

The British Armed Naval Cutter

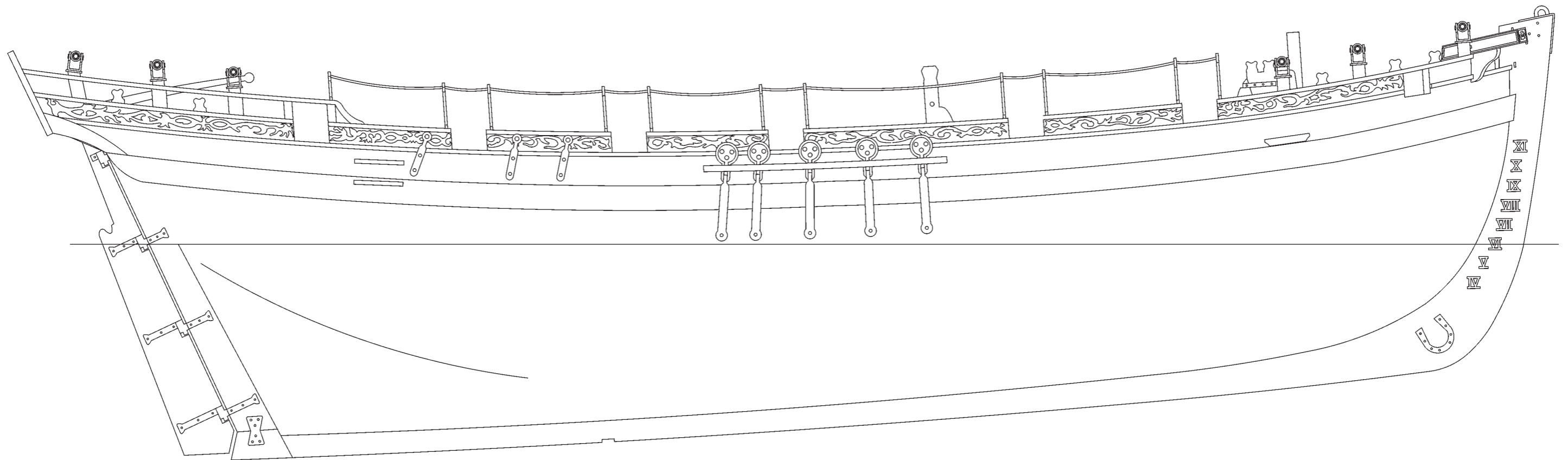
Alert - 1:64 Scale

1777

Building Manual



VANGUARDMODELS
BYCHRISWATTON



PARTS LIST

<u>Pt. No</u>	<u>Description</u>	<u>Material</u>	<u>QTY</u>
3mm MDF			
1	False Keel	3mm MDF	1
2	Bulkhead	3mm MDF	1
3	Bulkhead	3mm MDF	1
4	Bulkhead	3mm MDF	1
5	Bulkhead	3mm MDF	1
6	Bulkhead	3mm MDF	1
7	Bulkhead	3mm MDF	1
8	Bulkhead	3mm MDF	1
9	Bulkhead	3mm MDF	1
10	Bulkhead	3mm MDF	1
11	Bow pattern (Inner)	3mm MDF	2
12	Bow and bulkhead securing pattern (Outer)	3mm MDF	2
13	Bow pattern (between first and second bulkhead)	3mm MDF	2
14	Stern securing pattern	3mm MDF	2
15	Stern planking pattern	3mm MDF	2
108	Ships' stove flue	3mm MDF	1
2mm MDF			
16	Lower deck pattern	2mm MDF	1
17	Stern frame (Inner)	2mm MDF	2
18	Stern frame (Middle)	2mm MDF	2
19	Stern frame (Outer)	2mm MDF	2
20	Stern filling pattern	2mm MDF	2
3mm Wood			
21	Stempost and front keel	3mm Wood	1
22	Rear keel	3mm Wood	1
23	Sternpost	3mm Wood	1
24	Rudder pattern	3mm Wood	1
25	Cathead	3mm Wood	2
26	Hawse hole post	3mm Wood	2
27	Step block for mizzen mast	3mm Wood	2
28	Carrick bitt pattern	3mm Wood	2
29	Carrick bitt cheek	3mm Wood	2
30	Pawl bitt head and bowsprit step post	3mm Wood	1
31	Pawl bitt post	3mm Wood	1
32	Mast bitt pin and standard	3mm Wood	2
33	Mast bitt pin cross piece	3mm Wood	1
34	Stern swivel gun post	3mm Wood	4
35	Stern swivel gun post (After-most)	3mm Wood	2
36	Fore swivel gun post	3mm Wood	6
37	Pawl bitt standard	3mm Wood	2
38	Anchor stock pattern	3mm Wood	2

39	Mast cap	3mm Wood	1
3mm Clear Acetate			
40	Hull cradle (Front)	3mm Clear Acetate	1
41	Hull cradle (Rear)	3mm Clear Acetate	1
42	Hull cradle spacers	3mm Clear Acetate	2
43	Hull cradle lower centre spacer	3mm Clear Acetate	1
1mm Wood			
44	Main deck pattern	1mm Wood	1
45	Rudder head housing platform	1mm Wood	1
46	Capping/Drift rail	1mm Wood	2
47	Stern 'Rough Tree' rail	1mm Wood	2
48	Stern counter pattern	1mm Wood	1
49	Stern transom pattern	1mm Wood	1
50	Lower counter rail	1mm Wood	2
51	Stern transom rail (Lower)	1mm Wood	1
52	Stern transom rail (Middle)	1mm Wood	1
53	Stern transom rail (Upper)	1mm Wood	1
54	Inner Stern transom vertical rail (Outer)	1mm Wood	2
55	Inner Stern transom vertical rail (Inner)	1mm Wood	2
56	Rudder head housing platform panel	1mm Wood	2
57	Windlass belaying pin rack (Long)	1mm Wood	1
58	Windlass belaying pin rack (Short)	1mm Wood	1
59	Ships' stove flue combing	1mm Wood	1
60	Tiller arm (To be glued together)	1mm Wood	2
61	Hull side step	1mm Wood	4
62	Front capping spacer pattern	1mm Wood	2
63	Bread hatch combing	1mm Wood	1
64	Bread hatch lid	1mm Wood	1
65	Mast cheek	1mm Wood	2
66	Topgallant mast truck	1mm Wood	1
67	Five hole deadeye pattern (Outer)	1mm Wood	2
68	Five hole deadeye pattern (Inner)	1mm Wood	1
1.5mm Wood			
69	Cannon shot rack	1.5mm Wood	8
70	Cannon shot rack (Front)	1.5mm Wood	2
71	Timber head	1.5mm Wood	12
72	Stern transom knee	1.5mm Wood	2
73	Rearmost gun port opening vertical post	1.5mm Wood	4
74	Stern 'Rough Tree' rail end pattern	1.5mm Wood	6
75	Stern transom main sail boom cradle	1.5mm Wood	2
76	Stern side counter timber	1.5mm Wood	2
77	Anchor chock	1.5mm Wood	2
78	Cathead support bracket	1.5mm Wood	2
79	Channel pattern	1.5mm Wood	2
80	Mast base	1.5mm Wood	1
81	Trestle tree	1.5mm Wood	2
82	Cross tree	1.5mm Wood	3

83	Stool for boom	1.5mm Wood	1
84	Stool bracket/support	1.5mm Wood	4
85	Main boom jaws	1.5mm Wood	1
86	Gaff boom jaws	1.5mm Wood	1
87	Fore companionway combing (Inner)	1.5mm Wood	2
88	Fore companionway combing (Inner)	1.5mm Wood	2
89	Fore companionway combing (Outer)	1.5mm Wood	2
90	Fore companionway combing (Outer)	1.5mm Wood	2
91	Main hatch combing (Inner)	1.5mm Wood	2
92	Main hatch combing (Inner)	1.5mm Wood	2
93	Main hatch combing (Outer)	1.5mm Wood	2
94	Main hatch combing (Outer)	1.5mm Wood	2
95	Rear hatch/Skylight combing (End)	1.5mm Wood	2
96	Rear hatch/Skylight combing (Side)	1.5mm Wood	2
97	After companionway front pattern	1.5mm Wood	1
98	After companionway rear pattern	1.5mm Wood	1
99	After companionway side pattern	1.5mm Wood	2
100	After companionway rear roof pattern	1.5mm Wood	1
101	After companionway top hatch pattern	1.5mm Wood	1
102	6 Pounder gun carriage cheek	1.5mm Wood	24
103	6 Pounder gun carriage front axle	1.5mm Wood	12
104	6 Pounder gun carriage rear axle	1.5mm Wood	12
105	6 Pounder gun carriage front wheel	1.5mm Wood	24
106	6 Pounder gun carriage rear wheel	1.5mm Wood	24
107	6 Pounder gun carriage bed	1.5mm Wood	12

0.4mm Photo Etched Brass

PE-1	Deck and gun port eyebolt (with ring)	0.4mm Brass	80
PE-2	Deck and gun port eyebolt ring	0.4mm Brass	80
PE-3	General eyebolt (0.9mm hole)	0.4mm Brass	100
PE-4	5mm Deadeye strop and chain plate	0.4mm Brass	12
PE-5	Bowsprit Outer ring (Three hole)	0.4mm Brass	1
PE-6	Bowsprit Inner ring (One hole)	0.4mm Brass	1
PE-7	Main sail ring	0.4mm Brass	8
PE-8	Stempost eyebolt strap	0.4mm Brass	1
PE-9	Stempost 'U' shaped eyebolt	0.4mm Brass	1
PE-10	Shroud cleat	0.4mm Brass	12
PE-11	6 Pounder carriage transverse bolt	0.4mm Brass	14
PE-12	Iron hoop to secure bowsprit	0.4mm Brass	1
PE-13	Square bolt for iron hoop	0.4mm Brass	4
PE-14	Iron plate for backstay rigging	0.4mm Brass	8
PE-15	Rear companionway skylight	0.4mm Brass	1
PE-16	Name plate	0.4mm Brass	2
PE-17	Rigging hook	0.4mm Brass	24
PE-18	Hand pump upper main body	0.4mm Brass	2
PE-19	Hand pump upper side bracket	0.4mm Brass	4
PE-20	Hand pump top cap	0.4mm Brass	2
PE-21	Belaying pin	0.4mm Brass	23
PE-22	Cleat	0.4mm Brass	14
PE-23	Swivel gun mounting	0.4mm Brass	16
PE-24	Mast belaying pin ring	0.4mm Brass	1
PE-25	Handle for part 101	0.4mm Brass	1

0.6mm Photo Etched Brass

PE-26	Main hatch grating	0.6mm Brass	1
PE-27	Fore Companionway grating	0.6mm Brass	1
PE-28	Fore main windlass pawl	0.6mm Brass	2
PE-29	Cathead iron cleat	0.6mm Brass	2
PE-30	Inner yard and mast large cleat	0.6mm Brass	8
PE-31	Inner yard small cleat	0.6mm Brass	6
PE-32	Yard outer cleat	0.6mm Brass	46
PE-33	Windlass crank handle	0.6mm Brass	2
PE-34	Rudder gudgeon and pintle	0.6mm Brass	5
PE-35	Anchor ring	0.6mm Brass	2
PE-36	Stanchion	0.6mm Brass	24
PE-37	Small stanchion	0.6mm Brass	4

0.2mm Photo Etched Brass

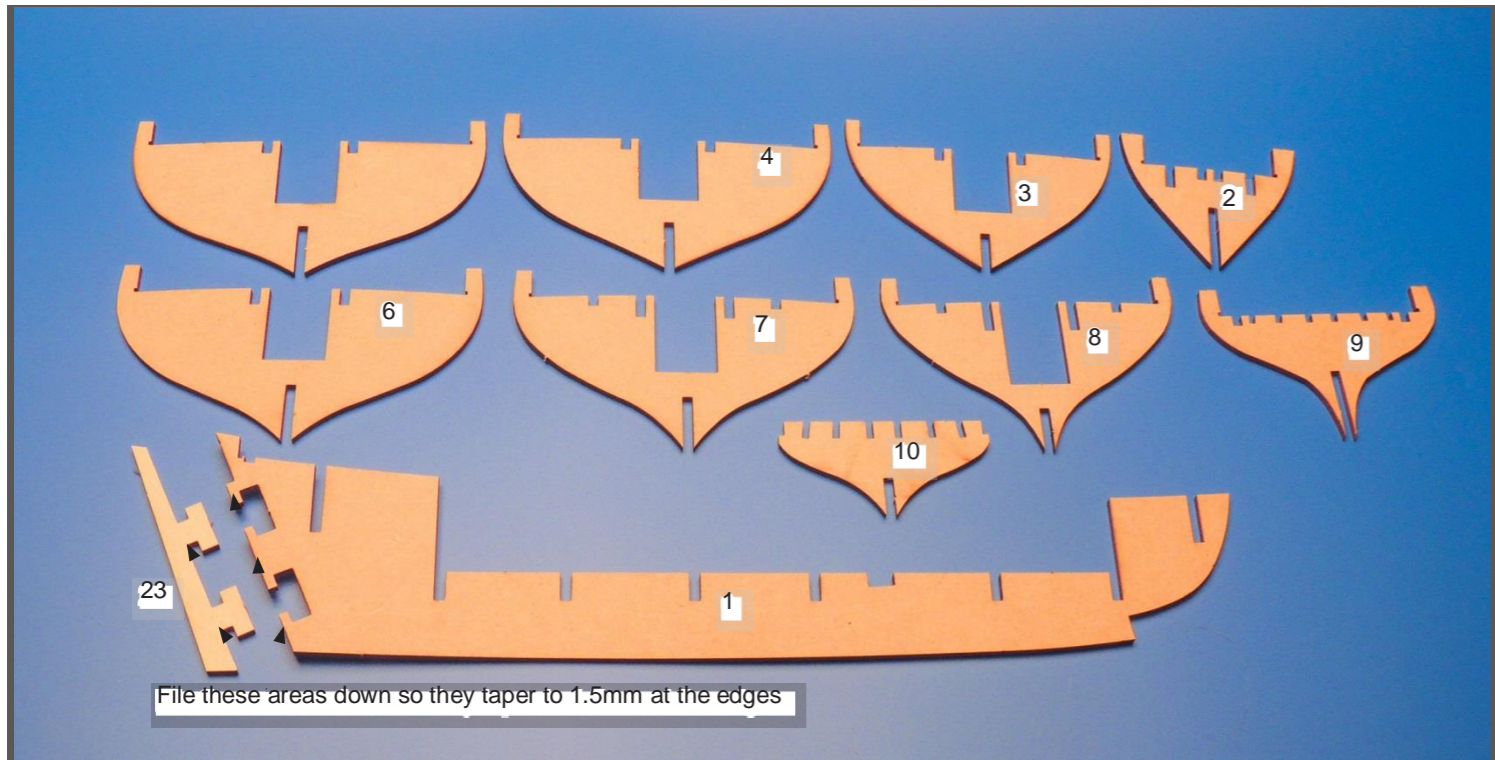
PE-38	Copper horseshoe plate	0.2mm Brass	2
PE-39	Copper Fish plate	0.2mm Brass	2
PE-40	Rudder gudgeon and pintle brace	0.2mm Brass	1
PE-41	Rudder gudgeon and pintle brace	0.2mm Brass	1
PE-42	Rudder gudgeon and pintle brace	0.2mm Brass	1
PE-43	Rudder gudgeon and pintle brace	0.2mm Brass	1
PE-44	Rudder gudgeon and pintle brace	0.2mm Brass	2
PE-45	Rudder gudgeon and pintle brace	0.2mm Brass	2
PE-46	Rudder gudgeon and pintle brace	0.2mm Brass	2
PE-47	Draught markings (copper)	0.2mm Brass	2
PE-48	Carrick bitt iron strap	0.2mm Brass	4
PE-49	Iron bracket for mizzen mast step block	0.2mm Brass	2
PE-50	Cap square for 6 Pounder carriage	0.2mm Brass	26
PE-51	Cathead panel decoration	0.2mm Brass	4
PE-52	Cathead end decoration	0.2mm Brass	2
PE-53	Stern transom decoration (centre)	0.2mm Brass	1
PE-54	Stern transom decoration (left)	0.2mm Brass	1
PE-55	Stern transom decoration (right)	0.2mm Brass	1
PE-56	Stern counter decoration (left)	0.2mm Brass	1
PE-57	Stern counter decoration (right)	0.2mm Brass	1
PE-58	Side frieze decoration	0.2mm Brass	2
PE-59	Side frieze decoration	0.2mm Brass	2
PE-60	Side frieze decoration	0.2mm Brass	2
PE-61	Side frieze decoration	0.2mm Brass	2
PE-62	Side frieze decoration	0.2mm Brass	2
PE-63	Side frieze decoration	0.2mm Brass	2
PE-64	Side frieze decoration	0.2mm Brass	2
PE-65	Side frieze decoration	0.2mm Brass	2

Fittings

F-1	Main windlass spindle/drum	Casting	1
F-2	Jeer and topsail bitts windlass	Casting	1
F-3	Sheet anchor shank	Casting	2
F-4	6 Pounder cannon barrel	Casting	12
F-5	Half-Pounder swivel gun barrel	Casting	12
F-6	2mm Diameter cannon ball	Steel	62
F-7	Small pin	4136/10	300
F-8	3.5mm Diameter Sheave	4280/35	8
F-9	5mm Deadeye	4050/05	26
F-10	3mm Single block	4070/03	50
F-11	5mm Single block	4070/05	12
F-12	4mm Double block	4080/04	10
F-13	5mm Triple block	4083/05	2
F-14	Parrel bead	Plastic	50

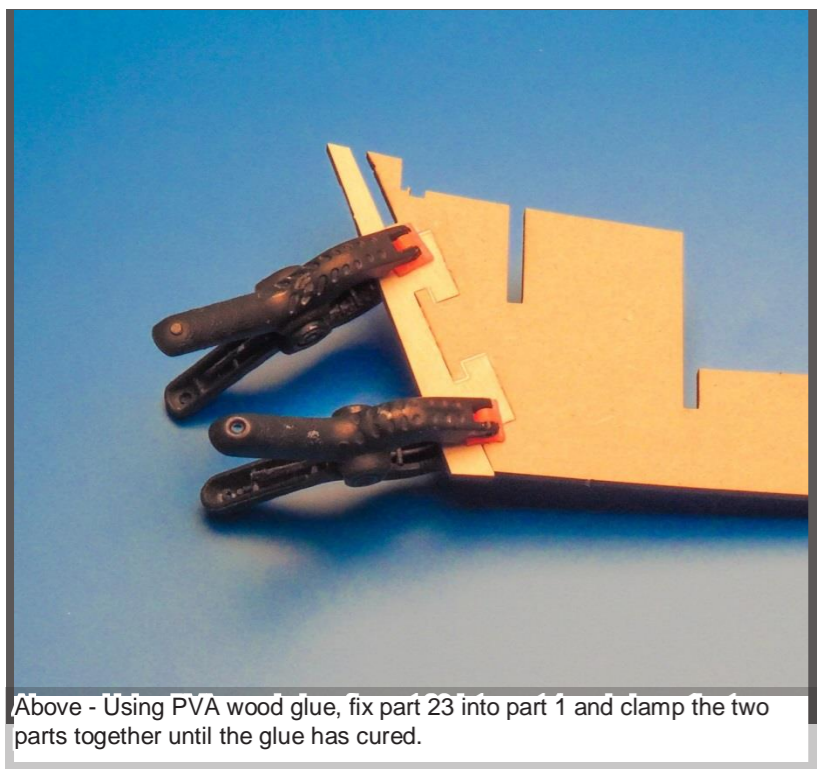
Materials

F-15	0.1mm Diameter natural thread	DD 50//8243	40m
F-16	0.25mm Diameter natural thread	DD 36//8243	40m
F-17	0.5mm Diameter natural thread	DD 25//8243	20m
F-18	0.5mm Diameter black thread	DD 25//black	10m
F-19	0.75mm Diameter black thread	DD 18//black	10m
F-20	1mm Diameter black thread	DD 12//black	5m
F-21	1.6mm Diameter natural thread	DD 36//8243	1m
F-22	8mm Dowel x 500mm long	Wood	2
F-23	5mm Dowel x 500mm long	Wood	1
F-24	4mm Dowel x 500mm long	Wood	2
F-25	3mm Dowel x 500mm long	Wood	2
F-26	1.5 x 5 x 500mm long Limewood	Wood	40
F-27	1.5 x 4 x 500mm long Limewood	Wood	4
F-28	1 x 4 x 500mm long Pear Wood	Wood	50
F-29	1 x 3 x 500mm long Limewood	Wood	6
F-30	1 x 1 x 500mm long Limewood	Wood	4
F-31	1 x 4 x 300mm long Boxwood	Wood	30
F-32	Sail material – 600x600mm	Cloth	1
F-33	Black Cartridge paper (For anchor stock straps)	Paper	1



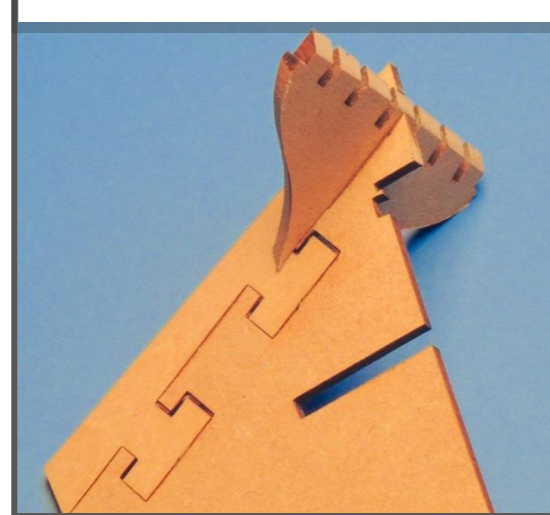
File these areas down so they taper to 1.5mm at the edges

Before removing the component parts from their host sheets, make sure all parts have been numbered. To start the main hull assembly, identify and cut out the main keel (1) from the host 3mm MDF sheet. Next, cut from their host sheets the main bulkheads (2-10).
 It is recommended that the stern area of the false keel (1) to which the rudder post (23) will be glued to is sanded to roughly half of its original width. This is because once the second planking is complete, the width of the stern should be very similar to the 3mm width of the rudder post, hence less sanding will be required to attain a flush finish between the keel edge and rudder post.

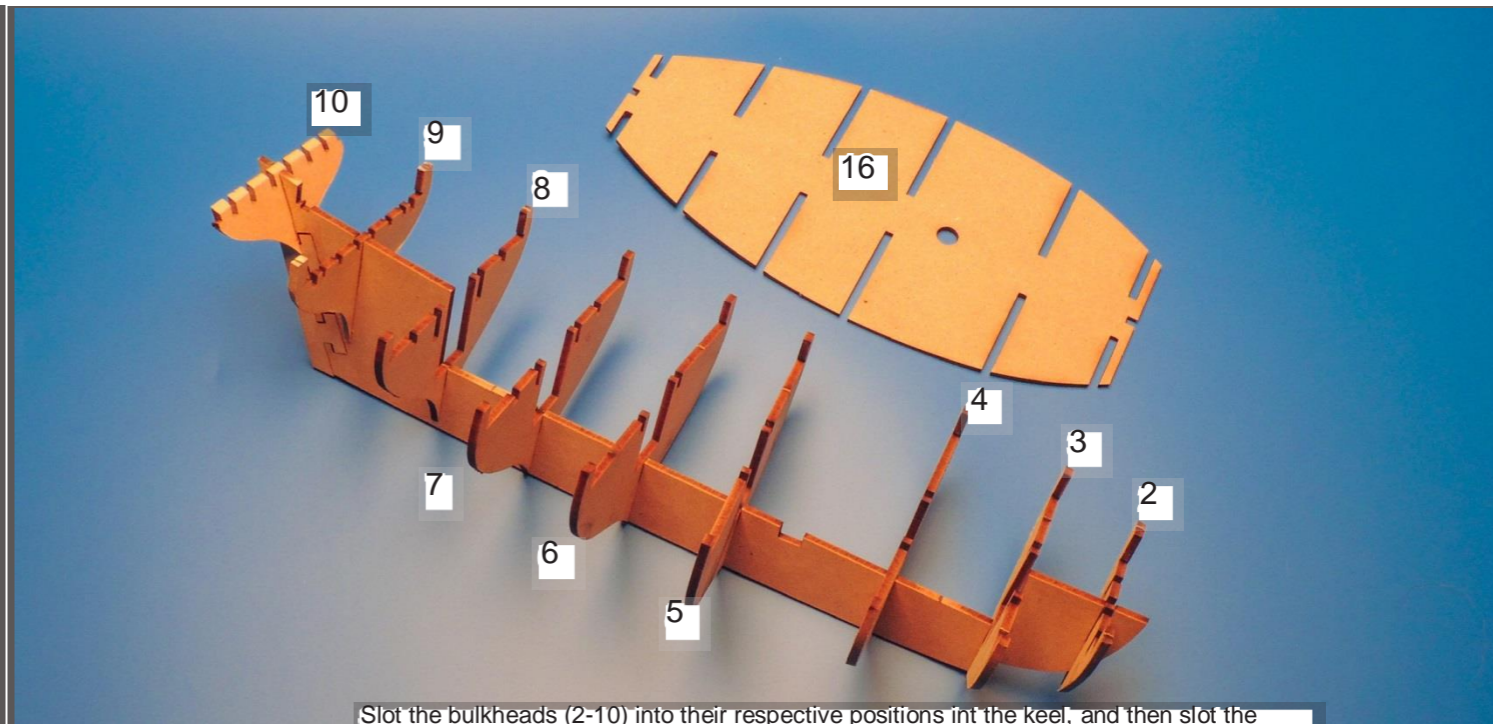
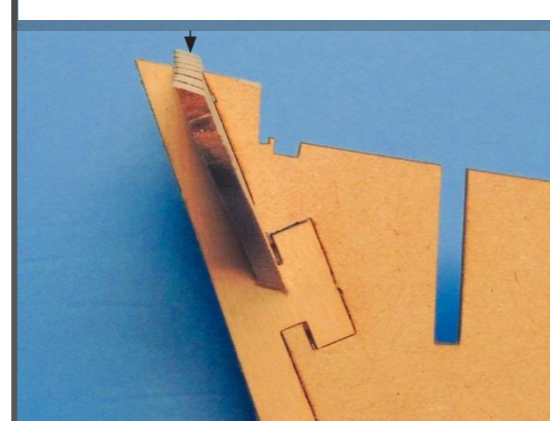


Above - Using PVA wood glue, fix part 23 into part 1 and clamp the two parts together until the glue has cured.

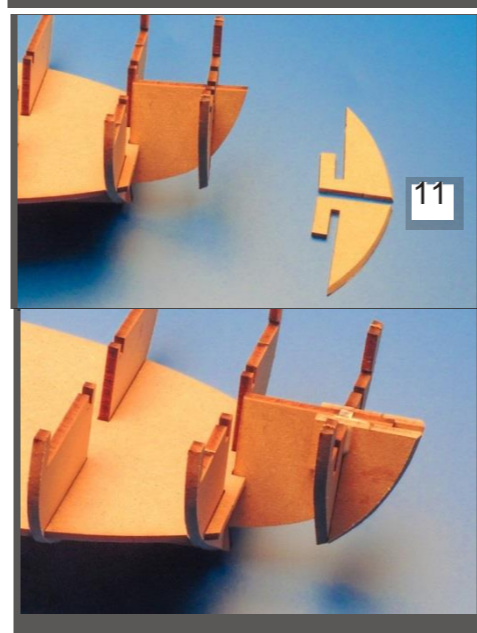
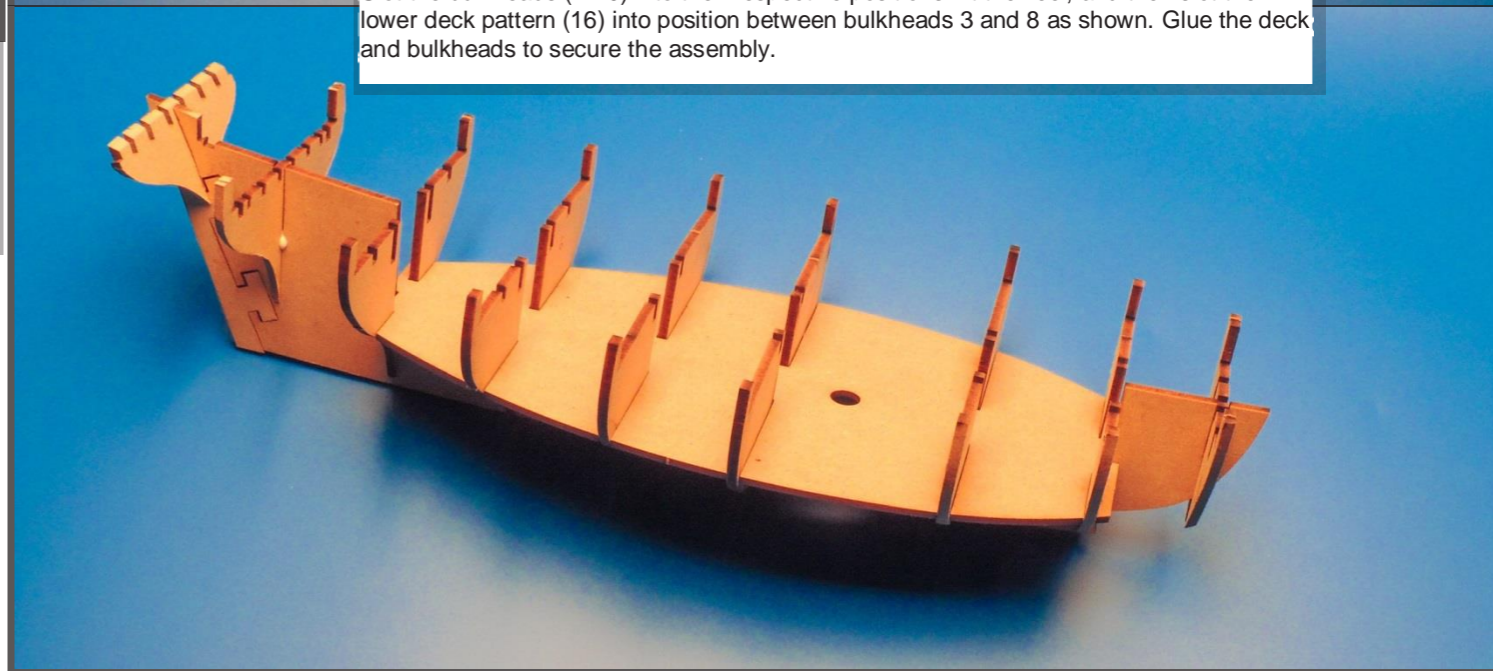
Slot and dry fit (no glue) bulkhead 10 into position in the aftermost slot in the keel as shown.



Sand or file the top edge of bulkhead 10 so that it follows the same angle as the top edge of the keel.

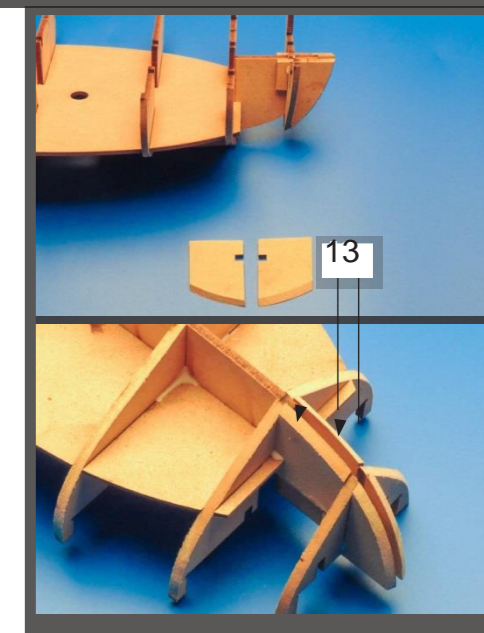


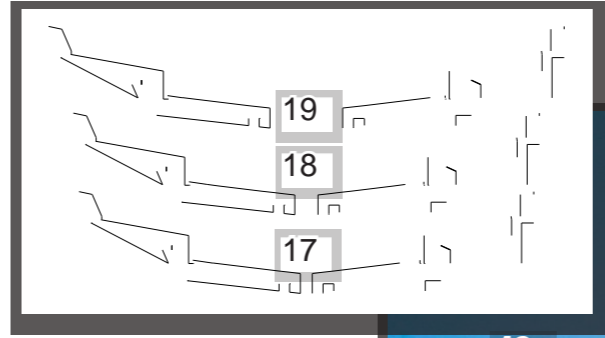
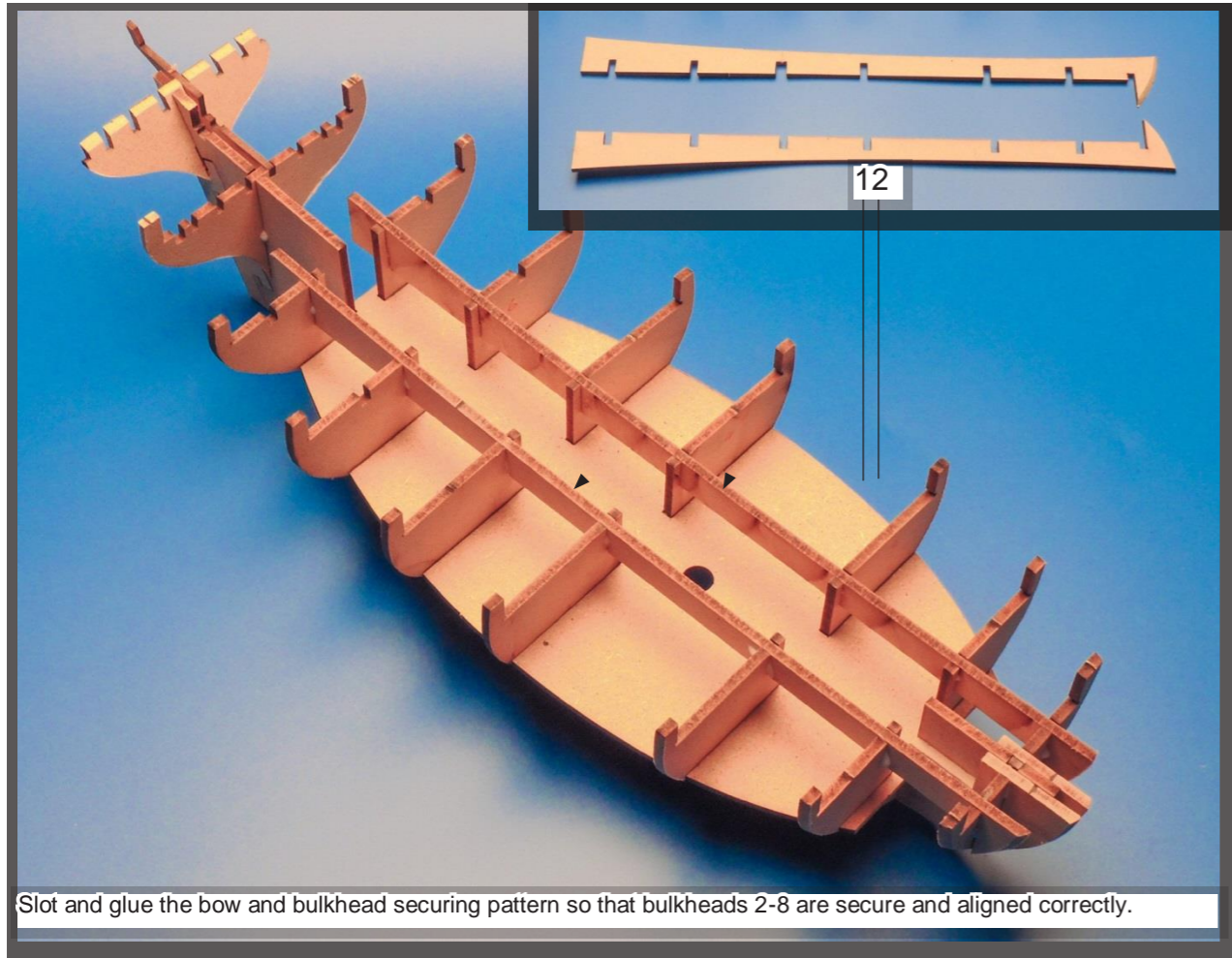
Slot the bulkheads (2-10) into their respective positions into the keel, and then slot the lower deck pattern (16) into position between bulkheads 3 and 8 as shown. Glue the deck and bulkheads to secure the assembly.



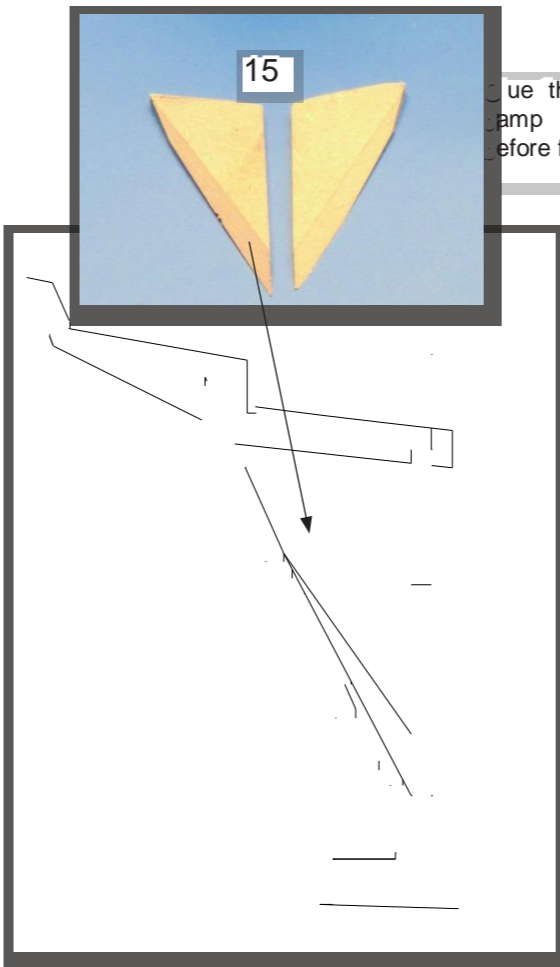
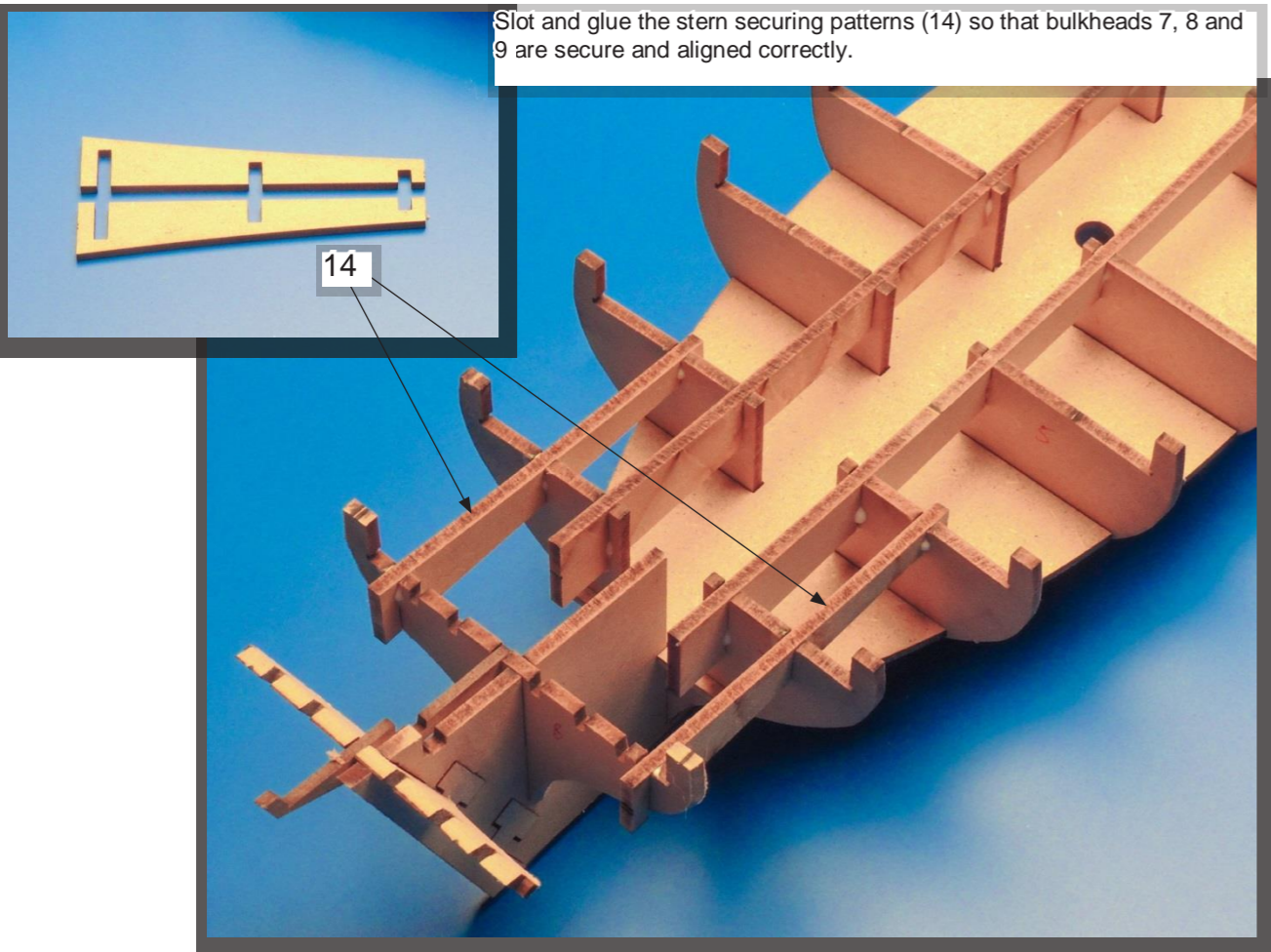
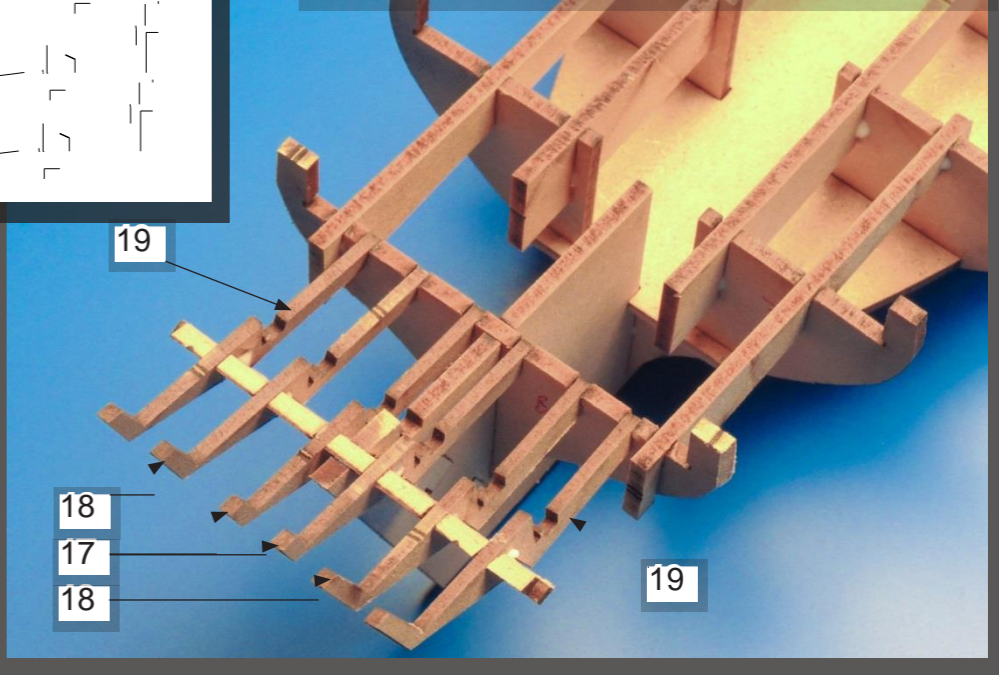
Left - Slot and glue the bow (inner) bow patterns (11) into place each side of the front keel as shown.

Right - Glue parts 13 into place in-between bulkheads 2 and 3. The edges that have contact with the planking can be sanded before fitting, and then sanded/filed again once in place so that the edges are flush with the bevelled bulkhead edges.

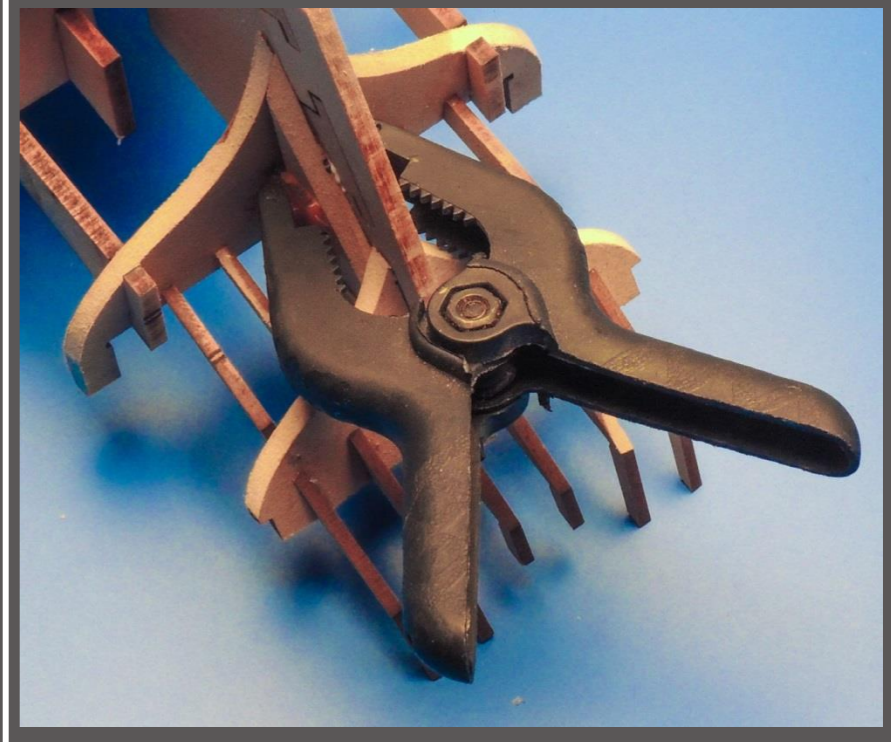


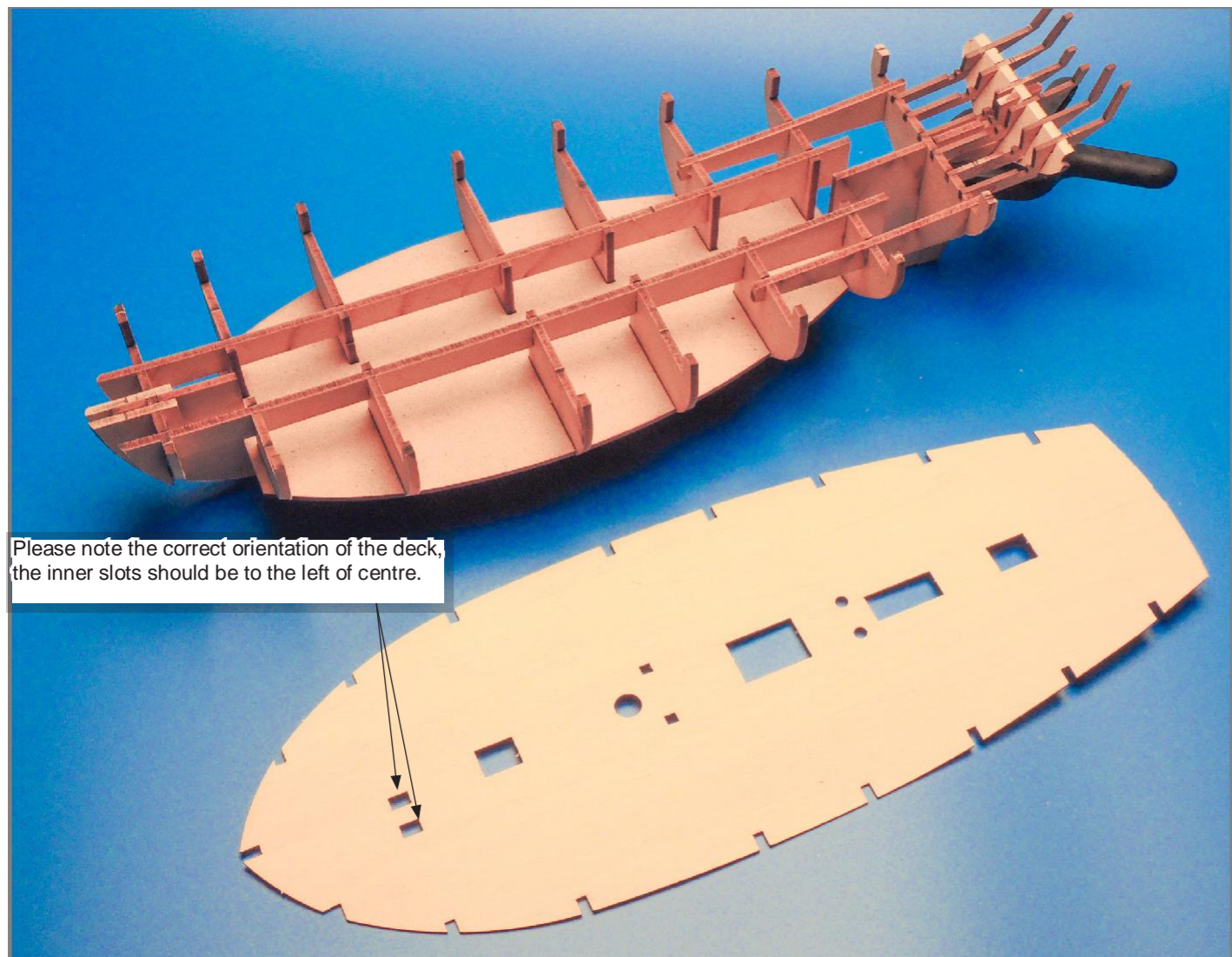


Slot and glue the stern frames into position as shown, taking care to note that part numbers 17 are the inner-most patterns, 18 the middle patterns and parts 19 are the outer patterns.



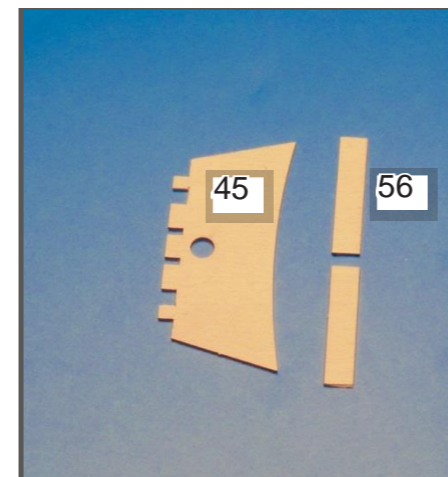
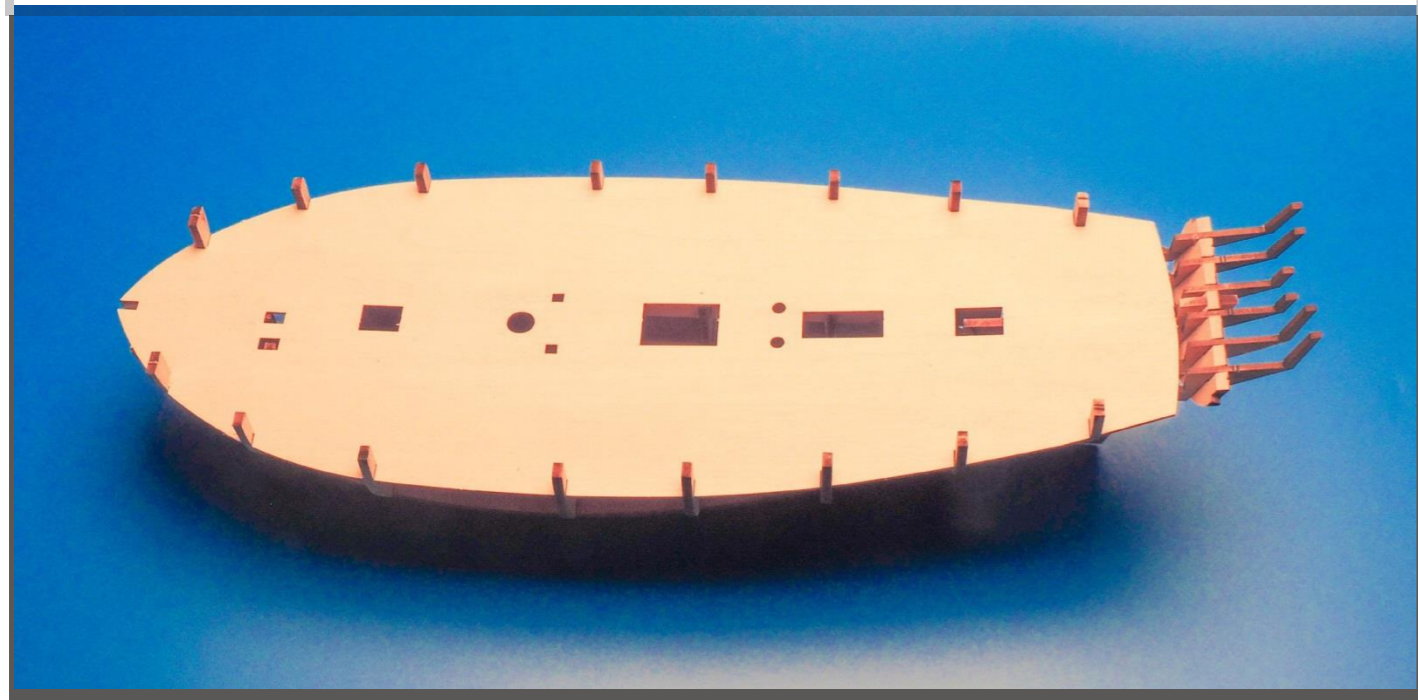
Glue the stern planking patterns (15) in place as shown, and clamp them until the glue has cured. The edges can be bevelled before fixing in place.





Please note the correct orientation of the deck, the inner slots should be to the left of centre.

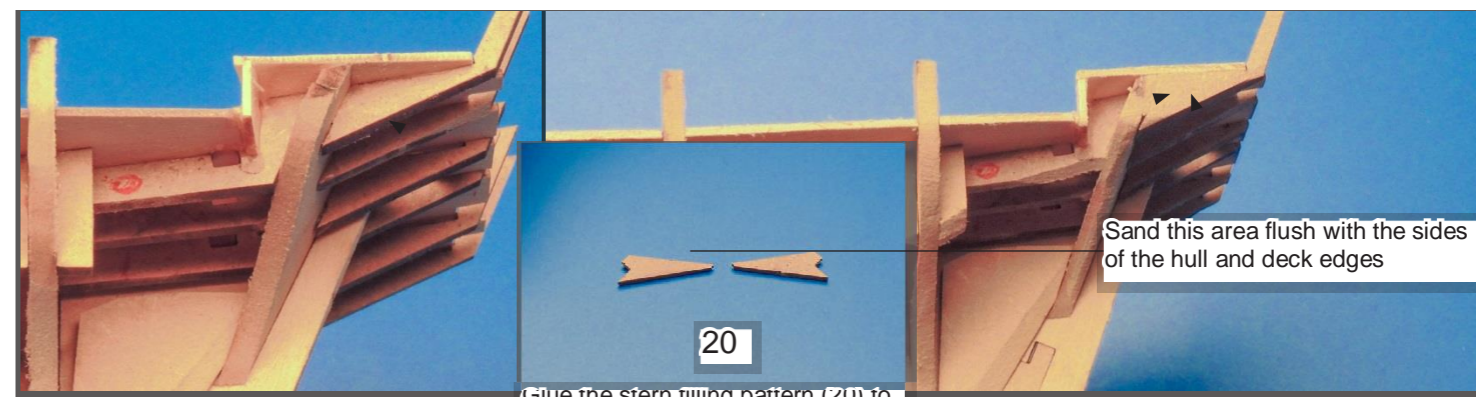
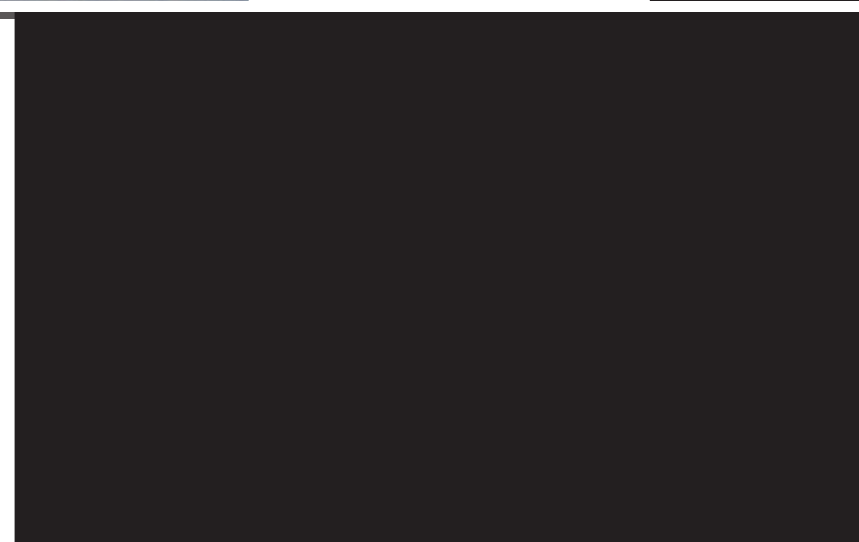
The main deck (44) can now be slotted and glued in place. Apply wood glue to the upper contact surfaces of the bulkheads and longitudinal patterns and carefully slot the deck in place so that the deck slots located into the notched as the edges of each bulkhead. If the centre of the deck pattern bows up slightly, you can either use pins to secure it in place until the glue has cured or use a weight placed near the centre to keep the deck flush against the top surface of the bulkheads and longitudinal patterns.



Slot and glue the two rudder platform bulkheads (56) to the positions shown. Sand or file any excess from the top edges, ready for part 45 to fit onto.

Next, slot and glue the rudder platform in place as shown, using clamps to keep the deck in place whilst the glue cures.

Once the rudder platform is securely fixed, sand or file the edges of parts 56 so they are flush with the edges of both the main deck and rudder platform.

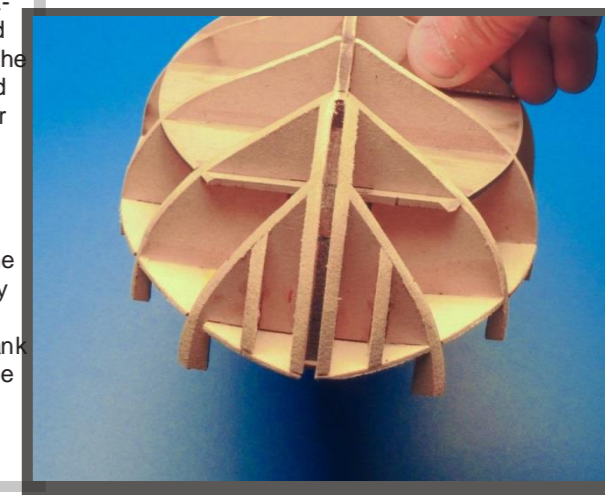


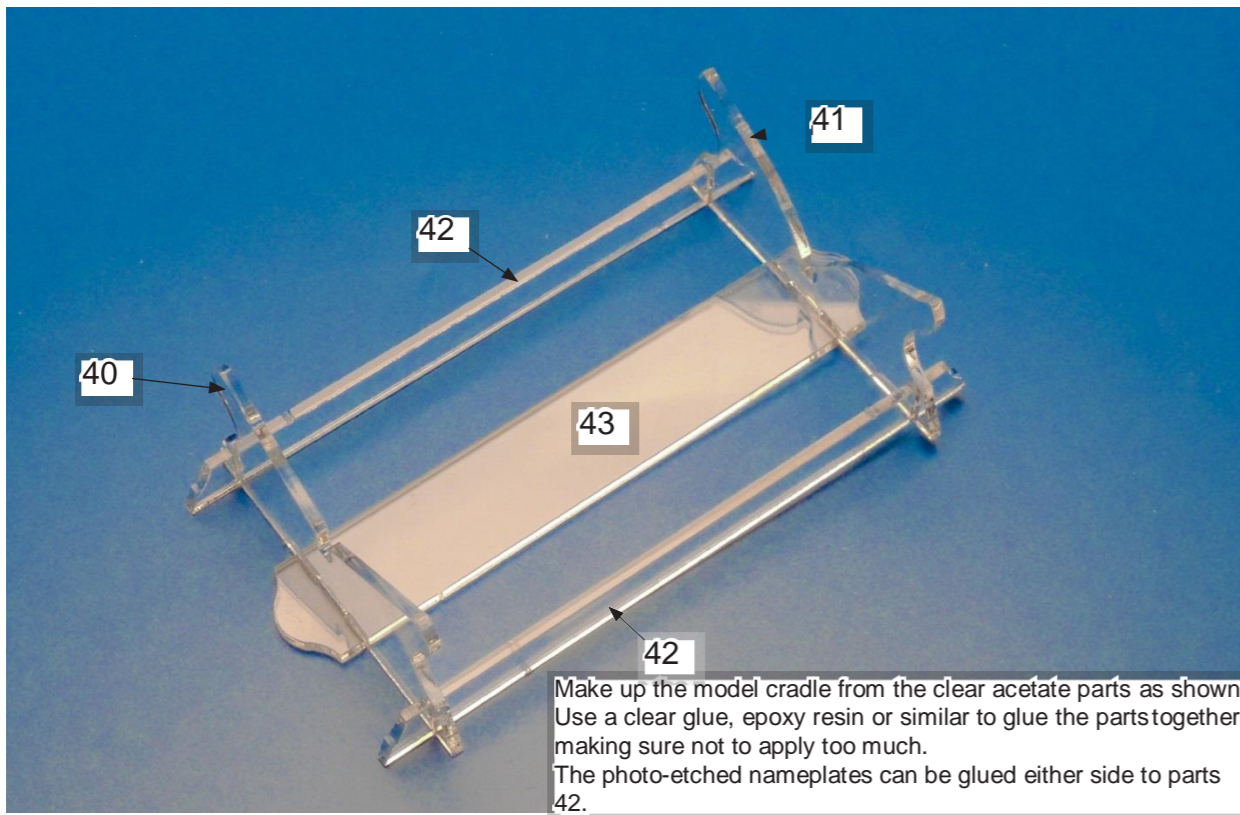
Sand this area flush with the sides of the hull and deck edges



Glue the stern filling pattern (20) to either sides of the outer stern patterns as shown. Once fixed, sand or file the edge so that it follows the same shape as the rear bulkhead and top edge of the rudder platform. This extra pattern just adds a little more gluing surface to which the first planking will be fixed to.

Finally, before adding the 3mm wood keel patterns, sand all of the bulkhead and deck edges so they all follow the run or curve of the planking strips. You can lay a plank across the bulkheads to check the edges have maximum contact.





Make up the model cradle from the clear acetate parts as shown. Use a clear glue, epoxy resin or similar to glue the parts together, making sure not to apply too much. The photo-etched nameplates can be glued either side to parts 42.

First Planking

The first planking should now be ready to be laid using 1.5x5mm lime wood strip. The first or 'master plank' is to be laid 4mm down from the top edge of the bulkheads and the front of the plank should fit into the slot in the bow pattern. Because the upper most planking strip (1.5x4mm) stops short of the bow, it is better to add this once the first planking is complete, as the front will be quite vulnerable. For fixing the planks to the MDF bulkheads, use the small pins temporarily until the PVA wood glue has cured. Because the pins are to be removed, do not push the pins all the way down, as they will be more difficult to remove later.

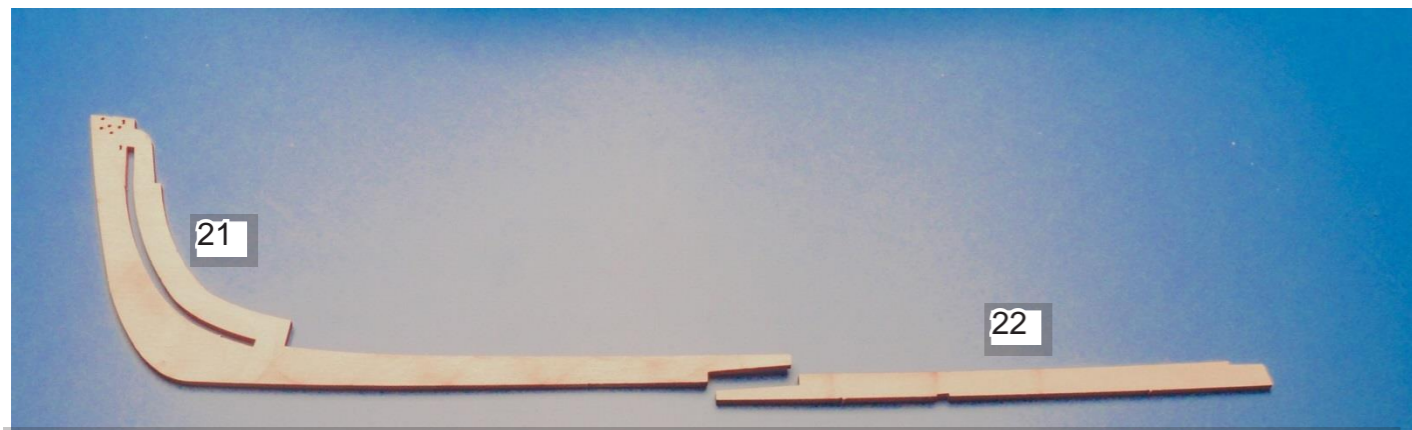
The planks will need to be tapered to follow the natural run of the planks. To determine the amount of taper needed for each plank to lie naturally, lay a plank at the forth bulkhead and then lay it around the bow. Mark the excess area of plank that overlaps the one directly above it and taper the plank. Repeat this technique for the stern also. Although some planks may not require tapering at the stern, it is advisable to let the planks run as natural as possible which helps avoid any possible 'springing' of the planks when sanding.

Before cutting the taper into the planks, soak them in warm water for about half an hour, as this minimises the chance of the blade of the knife following the grain of the wood rather than the edge of the steel rule. Lay the first wet plank to be tapered on a clean, flat surface; (a cutting mat is well suited for this and is highly recommended.) Press firmly with your fingers onto a steel rule to the marked taper line on the plank and score down the line with a heavy duty craft knife several times until the excess is cut off. Pin and glue the tapered planks into position on the hull. Glue two or three strips each side alternately. This method should prevent any possible twisting/warping of the frames and keel as the glue cures.

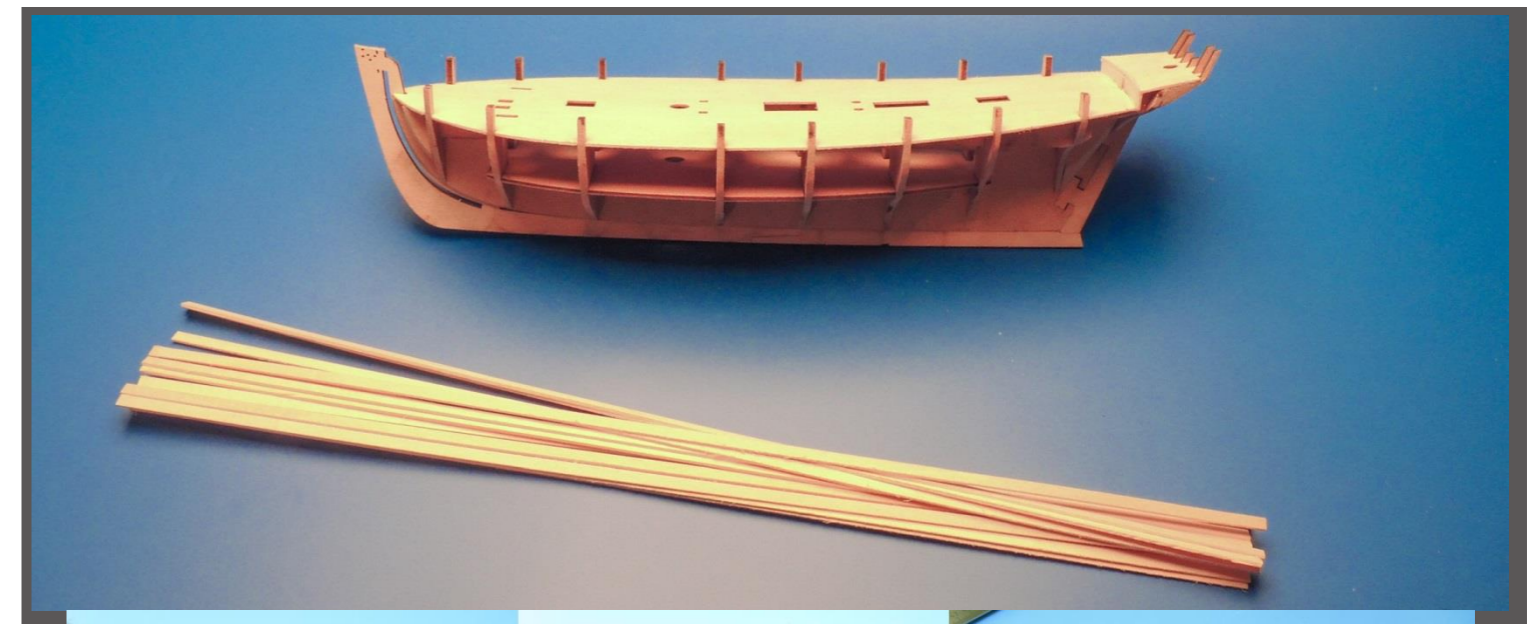
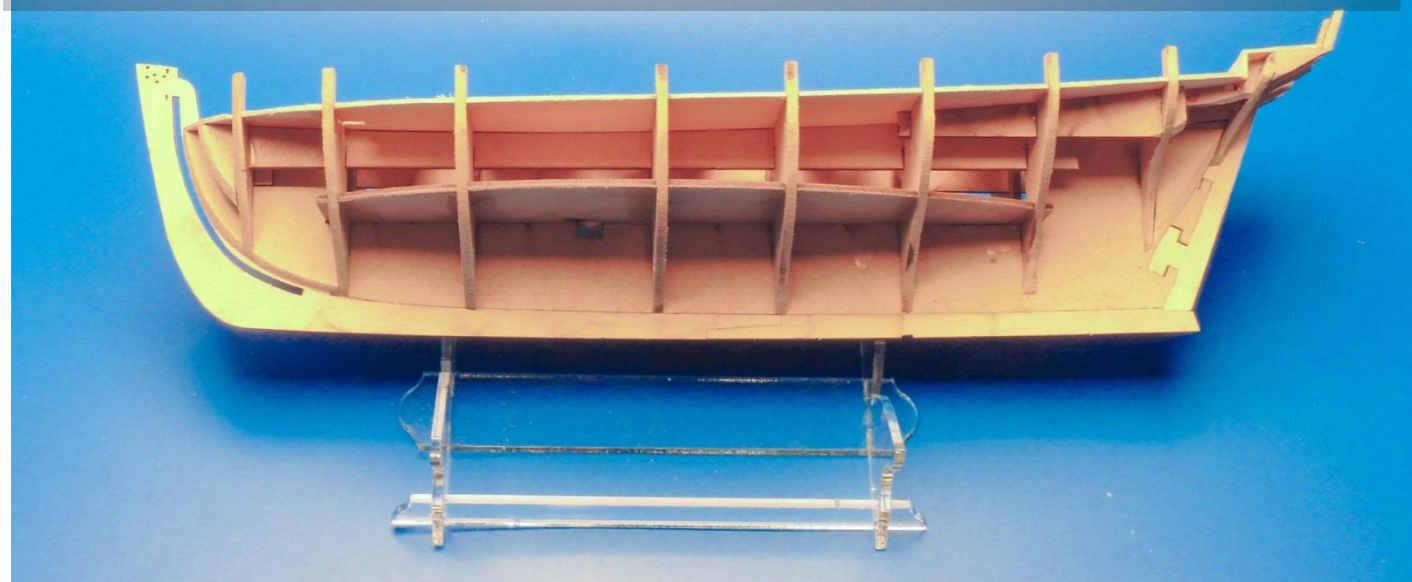
Use this planking technique right down to the keel. When planking is almost complete, triangular shaped gaps at the stern may be apparent. This was also the case in full size practise, although not so simplified. The use of triangular shaped planks is needed for the gap in-between the top and bottom edges of the planks, usually near the stern. The correct name for these triangular shaped planks is called stealers. Cut these to shape using the excess lime wood from the ends of the planking and glue them into the gaps. Trim off the excess stern planks to shape and leave the hull for the glue to fully cure for at least 24 hours.

When the first planking has been completed, pin and glue the stern counter fascia (Part 48) in place onto the back edges of the stern counter frames.

Sand the whole hull that has been planked with a coarse grade abrasive paper, followed by medium grade. This will entail about an hours work by hand, less if you are using an electric 'Mouse-type' sander (which is highly recommended). If possible, sand the hull in a well-ventilated area, ideally in an open space as the dust particles could present both a fire and health hazard. The use of a dust mask and light duty gloves is also recommended to reduce any risk of blisters from sanding.

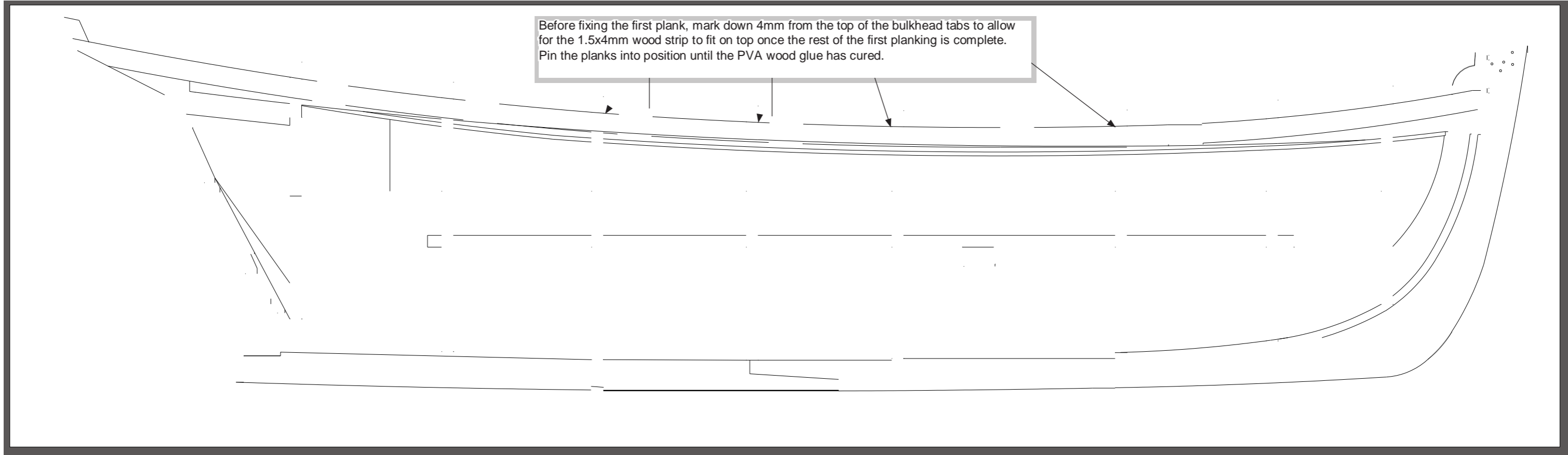


Remove the front stem and keel (21) and the rear keel pattern (22) from their host wood sheet. Dry-fit the parts and when happy with the fit, glue them in place, starting with part 21. You could apply a drop of cyano glue at regular intervals, in-between the PVA wood glue to help keep the parts in place whilst the PVA wood glue cures. The small slot on the bottom edge of part 22 is to help locate the keel to the cradle. (The cradle may require some bevelling of the top edges for the hull to sit perfectly).

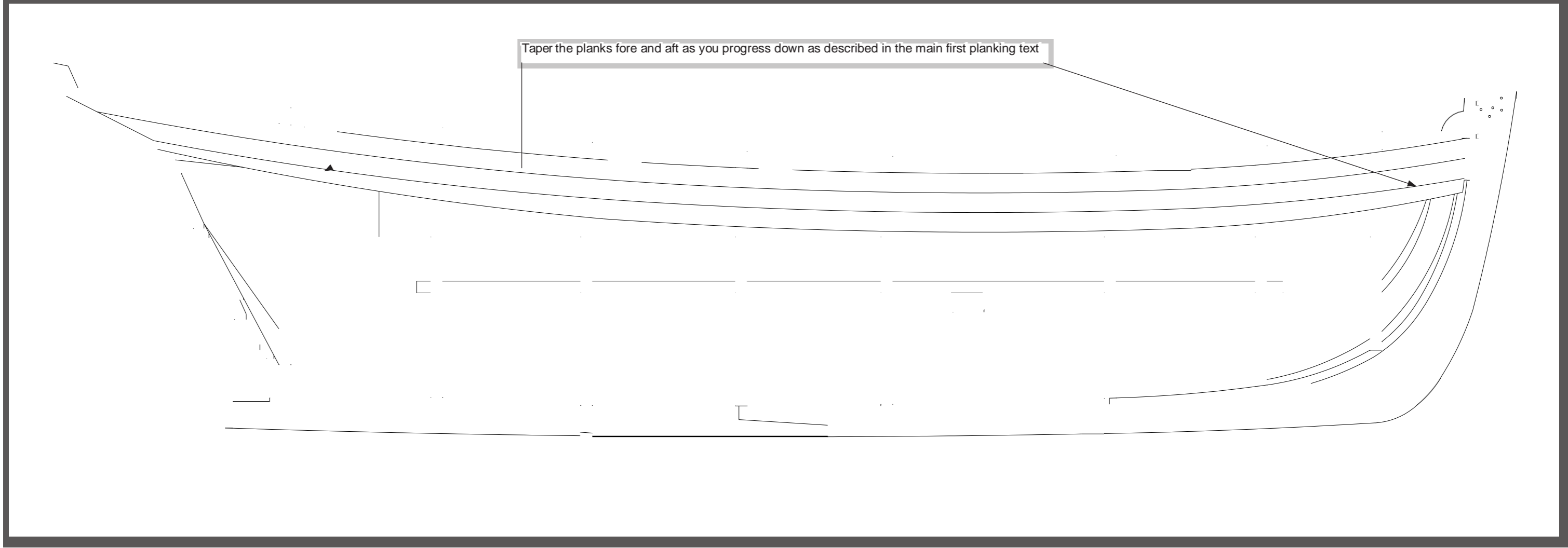


Tapering the planks

Before fixing the first plank, mark down 4mm from the top of the bulkhead tabs to allow for the 1.5x4mm wood strip to fit on top once the rest of the first planking is complete. Pin the planks into position until the PVA wood glue has cured.



Taper the planks fore and aft as you progress down as described in the main first planking text

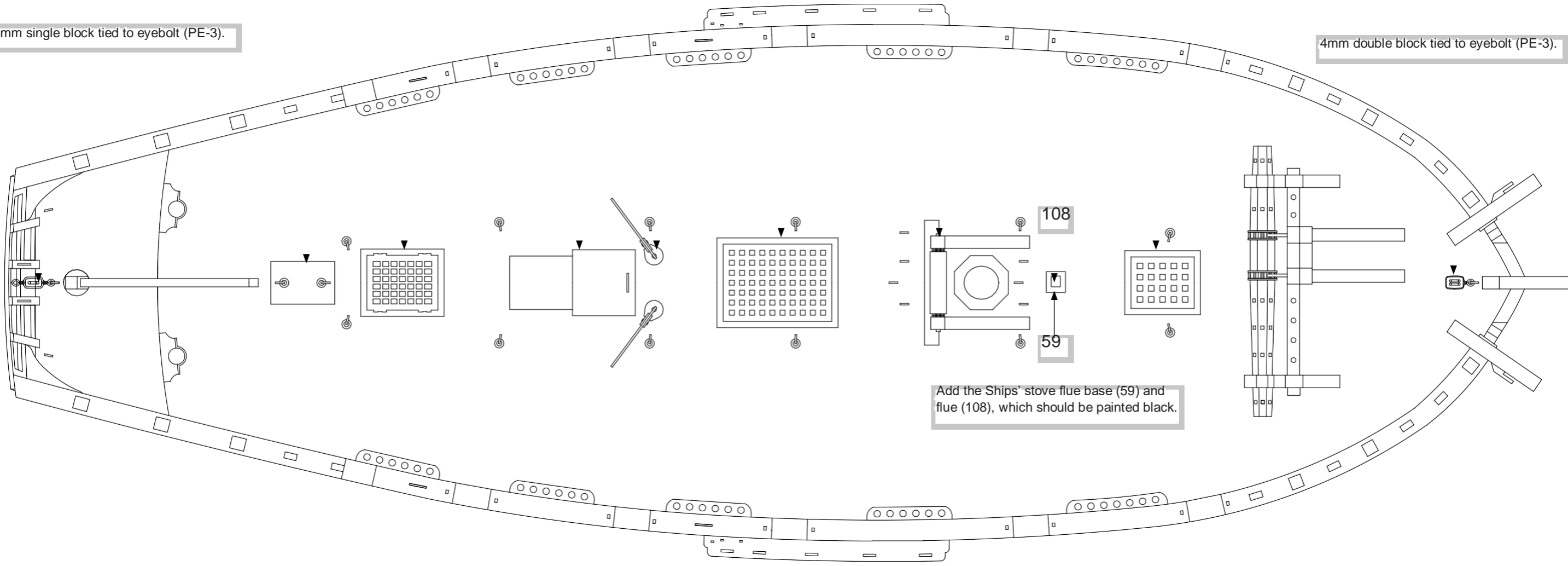


Deck fittings placement

G F E D C B A

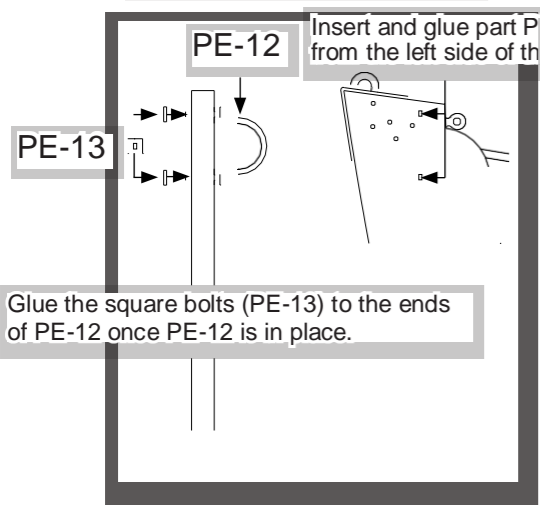
3mm single block tied to eyebolt (PE-3).

4mm double block tied to eyebolt (PE-3).



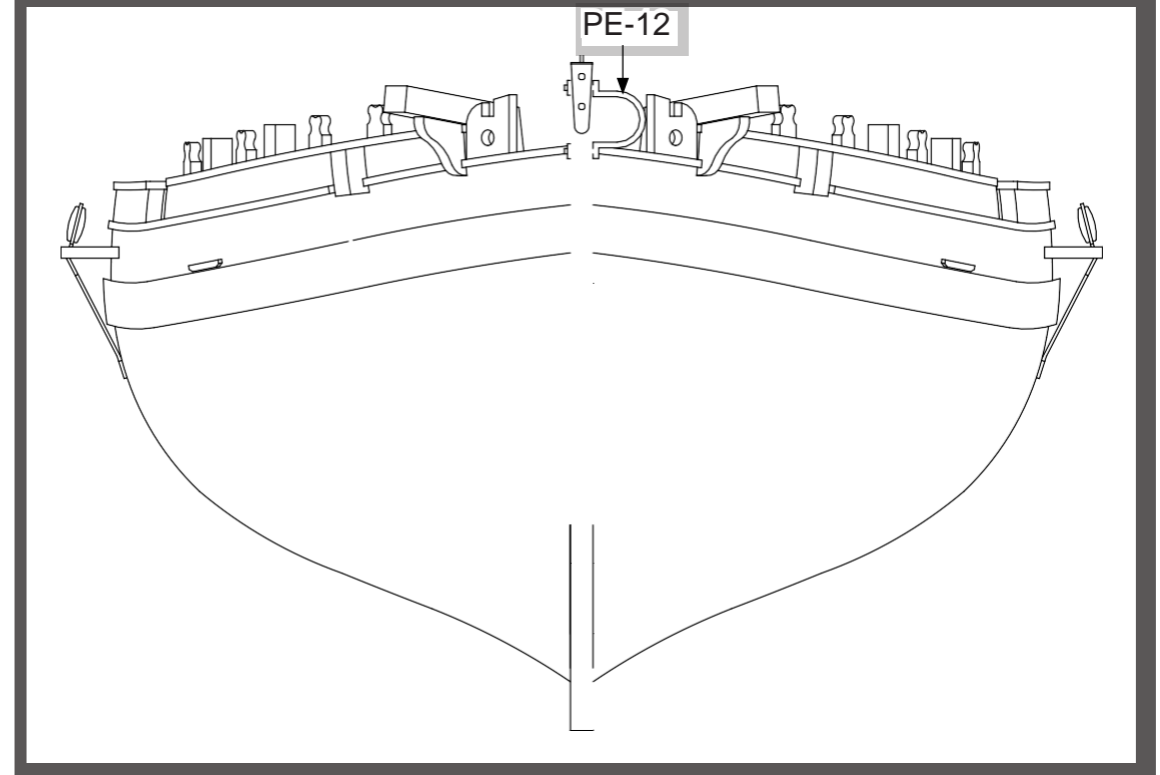
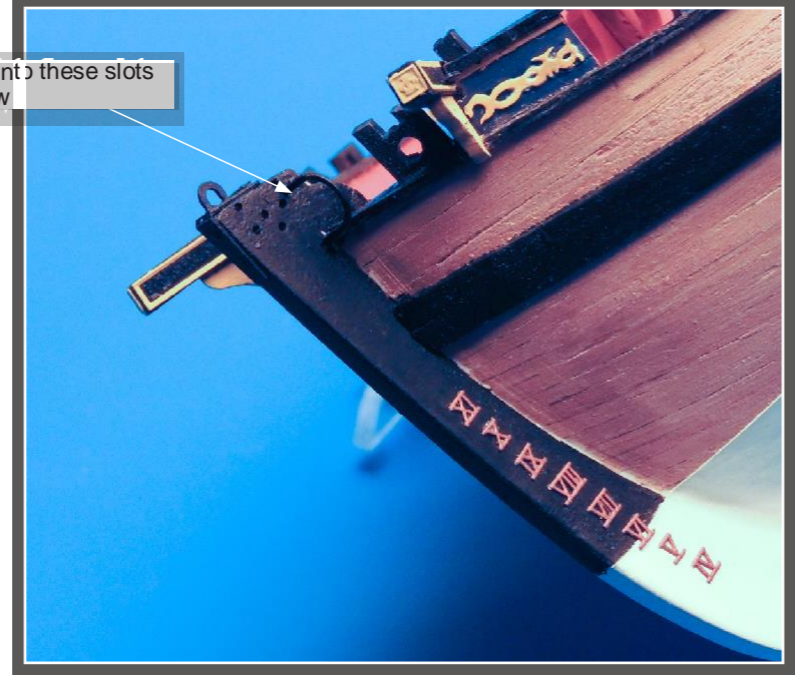
Add the Ships' stove flue base (59) and flue (108), which should be painted black.

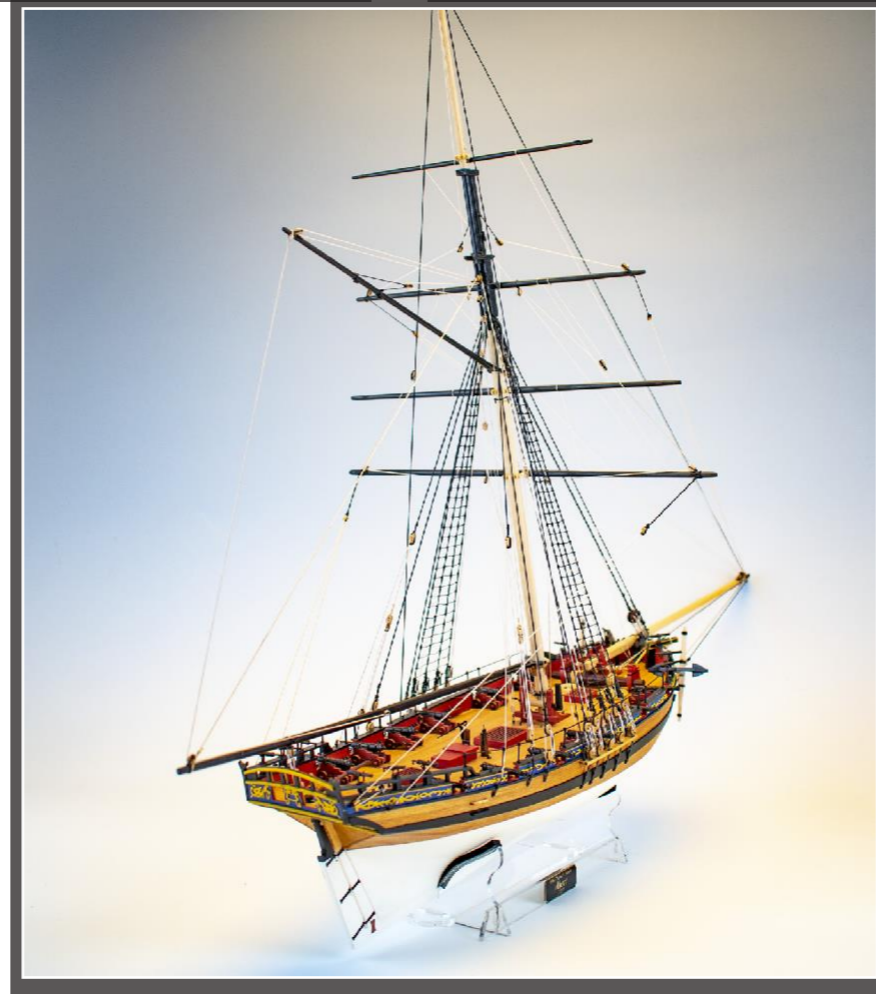
Bowsprit 'Iron Hoop' placement



Insert and glue part PE-12 into these slots from the left side of the prow

Glue the square bolts (PE-13) to the ends of PE-12 once PE-12 is in place.





VM
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BYCHRISWATTON

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The Alert was designed and developed in the UK by Chris Watton