper Plate	0.10mm PE	4
CPE-1	Rudder Copper Plating (Right)	0.10mm PE	1
CPE-2	Rudder Copper Plating (Left)	0.10mm PE	1
CPE-3	Rudder Edge Copper Plating	0.10mm PE	1
CPE-4	Rudder Strap	0.10mm PE	2
CPE-5	Rudder Strap	0.10mm PE	2
CPE-6	Rudder Strap	0.10mm PE	2
CPE-7	Rudder Strap	0.10mm PE	2
CPE-8	Rudder Strap	0.10mm PE	2
CPE-9	Rudder Post Strap	0.10mm PE	2
CPE-10	Rudder Post Strap	0.10mm PE	2
CPE-11	Rudder Post Strap	0.10mm PE	2
CPE-12	Rudder Post Strap	0.10mm PE	2
CPE-13	Rudder Post Strap	0.10mm PE	2
CPE-14	Bow Horse Shoe Plate	0.10mm PE	4
CPE-15	Stern Fish Plate	0.10mm PE	4

Fittings

F-1	Figurehead (Fictional)	3D Print Resin	1
F-2	Figurehead (Original)	3D Print Resin	1
F-3	Lantern Set (17mm – 3 Parts)	3D Print Resin	1
F-4	Brodie Stove Main Body	3D Print Resin	1
F-5	Brodie Stove Condenser	3D Print Resin	1
F-6	Brodie Stove Drip Tray	3D Print Resin	1
F-7	Brodie Stove Funnel Trunk	3D Print Resin	1
F-8	Brodie Stove Funnel Cap	3D Print Resin	1
F-9	Rudder Bracket	3D Print Resin	8
F-10	Anchor	3D Print Resin	4
F-11	9-Pounder Cannon Barrel (Blomfield)	3D Print Resin	24
F-12	6-Pounder Cannon Barrel (Blomfield)	3D Print Resin	2
F-13	18-Pounder Carronade Barrel	3D Print Resin	14
F-14	18-Pounder Carronade Wheel	3D Print Resin	14
F-15	32-Pounder Carronade Barrel (Optional)	3D Print Resin	24
F-16	32-Pounder Carronade Wheel (Optional)	3D Print Resin	24
F-17	Captain Aubrey Figure	3D Print Resin	1
F-17a	Captain Aubrey/Maturin Set	3D Print Resin	4
F-18	Hand Pump (Short)	3D Print Resin	4
F-19	Hand Pump (Tall)	3D Print Resin	2
F-20	‘U’ Bracket for Boat Beam	3D Print Resin	6
F-21	Quarter Gallery Drop (Right)	3D Print Resin	1
F-22	Quarter Gallery Drop (Left)	3D Print Resin	1
F-23ca	18 Foot Cutter Hull	3D Print Resin	1
F-23cb	22 Foot Cutter Hull	3D Print Resin	1
F-23L	24 Foot Launch Hull	3D Print Resin	1
F-23La	24 Foot Launch Davit	3D Print Resin	1
F-23Lb	24 Foot Launch Windlass	3D Print Resin	1
F-23p	28 Foot Pinnace Hull	3D Print Resin	1
F-24	Ship’s Bell	Brass	1
F-25	Binnacle Chimney	Brass	1
F-26	Small pin	Brass	500
F-27	Rudder Chain – 300mm Approx.	Metal	1
F-28			
F-29	2mm Diameter Steel Cannon Ball	Steel	100
F-30	1.5mm Diameter Steel Cannon Ball	Steel	100
F-31	1mm Diameter brass rodx250mm long (Approx.)	Metal	1
F-32	0.8mm Diameter brass rodx250mm long (Approx.)	Metal	1
F-33	Large mouse bead (Lower mast stays 5&4mm)	3-D Print Resin	6
F-34	Small mouse bead (Upper mast stays 3mm)	3-D Print Resin	6
F-35	Black Cartridge paper (For anchor & Mast Straps)	Paper	1
F-36	2.5mm Thimble Block	Wood	40
F-37	3.5mm Thimble Block	Wood	40
F-38	5mm Deadeye	Wood	120
F-39	3.5mm Deadeye	Wood	120

F-40	2mm Single block	Wood	20
F-41	3mm Single block	Wood	140
F-42	4mm Single Block	Wood	60
F-43	5mm Single block	Wood	80
F-44	6mm Single Block	Wood	30
F-45			
F-46	4mm Double block	Wood	20
F-47	6mm Double block	Wood	20
F-48	7mm Sister Block	Wood	20
F-49	Parrel bead	3-D Print Resin	120
F-50	0.1mm Diameter natural thread		200m
F-51	0.25mm Diameter natural thread		100m
F-52	0.5mm Diameter natural thread		40m
F-53	0.75mm Diameter natural thread		20m
F-54	0.25mm Diameter black thread		20m
F-55	0.5mm Diameter black thread		20m
F-56	0.75mm Diameter black thread		40m
F-57	1mm Diameter black thread		20m
F-58	1.3mm Diameter black thread (Mast Stay & Fore and Main Shrouds)		20m
F-59	1.6mm Diameter black thread (Lower Mast Stay)		2m
F-60	2mm Diameter natural thread (Anchor hawse)		0.5m

<u>Materials</u>			
F-61	12mm Dowel x 500mm long	Wood	1
F-62	10mm Dowel x 500mm long	Wood	2
F-63	8mm Dowel x 500mm long	Wood	5
F-64	6mm Dowel x 500mm long	Wood	6
F-65	5mm Dowel x 500mm long	Wood	3
F-66	4mm Dowel x 500mm long	Wood	6
F-67	3mm Dowel x 500mm long	Wood	6
F-68	1.5mm x 6mm x 700mm strip - Limewood	Wood	50
F-69	1mm x 5mm x 700mm strip - Second planking	Wood	60

<u>Decal Sheet</u>			
F-70	Surprise Decal Sheet	Film	2

<u>Flag Set</u>			
S/VMF1	Surprise complete flag set	Cloth	1

Surprise Laser and PE Sheet Quantities

2mm MDF Laser Cut	2
3mm MDF Laser Cut	2
4mm MDF Laser Cut	1

0.2mm Clear Acetate	1
4mm Clear Acetate	1
1.5mm Black and white nameplate	2

0.6mm Pear Wood 100 x 500mm long	1
0.6mm Pear Wood 100 x 250mm long	1

0.8mm Pear Wood 100 x 500mm long	4
0.8mm Pear Wood 100 x 600mm long	1
0.8mm Pear Wood 150 x 800mm long	3

1mm Pear Wood 100 x 500mm long	5
1mm Pear Wood 100 x 600mm long	1

1.5mm Pear Wood	2
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2mm Pear Wood 100 x 500mm long	2
2mm Pear Wood 100 x 250mm long (Optional Carronades Only)	1

3mm Pear Wood	1
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4mm Pear Wood	2
5mm Pear Wood 100x85mm Long	1
0.8mm Limewood laser etched decks 150x800mm Long	3
0.6mm Polybak	1
0.2mm Black Card (Quarter Gallery Shingles)	1
0.2mm White Card (Captain's Cabin Floor)	1
Black Card (Mast, Anchor and Rudder 'Iron Bands')	1
0.2mm Photo Etched Brass Sheet	1
0.4mm Photo Etched Brass Sheet	3
0.6mm Photo Etched Brass Sheet	1
0.10mm Photo Etched Copper Sheet	1
0.10mm Photo Etched Copper Plate Sheet	4.5



VANGUARD MODELS

BY CHRIS WATTON

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SURPRISE was designed and developed in the UK by Chris Watton

Finished prototype model made and photographed (including construction manual text) by James Hatch

15/06/2026