AUSTRALIAN COLONIAL SERIES WOODEN MODEL KIT

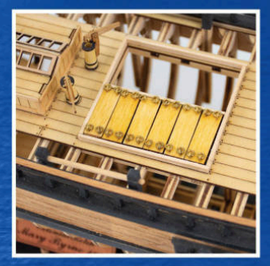
MARY BYRNE ADMIRALTY

Modellers Shipyard

www.modellersshipyard.com

SCALE 1:48







LENGTH: 380mm WIDTH: 120mm HEIGHT: 140mm

ITEM CODE: KTMS1022



BUILDING INSTRUCTIONS

Version 2.0

1.0 Introduction

Modeller's Shipyard is proud to present another wooden model ship in our Australian colonial vessel series.

The Admiralty model kit of the Mary Byrne 1826 is expertly designed and built by John Staib - master model ship designer and builder.

2.0 Historical Notes

Admiralty models were an English invention of the 17th century, when the British Admiralty required a model as well as the plans of each new type of ship. The characteristic feature of Admiralty models was the underwater hull, which was built as a frame model. The part above the waterline was fully planked - this characteristic feature shows the construction of the hull frames and deck beams along with all supports.

3.0 General Instructions

These instructions and kit are designed to make the construction of the model as trouble free as possible. Everyone who completes their model in accordance with these instructions and using the materials supplied will have good cause for pride and satisfaction in their achievement.

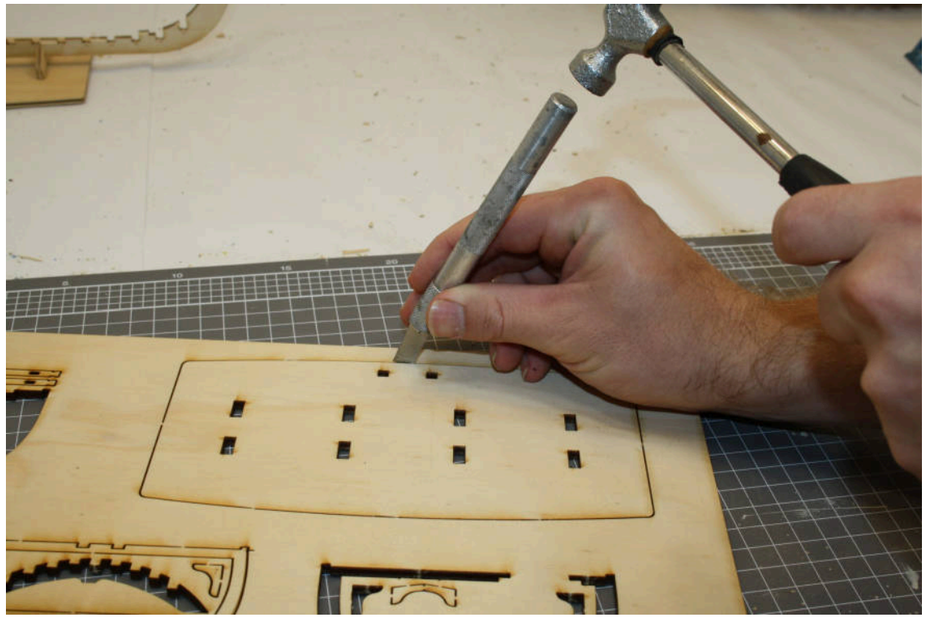
1. It is **essential** the modeller study these instructions thoroughly before commencing construction. While reading these instructions, familiarise yourself with the contents of the kit.
2. Parts are identified as, for example P25 - means Part No 25.
3. Few, if any, parts can be simply glued in place without some preparation. Always dry fit parts and if necessary fractionally adjust the parts before final gluing.
4. Don't hurry. Take your time. If you are uncertain of anything take the time to study the instructions and photos and your kit parts. Most problems will be overcome with a little time spent pondering the issue at hand.
5. Check the contents of the kit against the Parts List. Note that some parts need to be made by the modeller from the stock of timber supplied in the kit.

THERE ARE A FEW POINTS TO NOTE WITH BUILDING THIS MODEL

1. **There are many small parts - only remove parts from the laser cut boards as they are required - make sure to identify them and store carefully.**
2. **Use a range of sandpaper grades and a grinding tool to remove laser burn marks on the edges of the parts - this is referred to in the instructions as "Preparing the Parts".**
3. **Dry fit all parts before gluing in place with white wood glue.**
4. **Use glue sparingly - be sure to quickly remove any excess glue with a damp cotton bud.**
5. **Some frames/parts are marked with a laser score line - these are pre-fairing lines. On these parts you will need to chamfer the parts from the score line to the opposite face edge of the frame. Use a grinding tool, small flat file and sandpaper to achieve this.**
6. **Many parts have a laser score mark to identifying and locate the part - these are noted in the instructions.**

Removing Parts from Boards

Use a chisel knife blade and a pointed blade knife to cut the tabs holding the parts in place on the laser cut boards.



Selected Finish

Tung oil and shellac (French polish) are used on the model presented - you may wish to use other finishes as desired. A cotton bud and/or a cloth is used to apply these finishes.





MARY BYRNE
1826
Admiralty Model
SHEET 1

4.0 **Parts List** (Modeller's Shipyard reserves the right to make changes to the instructions, components &/or kit contents at any time without notice)

Part No	Description	Quantity	Location	Part No	Description	Quantity	Location	Part No	Description	Quantity	Location
1	Display Board Base	1	Board 2	21	Frame 3	1	Board 2	47C	Step jig	1	Board 4
2	Keel Supports	4	Board 1	21A	Knees 3	2	Board 2	48	Lodging knees e-z	44	Boards 2 & 3
3	Keel	1	Board 1	22	Frame 4	1	Board 2	49	Basswood 2x5x400mm	14	Timber stock
4	Frame oXo	1	Board 3	22A	Knees 4	1	Board 2	50	Deck fence base	1	Board 4
4A	Knees oXo inner	2	Board 3	23	Frame 5	1	Board 2	51	Limewood 1x3x500mm	2	Timber stock
4B	Knees oXo outer	2	Board 3	23A	Knees 5	2	Board 2	52	Tanganika 1x6x500mm	8	Timber stock
5	Frame A	1	Board 3	24	Frame 6	1	Board 2	53	Limewood 1.5x6x500mm	2	Timber stock
5A	Knees A	2	Board 3	24A	Knees 6	2	Board 2	54A-E	Hawse	8	Board 4
6	Frame B	1	Board 3	25	Frame 7	1	Board 2	55A	Cathead vertical arm	2	Board 3
6A	Knees B inner	2	Board 3	25A	Knees 7	2	Board 2	55B	Cathead arm	2	Board 3
6B	Knees B outer	2	Board 3	26	Frame 8	1	Board 2	56	Carrick bitt pins	2	Board 5
7	Frame C	1	Board	26A	Knees 8	2	Board 2	57	Cheeks	2	Board 4
7A	Knees C	2	Board 3	27	Frame 9	1	Board 2	58	Windlass axle	1	Board 5
8	Frame D	1	Board	27A	Knees 9	2	Board 2	59	Pawl ring gear	2	Board 5
8A	Knees D inner	2	Board 3	27B	Deck beam 9	1	Board 2	60	Warping head	2	Board 5
8B	Knees D outer	2	Board 3	28	Frame 10	1	Board 1	61	Warping head end	2	Board 6
9	Frame E	1	Board 3	28A	Knees 10	2	Board 1	62A-B	Spindle - outer	16	Board 6
9A	Knees E	2	Board 3	28B	Deck beam 10	1	Board 2	63	Spindle ends - large	4	Board 6
10	Frame F	1	Board 3	29	Frame 11	1	Board 1	64A-B	Spindle centre	8	Board 6
10A	Knees F	2	Board 3	29A	Knees 11	2	Board 1	65	Spindle ends - small	2	Board 6
11	Frame G	1	Board 3	29B	Deck beam 11	1	Board 2	66	Spindle face	4	Board 6
11A	Knees G	2	Board 3	30	Frame 12 - Transom	1	Board 3	67	Axle spacer	2	Board 5
12	Frame H	1	Board 2	31	Companionway beams	2	Board 2	68	Pawl bitt pins	2	Board 2
12A	Knees H	2	Board 2	32	Mizzen mast beams	2	Board 2	69	Pawl bitt standard	2	Board 5
13	Frame I	1	Board 2	33	Frame Braces A	2	Board 2	70	Wire - brass 1.5x25mm	1	Parts Card
13A	Knees I	2	Board 2	34	Frame Braces B	2	Board 2	71	Eye pins	Pkt 50	Parts Card
14	Frame J	1	Board 2	35	Frame Braces C	2	Board 2	72	Fore-fife rail bitt pins	2	Board 2
14A	Knees J	2	Board 2	36	Frame Braces D	2	Board 1	73	Dowel 2mm x 250mm	1	Timber Stock
15A-D	Bow Blocks	8	Board 1	37	Frame Braces E	2	Board 1	74	Mid-ship fife rail bitt pins	4	Board 2
15E	Bow Block Brace - Upper	1	Board 2	38	Frame Braces F	2	Board 1	75A-B	Aft fife rail bitt pins	4	Board 1 & 2
15F	Bow Block Brace - Lower	1	Board 3	39A-B	Frames 9 - 11 Jig	5	Board 3	76	Main mast bitts	2	Board 1
16A	Main hatch beams - outer	2	Board 2	40	Lower Deck	1	Board 4	77	Mizzen mast bitts	2	Board 1
16B	Main hatch beams- centre	1	Board 3	41	Main mast step	1	Board 1	78	Pin rails	2	Board 4
17	Fore hatch beams	2	Board 2	42	Mizzen mast step	1	Board 1	79	Grating	1	Board 5
18	Main mast beams	2	Board 3	43	Mast heel	3	Board 6	80	Hatch covers	6	Board 5
19	Frame 1	1	Board 3	44	Pump pipe base	1	Board 4	81	Rings - brass 3mm	Pkt 50	Parts Card
19A	Knees 1 inner	2	Board 3	45	Bow block inserts	2	Board 5	82	Pumps	2	Parts Card
19B	Knees 1 outer	2	Board 3	46	Main Deck	1	Board 4	83	Dowel 3x200mm	1	Timber stock
20	Frame 2	1	Board 2	47A	Step runners	2	Board 4	84A-J	Companionway		Board 4 & 6
20A	Knees 2	2	Board 2	47B	Step treads	4	Board 4	85	Companionway roof slats	8	Board 4

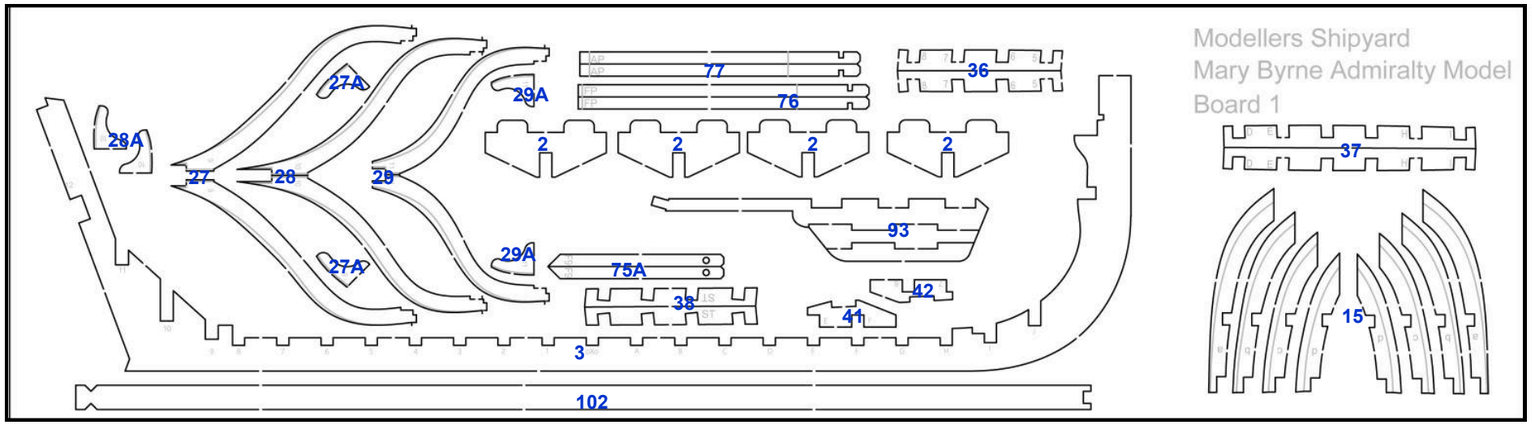
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Admiralty Model
SHEET 2

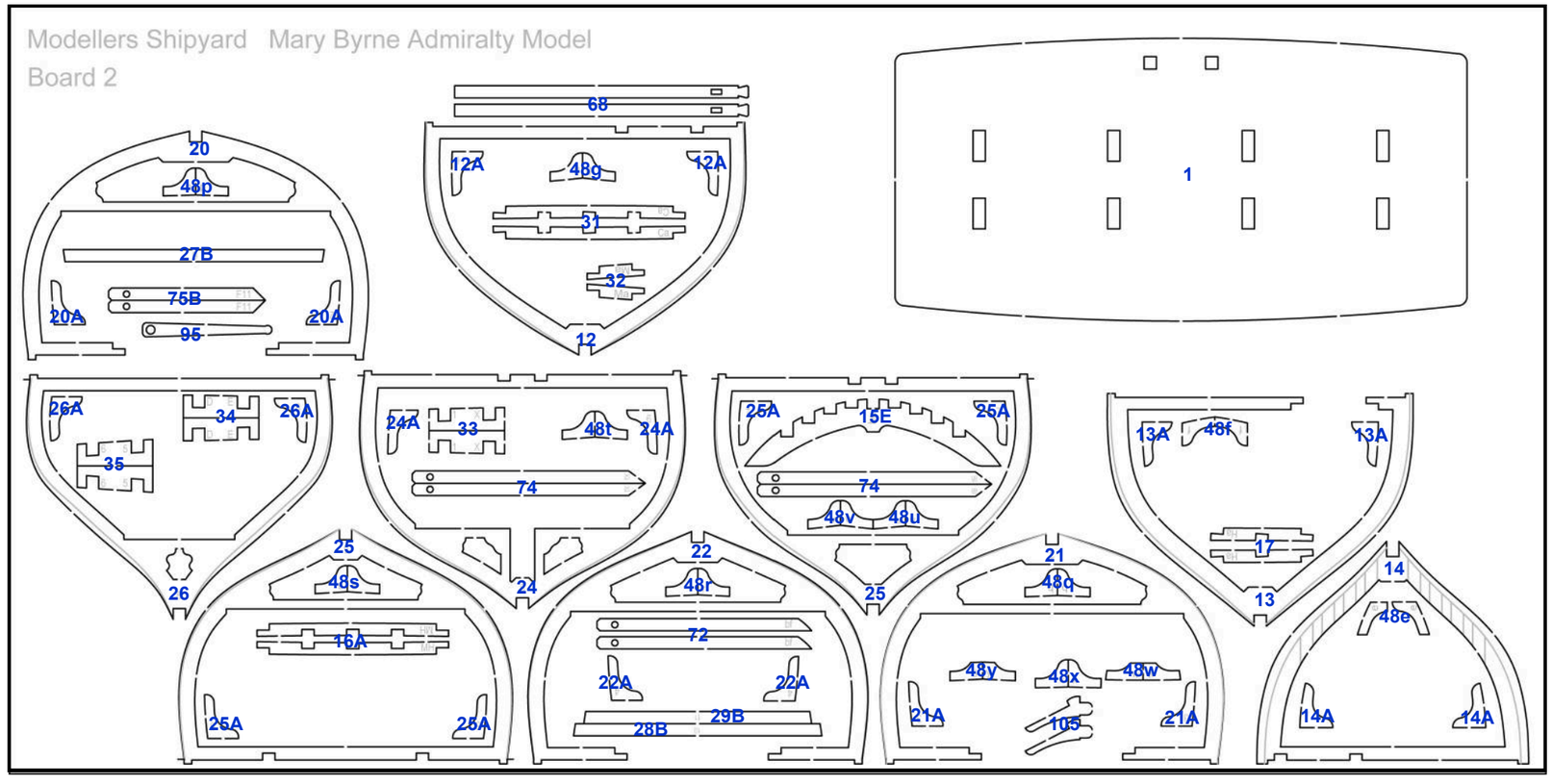
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4.0 Parts List continued

Part No	Description	Quantity	Location
86	Limewood 1x2x330mm	2	Timber stock
87	Port holes	2	Parts Card
88	Nails	Pkt 50	Parts Card
89	Bitt heads	4	Board 3
90	Stanchions	48	Board 5
91A/B	Cap rails	4	Board 4
92A/B	Cap rail top	4	Board 6
93	Rudder	1	Board 1
94	Rudder hinges	3	Parts Card
95	Tiller	1	Board 2
96	Hull steps	4	Board 4
97	Bill board	2	Board 6
98	Channel - main mast	2	Board 4
99	Channel - mizzen mast	2	Board 4
100	Deadeyes 5mm	14	Parts Card
101	Brass wire - 0.5mm x 1000mm	1	Parts Card
102	False mast	1	Board 1
103	Deck grate coaming	1	Board 5
104	Cargo hatch coaming	1	Board 5
105	Name plate supports	2	Board 2
106	Name plate	1	Board 6

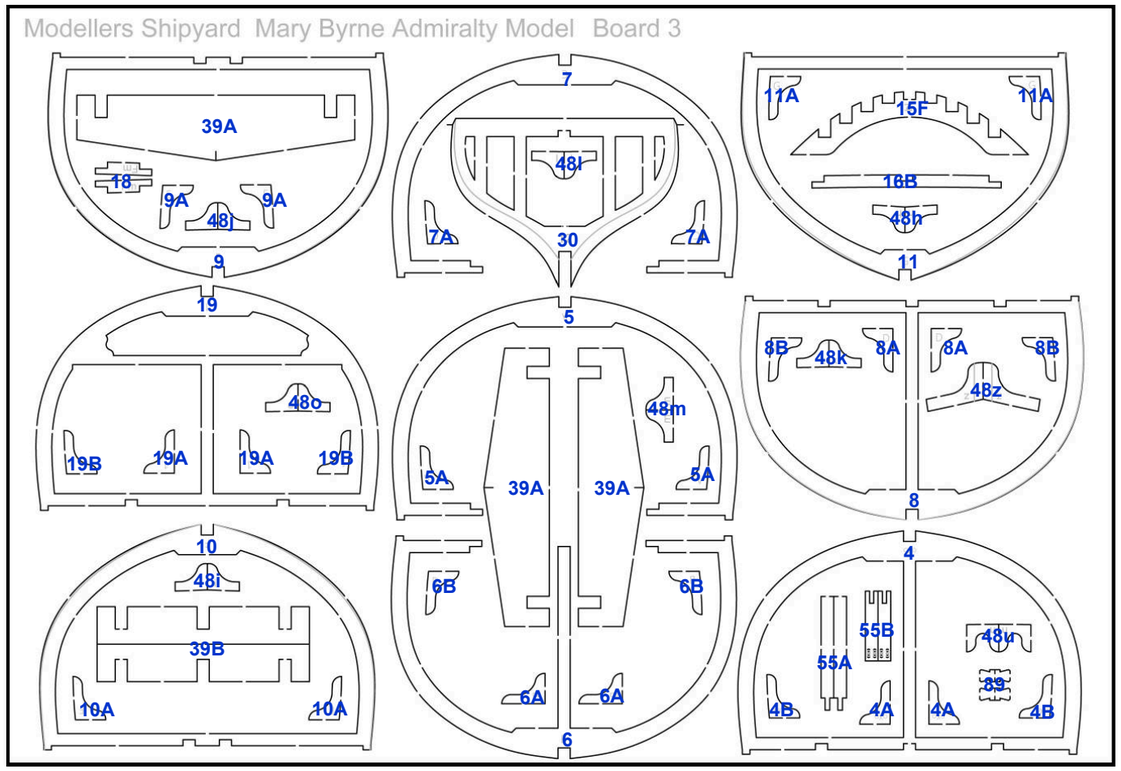
5.0 Laser Cut Boards

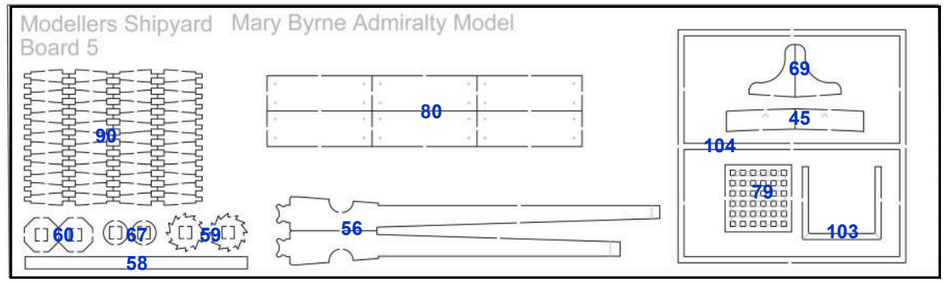


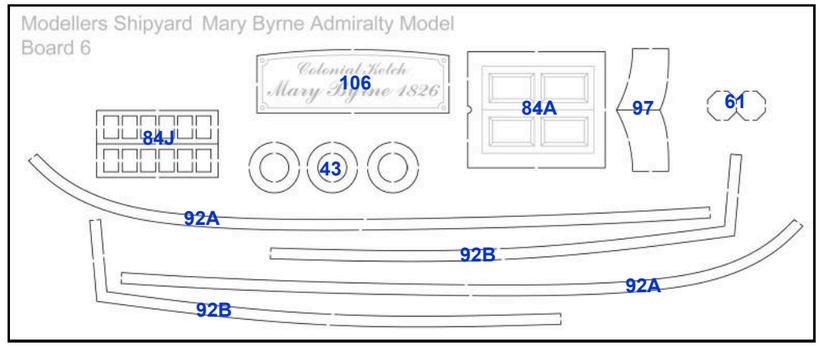


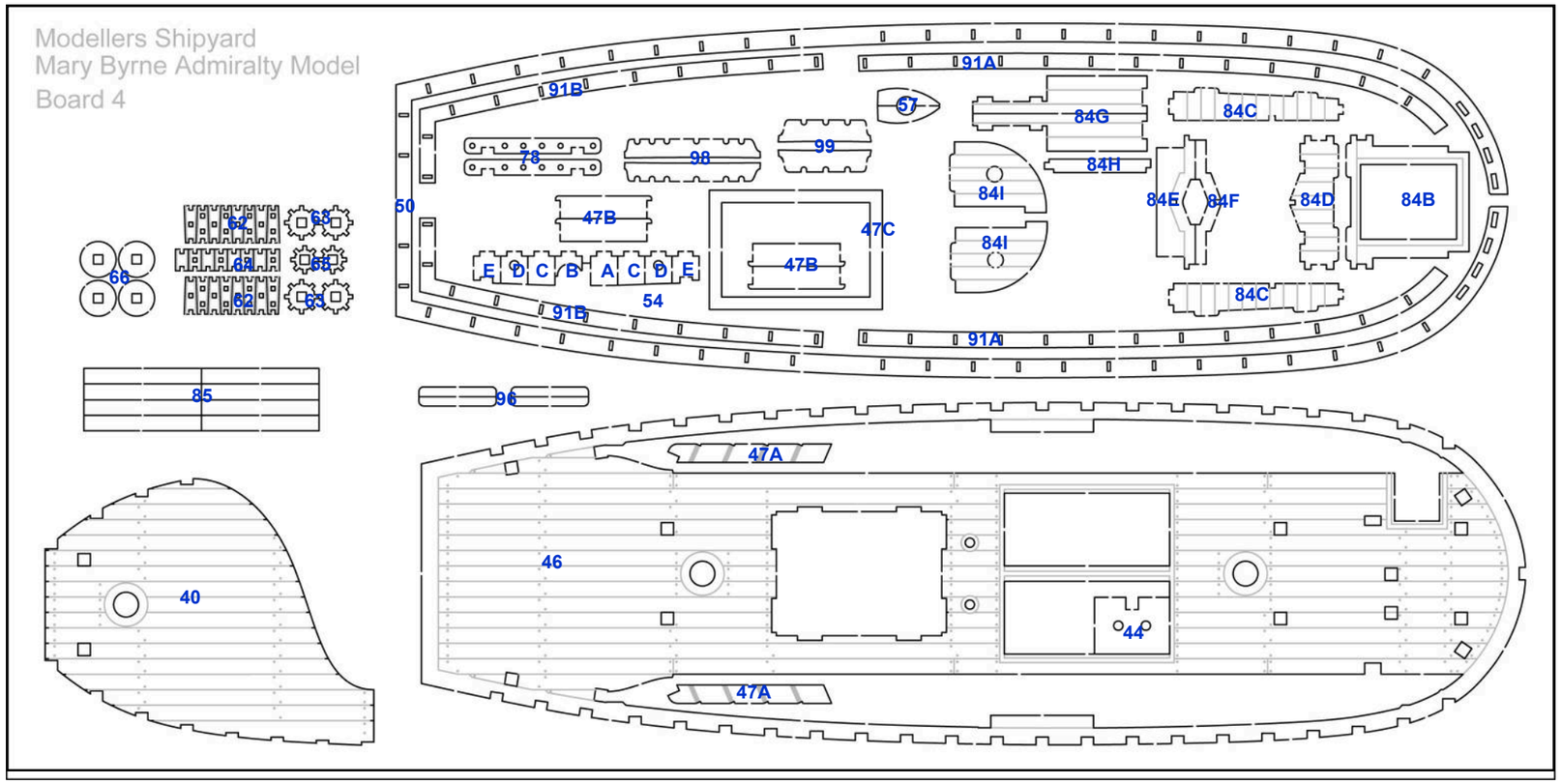
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5.0 Laser Cut Boards continued









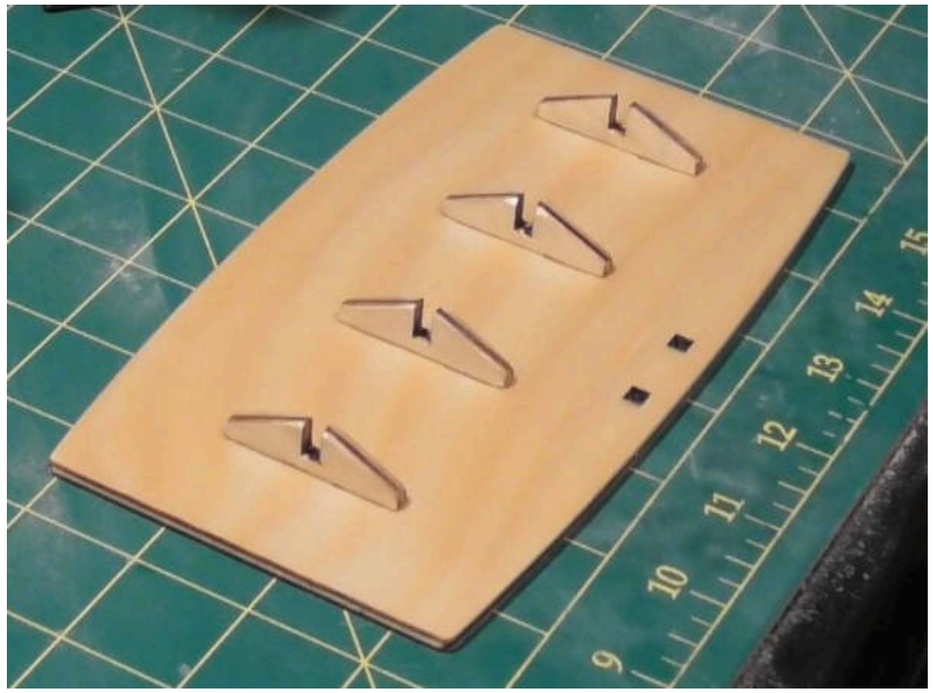
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6.0 Keel and Bulkhead Assembly

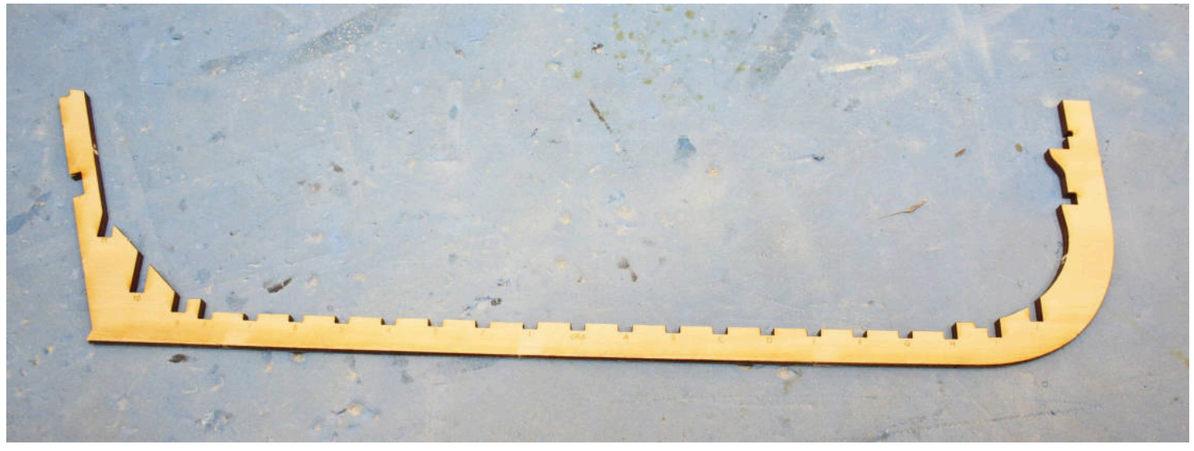
6.1 Display Board

Identify the display board P1and keel supports P2. Prepare the parts. Next glue the keel supports in place as shown.



6.2 Keel

Identify the keel P3.Take note of the slot markings on the keel. The centre frame is oXo and the frames going forward to the bow are marked with capital letters A to J while those going to the stern are marked 1 to 12. These markings represent the slot identification for the frames and transom. Prepare the keel - take care not to break the keel. Do not remove the laser score markings on the front face of the keel.



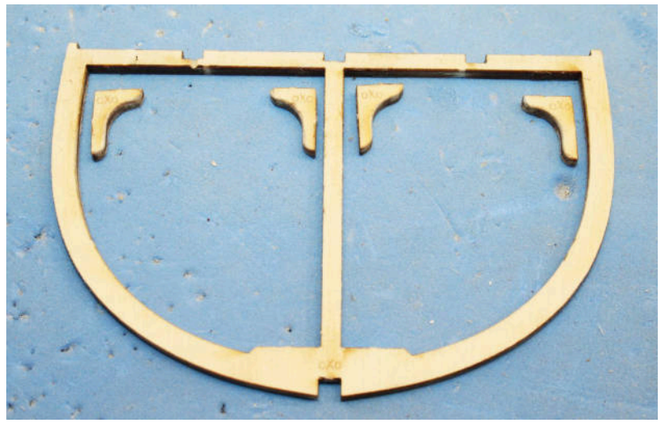
6.3 Frames oXo and A to J

Frames and Knees

Identify each frame and the associated knees. Prepare each frame and its knees.

Round all sharp edges of the knees with fine grade sandpaper.

Frame oXo and knees



Frame A and knees



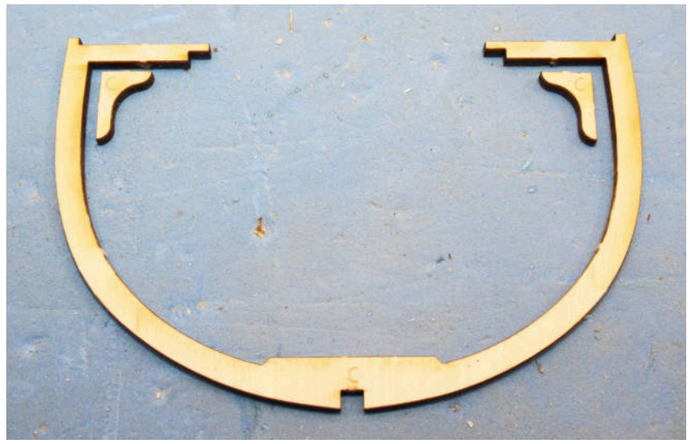
Frame B and knees



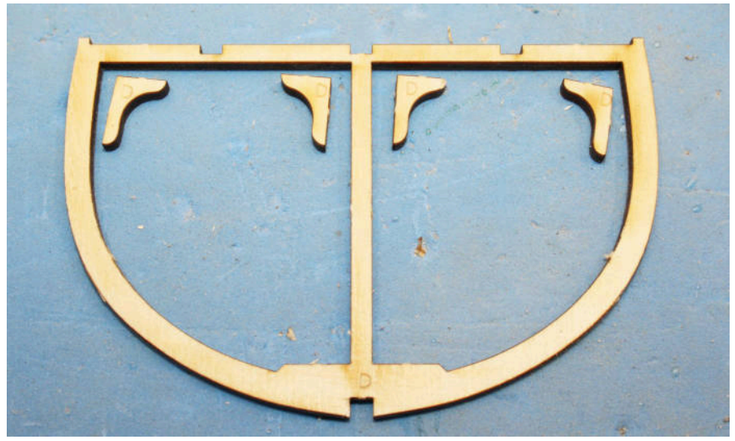
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Pre-fairing Score Lines
Note frames D to J have pre-fairing score lines - make sure to create a chamfer from the score line to the opposite face edge. Frames D to G will only require a light sanding with a sanding board.
Note - the vertical score lines on frame J are location lines for the bow blocks to be fitted later.

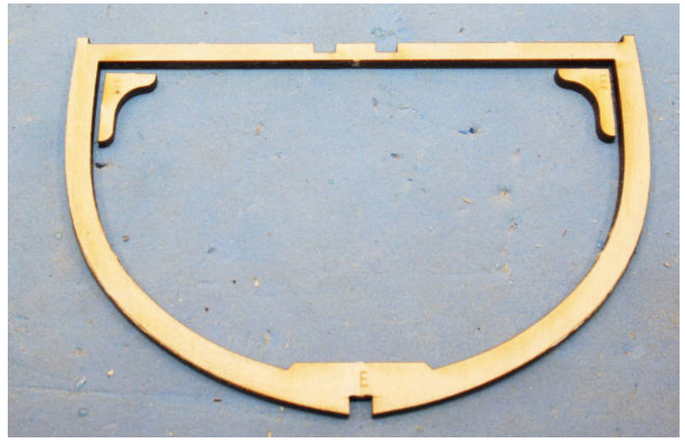
Frame C and knees



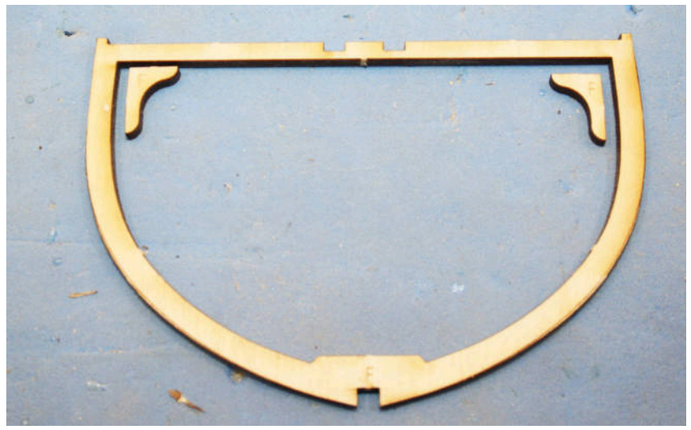
Frame D and knees



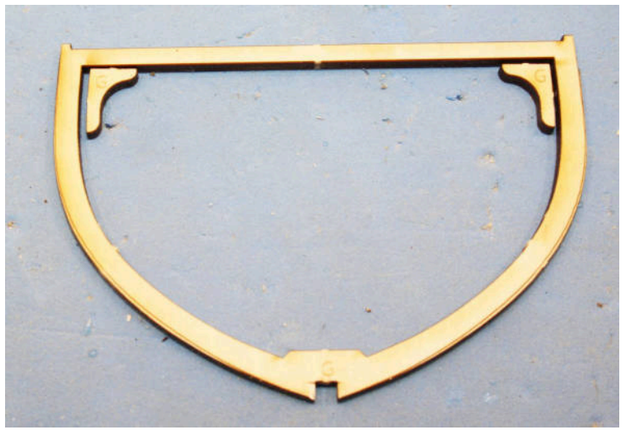
Frame E and knees



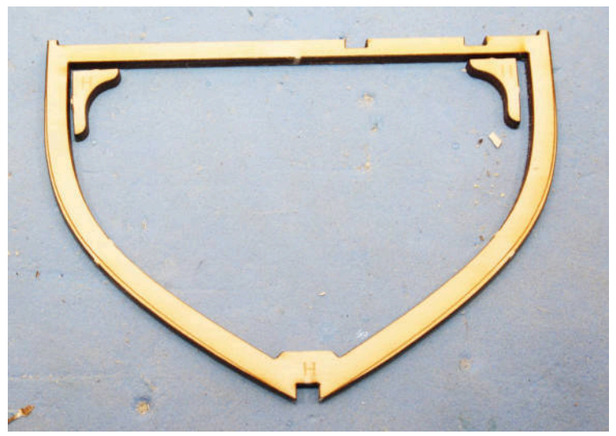
Frame F and knees



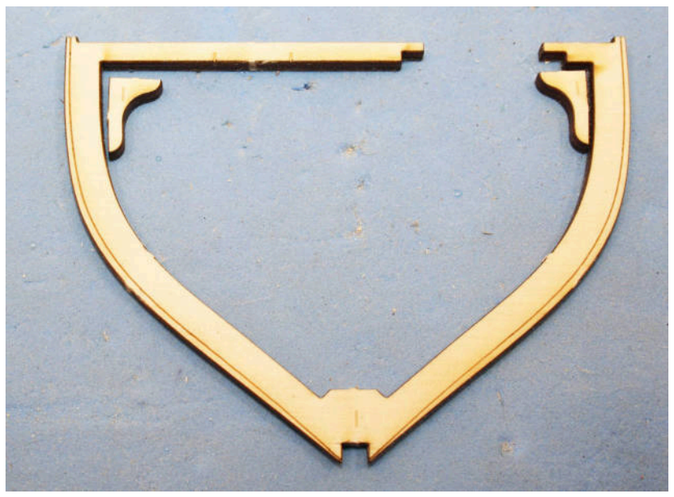
Frame G and knees



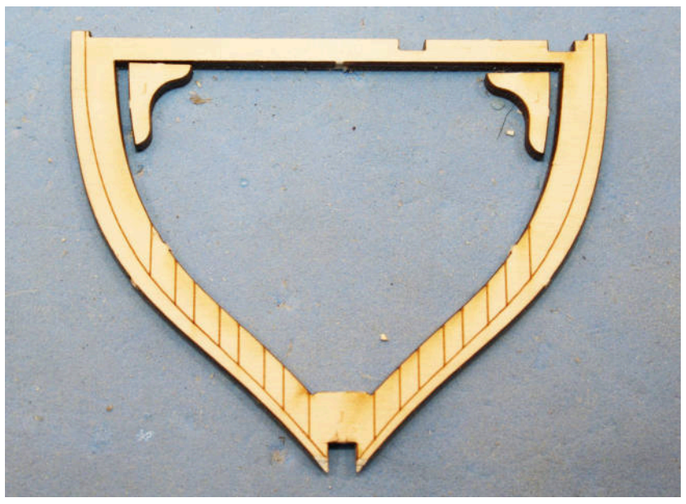
Frame H and knees



Frame I and knees

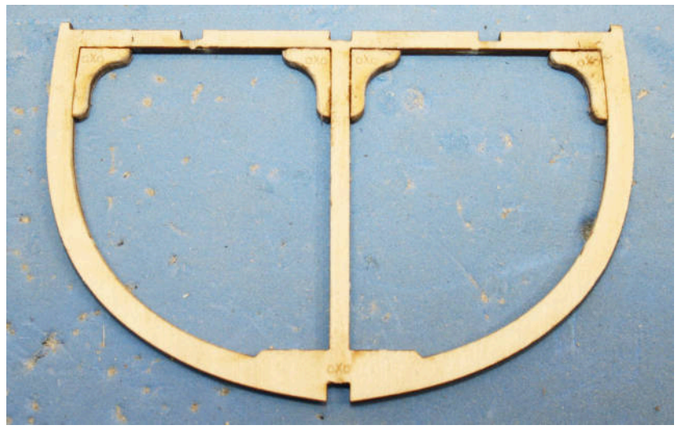
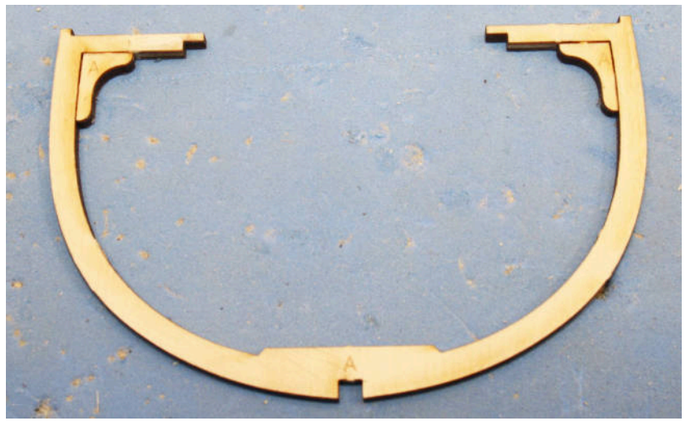


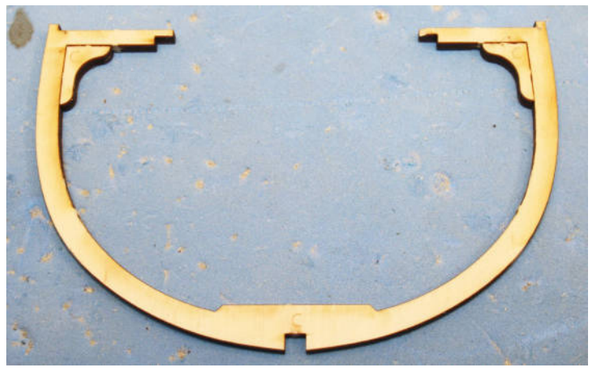
Frame J and knees

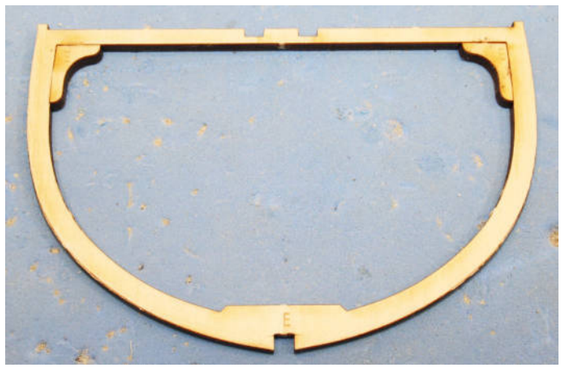
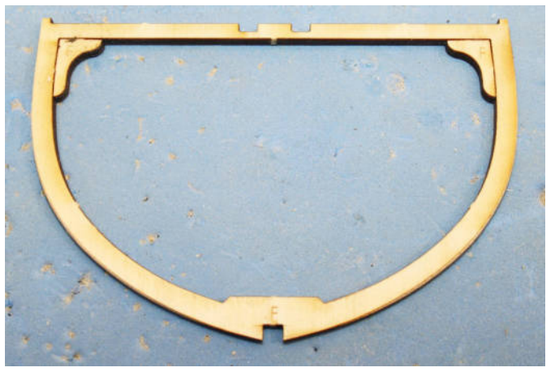


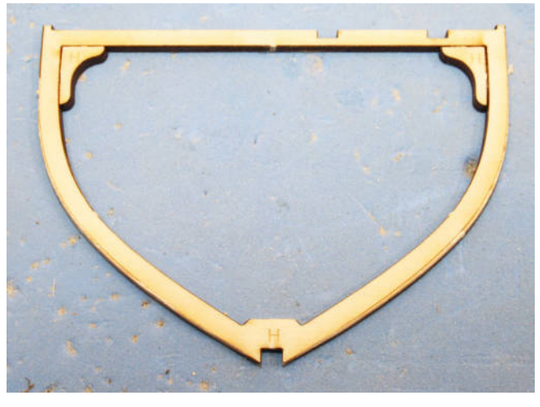
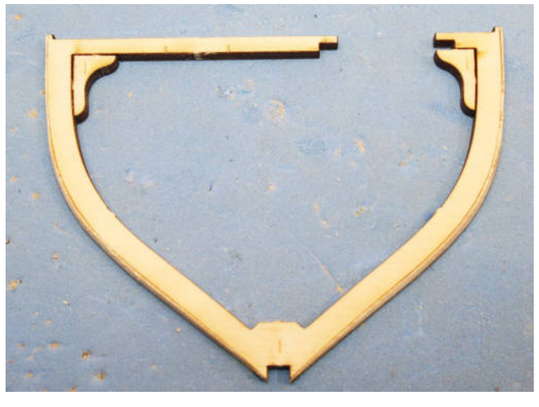
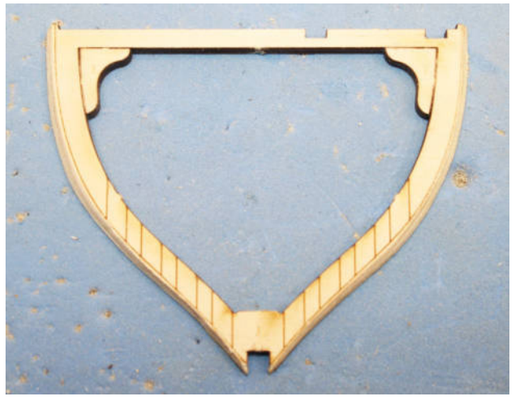
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Knees
Glue the knees in place for each frame as shown. Note the centre knees for frame B are placed fore and aft of the central post - these will be glued in place later - set these knees aside for safe keeping.



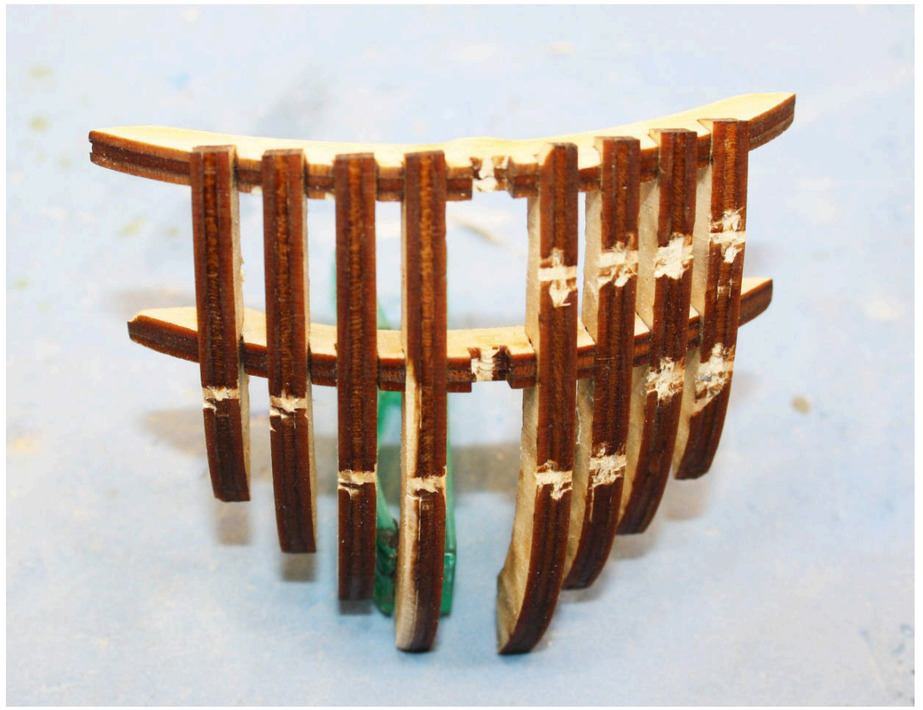
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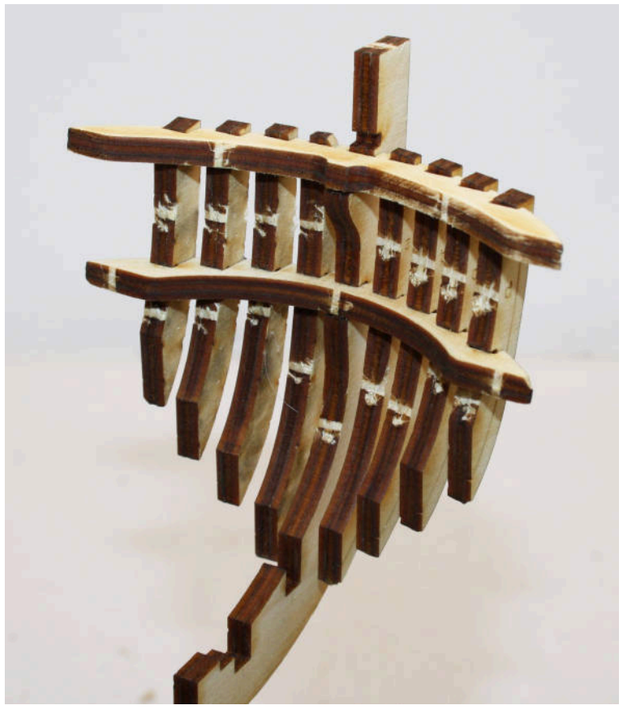
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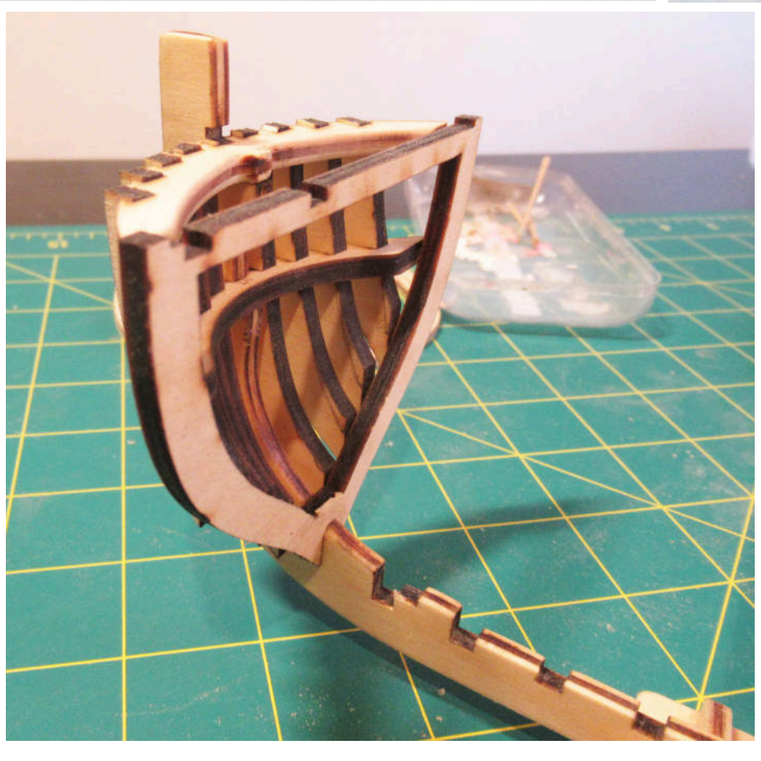
6.4 Bow Blocks

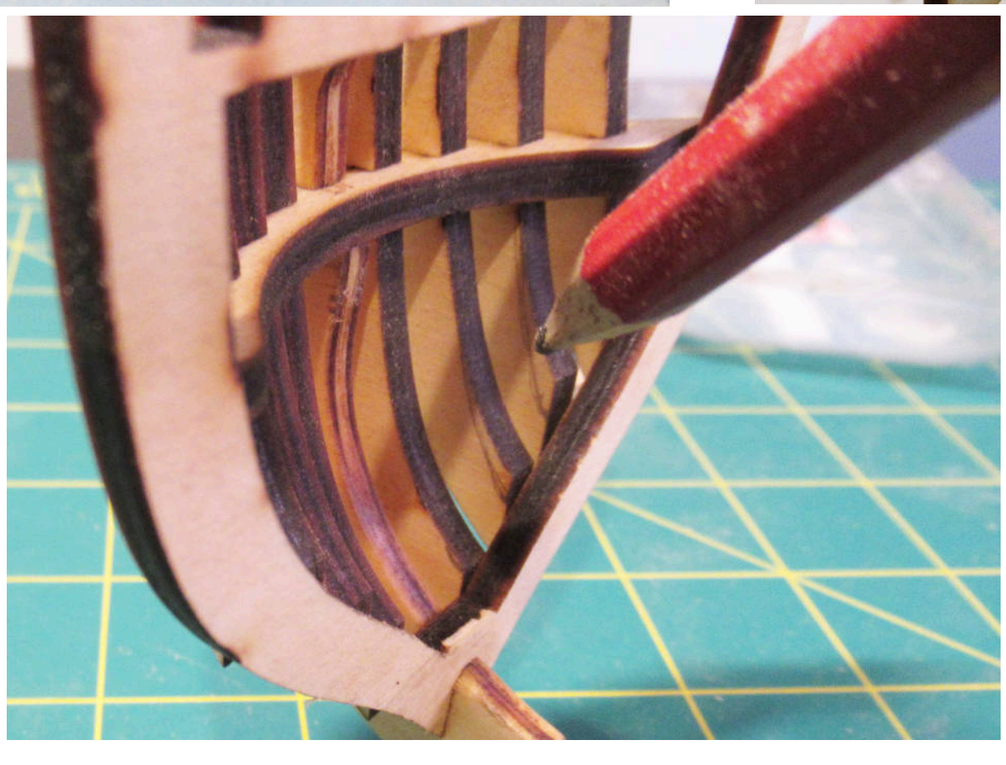
Identify the bow blocks P15A-D and the upper and lower bow block braces P15E & P15F. Do not shape any parts at this stage - dry fit the bow block assembly as shown. Dry fit the assembled bow blocks to the keel as shown. Dry fit frame J in place as shown. Notice where the bow blocks protrude above the inside edge of frame J - use a pencil to mark a slight curve as shown.









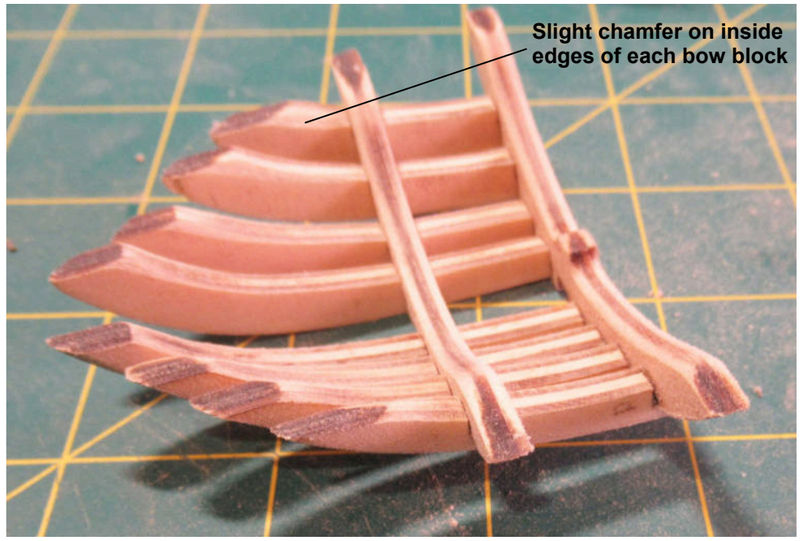


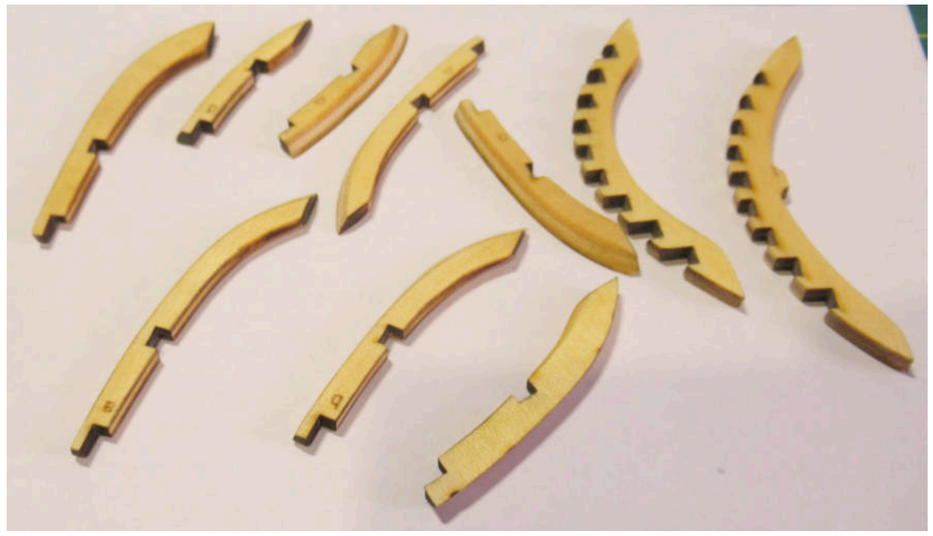
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6.4 Bow Blocks continued

Disassemble the bow blocks. Shape each bow block from its score line as previously described. Also, use a grinding tool to slightly chamfer the inside edge of each bow block as previously shown. Prepare the bow blocks by removing the laser burn on all edges. Glue the bow blocks together as shown and set aside to be fitted to the keel later.







6.5 Frames oXo to D

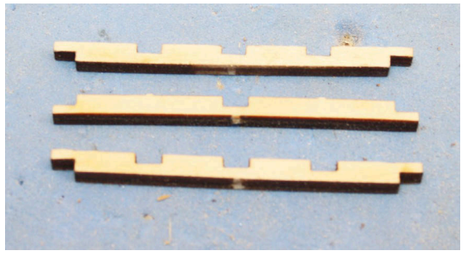
Dry fit frames oXo to D in their keel slots as shown - make sure to push each frame firmly into its slot. **Note: When fitting Frames oXo and A to J the score identifying letters face to the front end of model.**

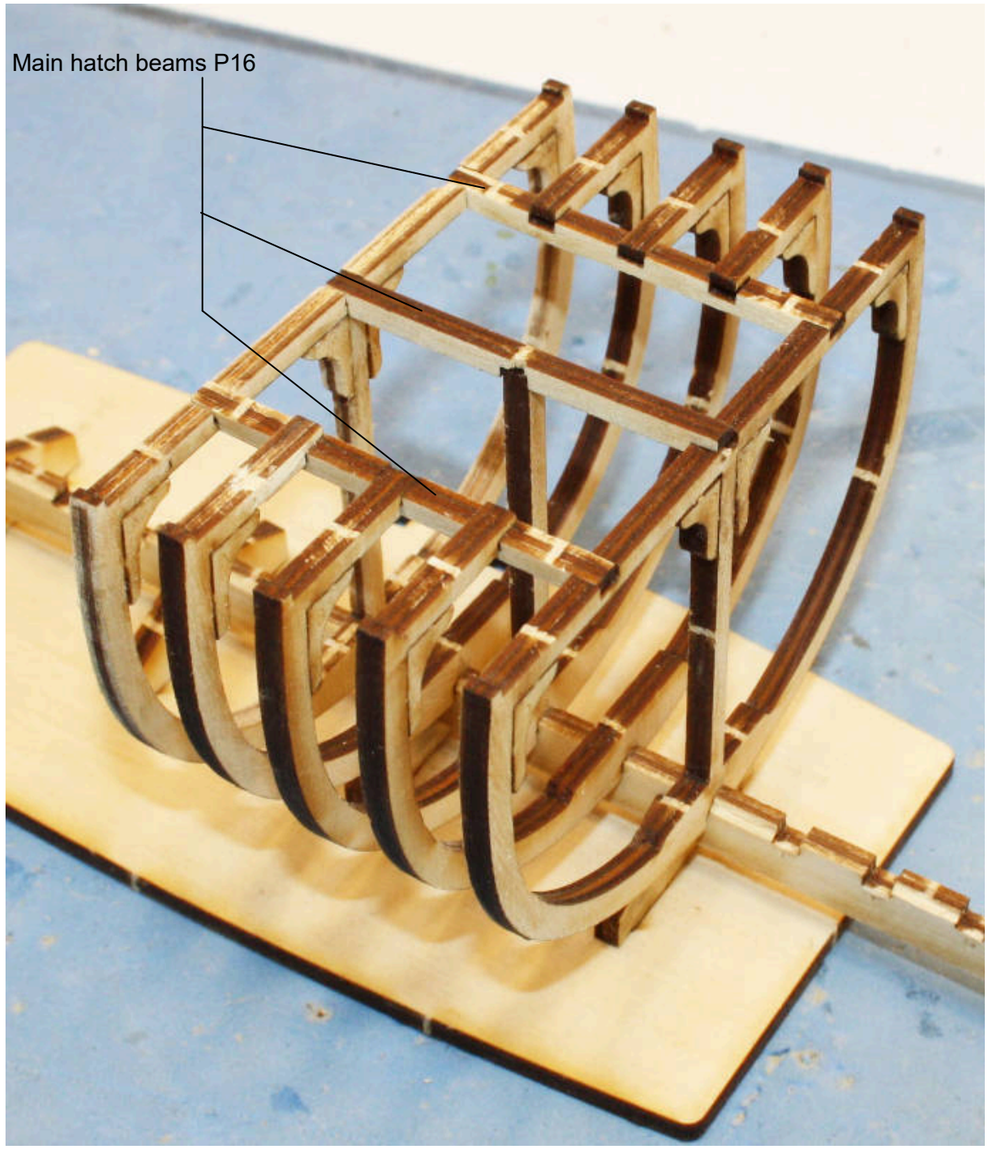
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6.6 Main Hatch

Identify the main hatch beams P16A and P16B. Dry fit the hatch beams between frames oXo and D as shown.

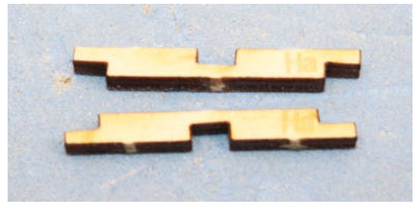


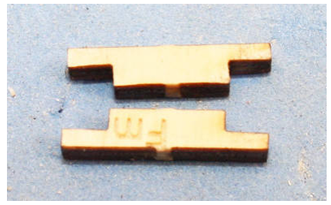


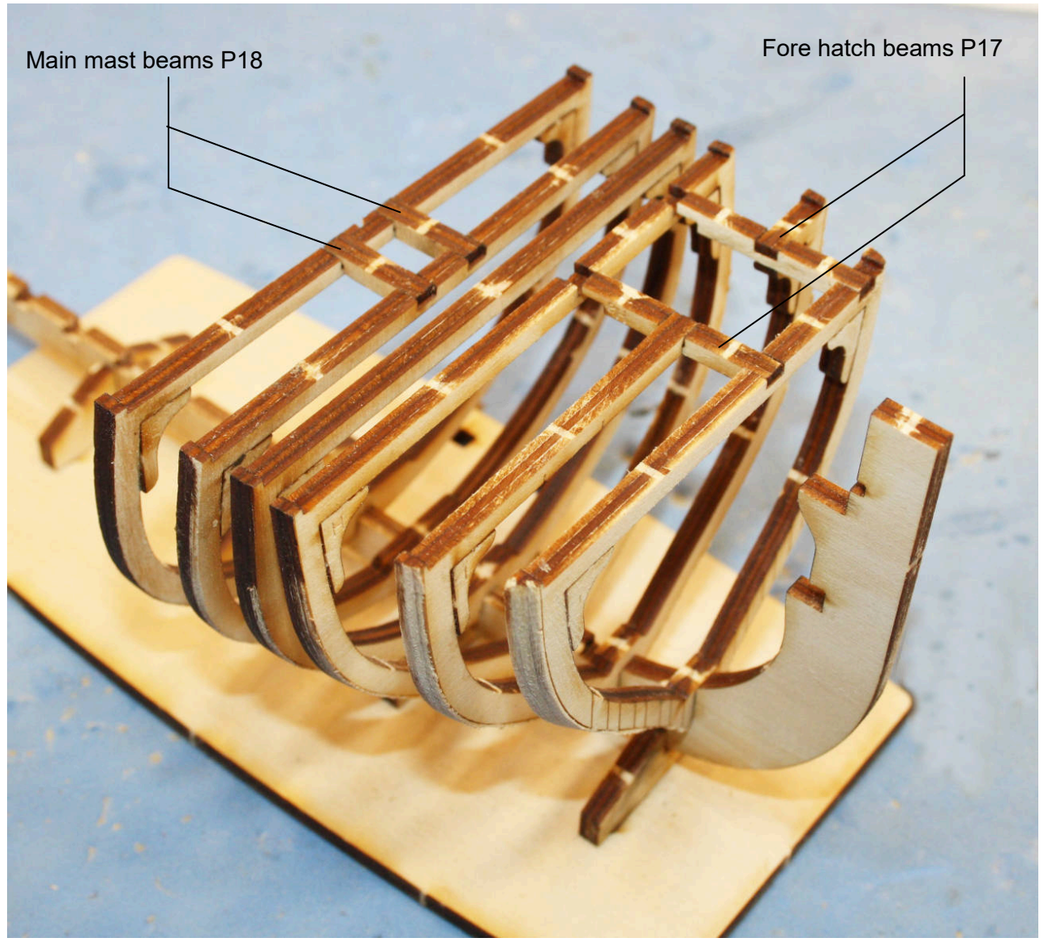
6.7 Forward Hatch Beams and Main Mast Beams

Dry fit frames E to J in their keel slots as shown - make sure to push each frame firmly into its keel slot. Identify the fore hatch beams P17 - note the score marking “Ha” on each frame - this end of the frames slots into frame H. Dry fit the hatch beams between frames H and J as shown.

Identify the main mast beams P18. Dry fit between frames E and F as shown.





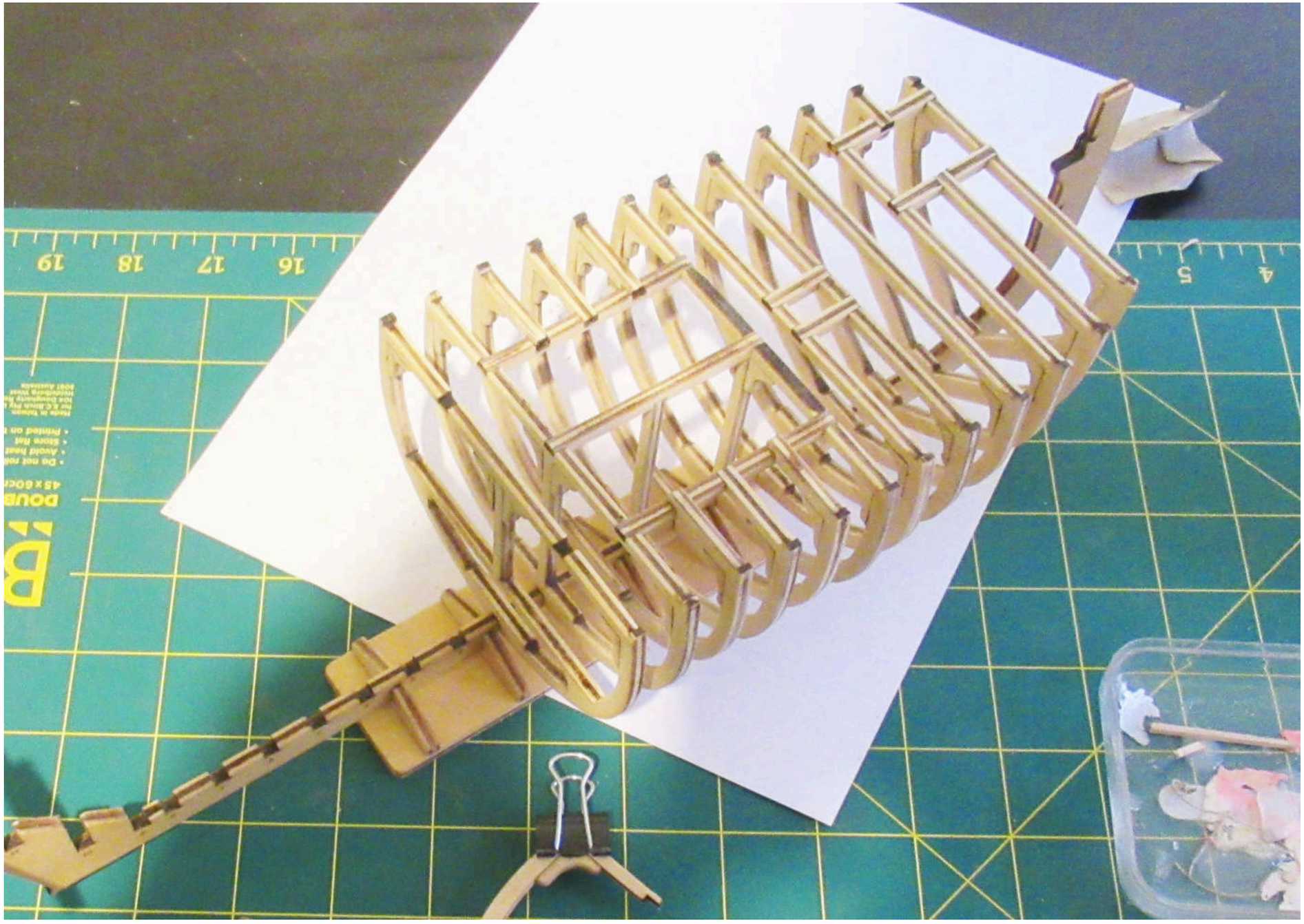


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Fully prepare frames oXo and A to J along with the main hatch beams, fore hatch beams and main mast beams as shown.

Dry fit all parts as shown.



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6.8 Frames 1 to 6 and 12

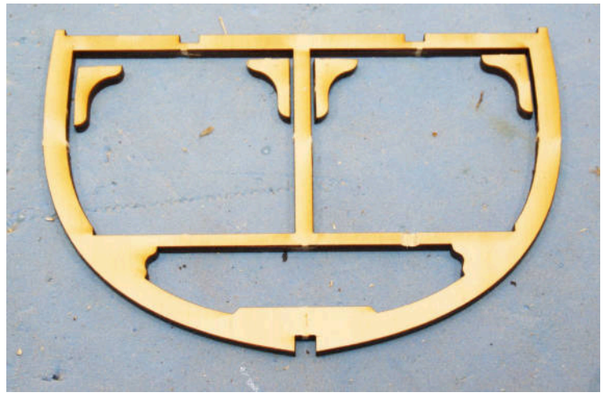
Frames 1 and 2 - Identify frames 1 & 2 (P19 & P20) and the associated knees. Prepare each frame, knees and deck frame. Round all sharp edges of the knees with fine grade sandpaper.

Note: When fitting Frames 1 to 12 the score identifying numbers face to the rear end of model.

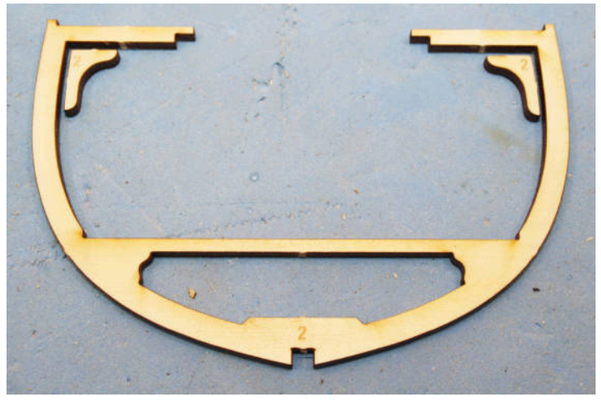
Frames with pre-fairing score lines

Frames 3 & 4 - Identify frames 3 & 4 (P21 & P22) and their associated knees - these two frames will only require a light sanding with a sanding board to shape a chamfer from the pre-fairing lines to the opposite face of the frame. Prepare each frame, knees. Round all sharp edges of the knees with fine grade sandpaper.

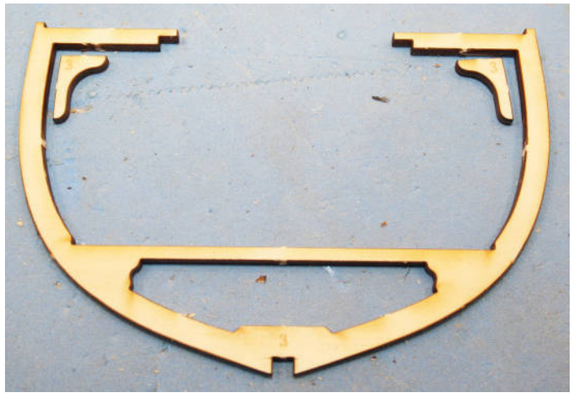
Frame 1 and knees



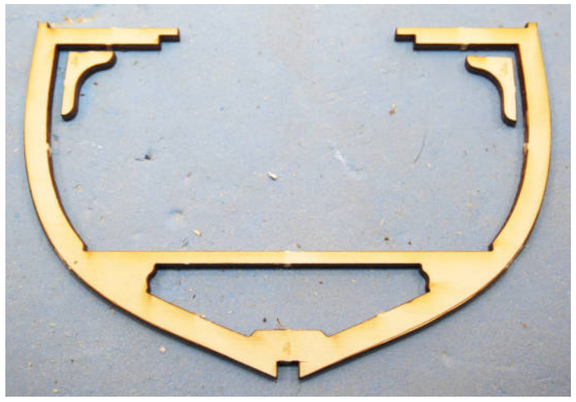
Frame 2 and knees



Frame 3 and knees



Frame 4 and knees

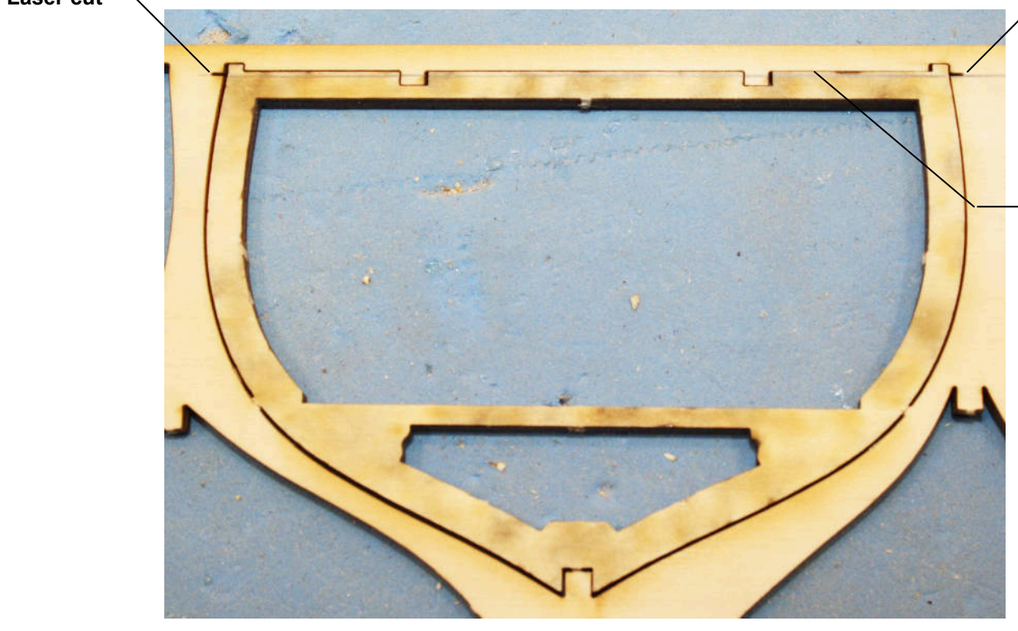


Frame 5 - Identify frames 5 to 8 (P23 to P26) and 12 (P30) their associated knees along with frame 12 These frames are approaching the bow or front of the model. Across these frames the sheer of the deck will be rising. To accurately reflect this feature in the construction of the model we have to shape the deck beams (top of the frames). Take frame 5 as an example - to achieve this we have to mark-out a pre-fairing line on the reverse face of the deck beam. To achieve this take the frame, turn it over and place it back into its laser cut slot on the relevant board. You will notice two small laser cut marks as shown - use a rule to draw a line between these two cuts across the top of the deck beam part of the frames as shown. This line is used to shape a chamfer from the reverse face to the front face of the frame. Repeat this step for frames 6 to 8 and frame 12 - the transom. Use a sanding board to shape a chamfer from the pre-fairing lines to the opposite face of the frame. Prepare each frame and knees. Round all sharp edges of the knees with fine grade sandpaper.

Frame 5 and knees



Frame 5 Reversed into its laser cut board position



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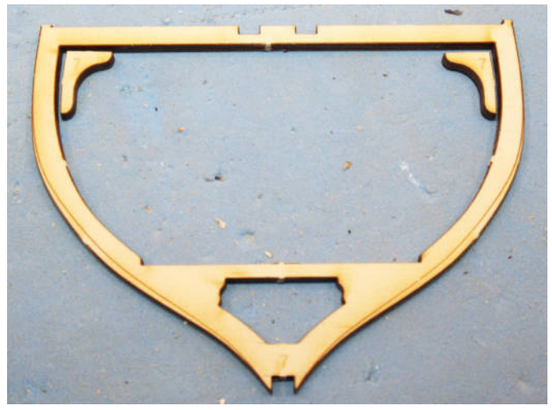
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Frames 6 to 8 and 12 - Identify frames 6 to 8 (P24 to P26) and their associated knees along with frame 12 (P30) - transom. Repeat the steps previously presented for frame 5 for these frames. Use a sanding board to shape a chamfer from the pre-fairing lines to the opposite face of the frame. Prepare each frame and knees. Round all sharp edges of the knees with fine grade sandpaper.

Frame 6 and knees



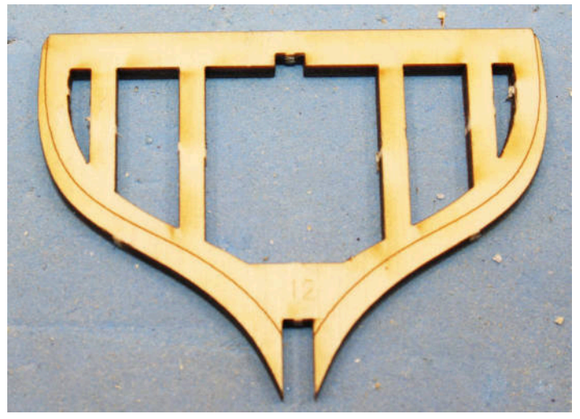
Frame 7 and knees



Frame 8 and knees

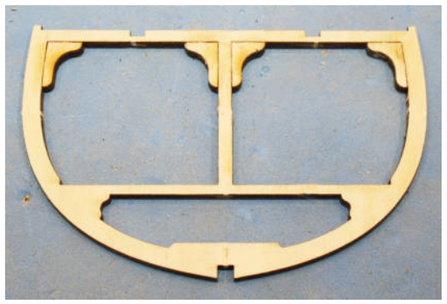


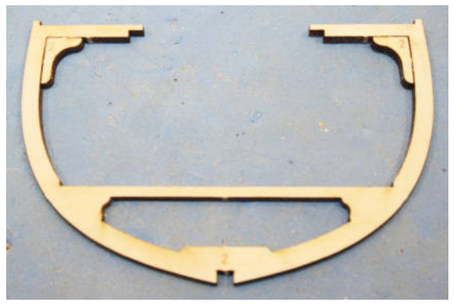
Frame 12 - Transom

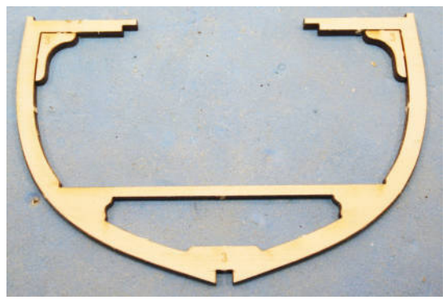


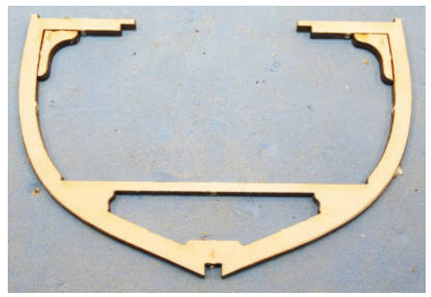
Knees and Transom

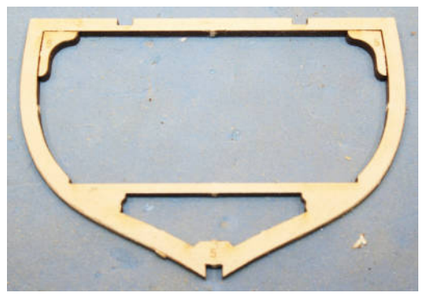
Glue the knees in place for each frames 1 to 8 as shown. Shape frame 12 (transom) as shown.

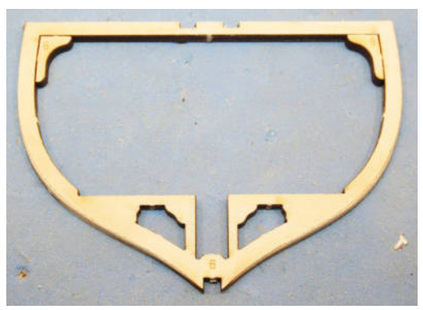


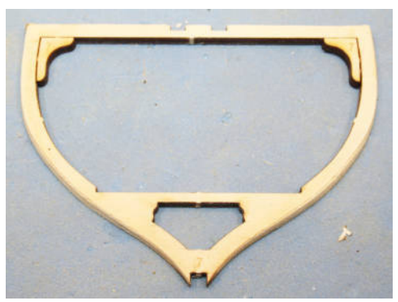


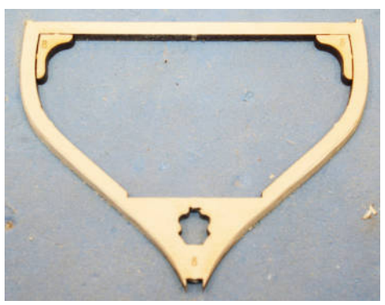


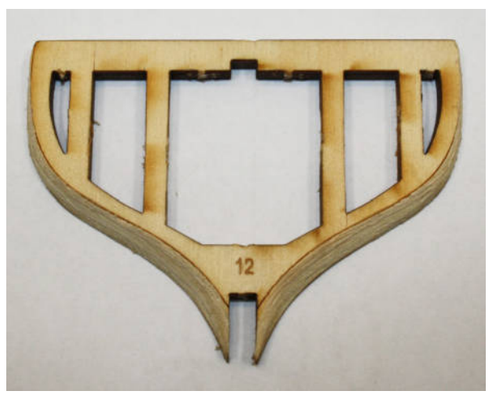














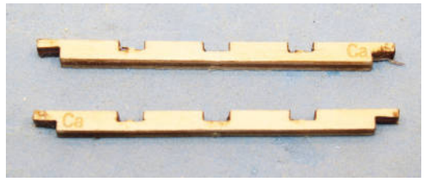
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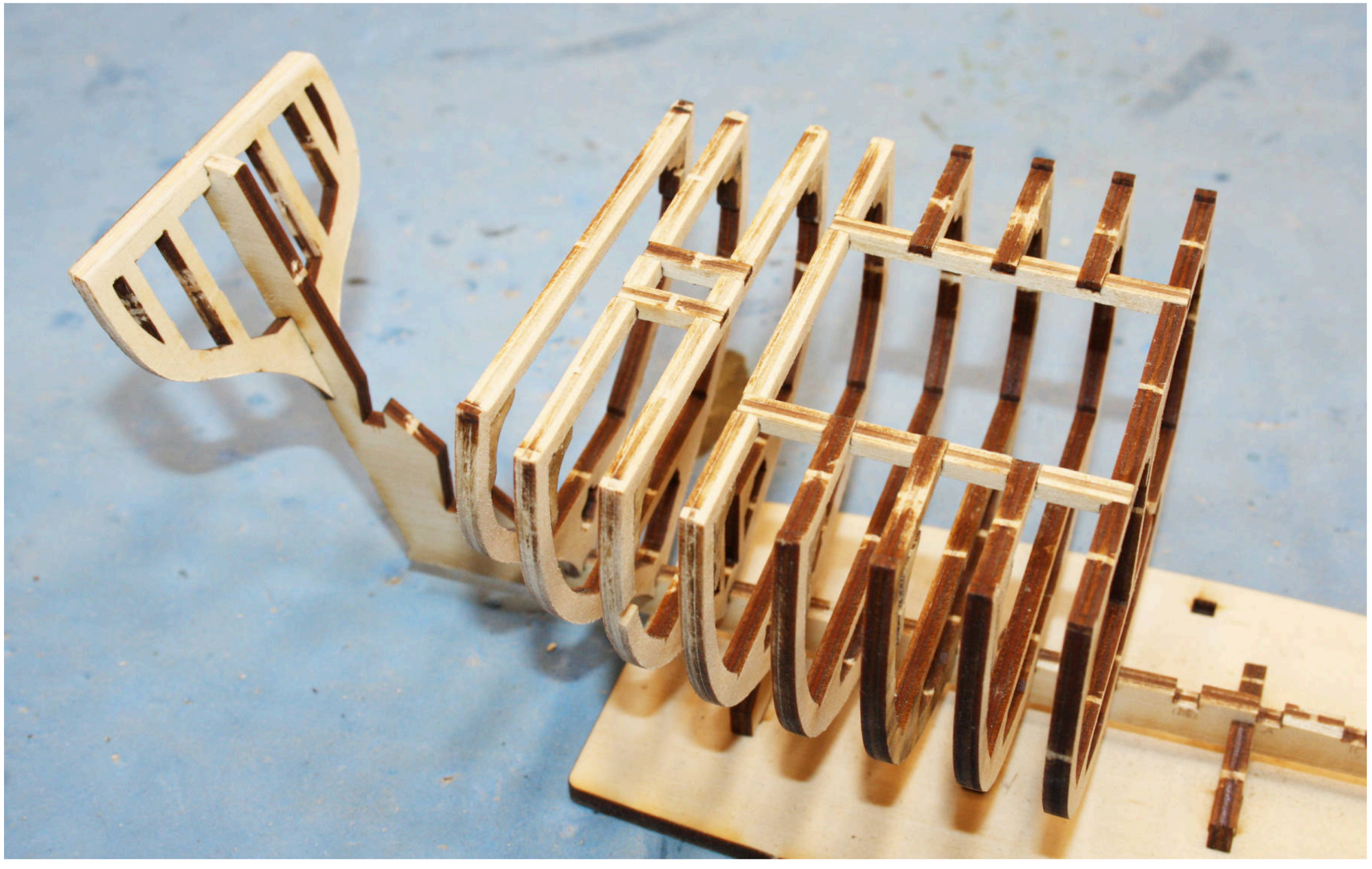
6.9 Companionway Beams and Mizzen Mast Beams

Dry fit frames 1 to 8 in their keel slots as shown along with the transom (frame 12) - make sure to push each frame firmly into its slot. Identify the companionway beams P31 - dry fit the beams between frames 1 and 5 as shown - note the score marking “Ca” on each beam - this end of the beams slots into frame 1. Identify the mizzen mast beams P32 - dry fit the beams between frames 6 & 7 - note the score marking “Ma” on each beam - this end of the frames slots into frame 6 as shown.

Note: When fitting Frames 1 to 12 the score identifying numbers face to the rear end of model.







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7.0 Frames 9 to 11

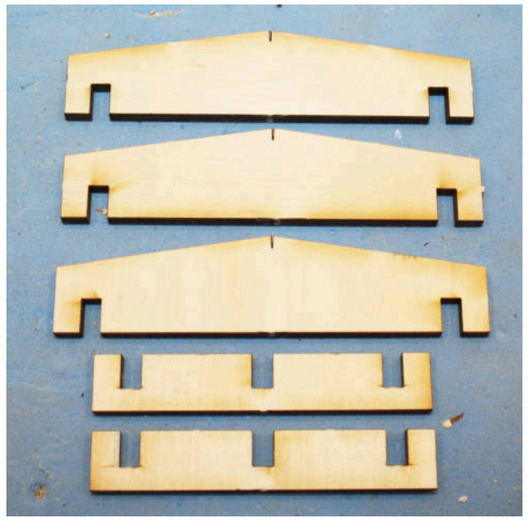
These frames are treated differently to the previous frames as they are located at the stern area of the model where the hull planking would sweep-up to the transom. They require an acute angle (less than 90 degrees) to be made between the frame and the keel - the pre-fairing required at the frame joint and the jig sets this angle.

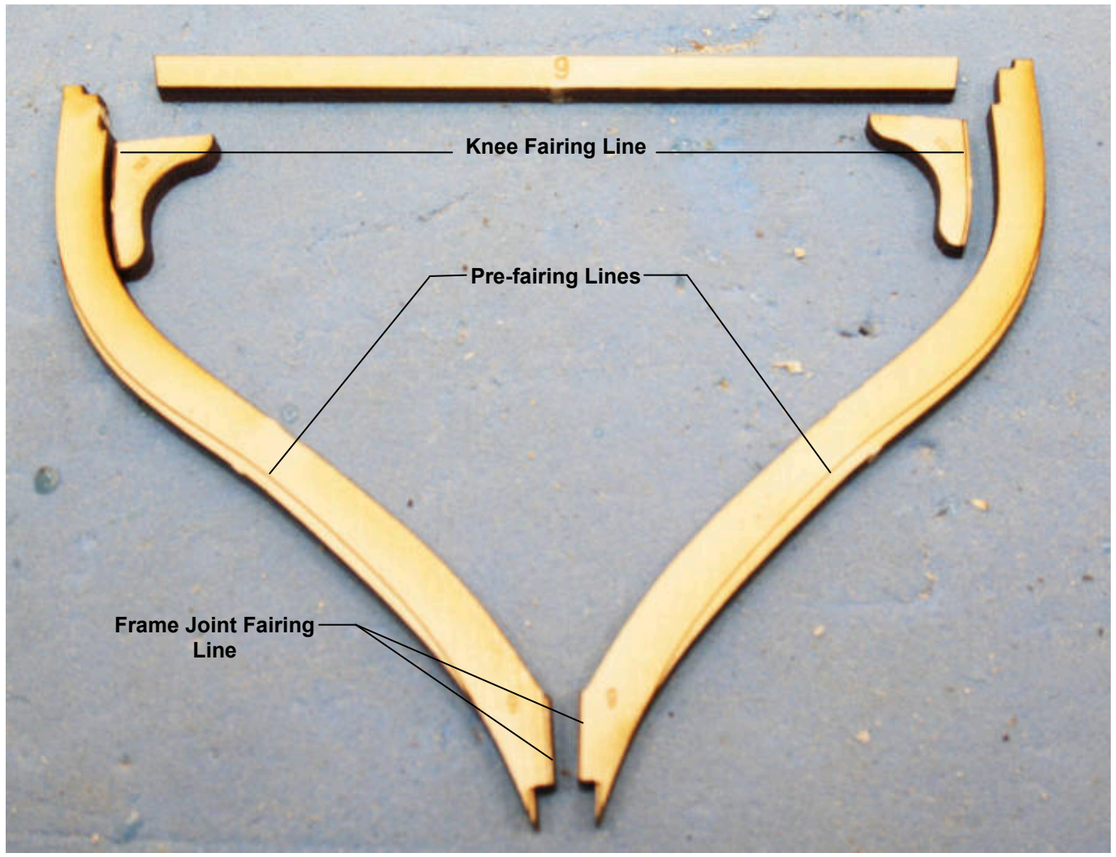
Identify frames 9 to 11 along with their respective knees and deck beam as shown. Note the pre-fairing score lines on each frame, frame joint and on the knees. Fair each part and the joint of each frame set. Identify the parts for frame jig P39A-B. Assemble the frame jig as shown.













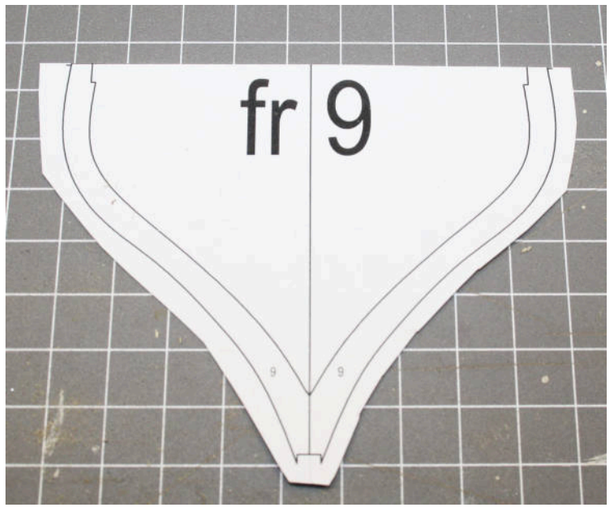
Frame Jig

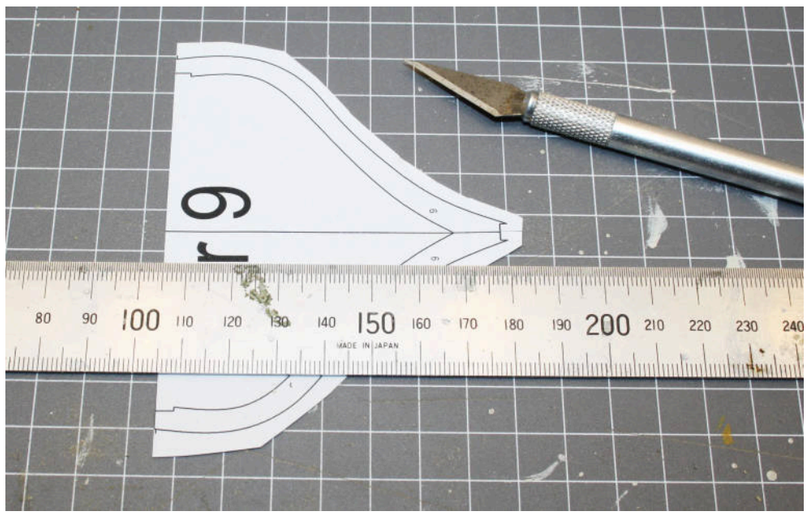
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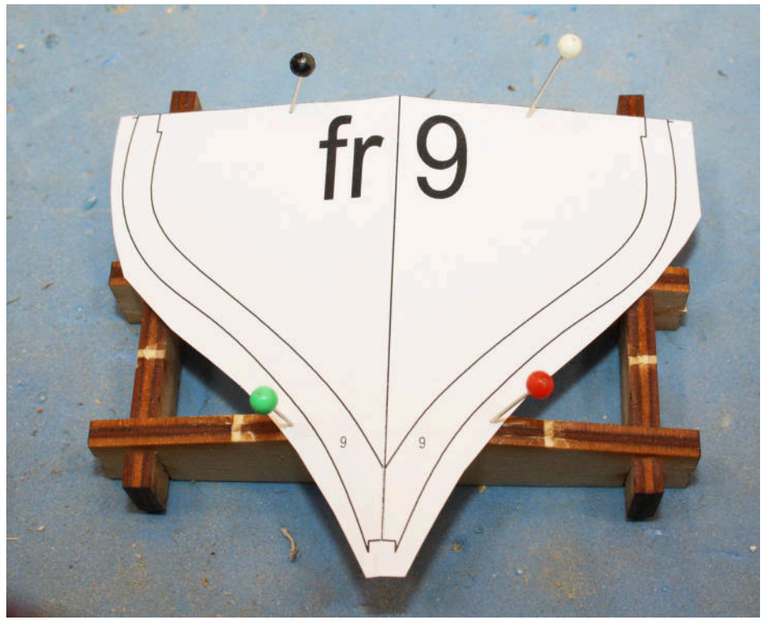
7.0 Frames 9 to 11 Continued

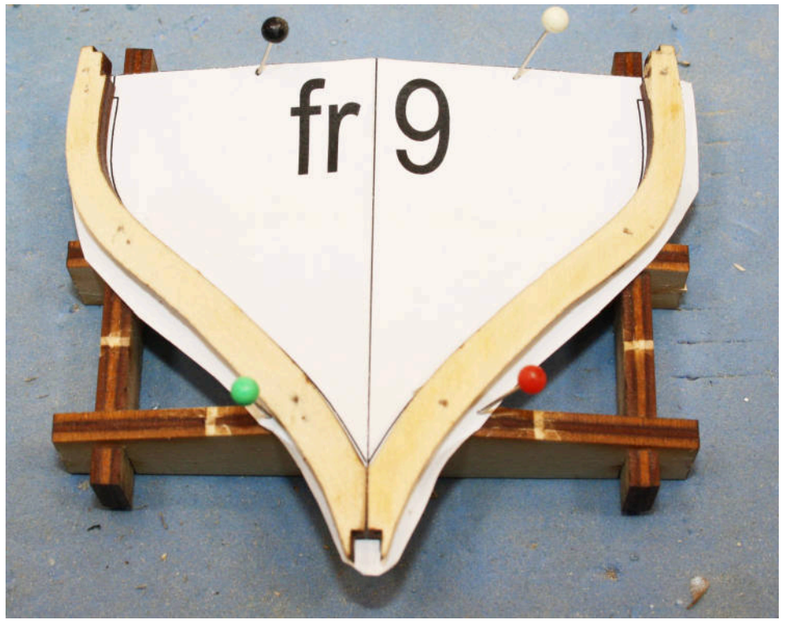
Identify the templates for frames 9, 10 & 11 on Sheet 55. Cut around the outer lines of the diagram leaving some excess as shown. Use the pointed blade knife and rule to cut across the top of the diagram. Use the pointed knife and rule to lightly score a line along the centre line of the diagram - bend the diagram as shown. Place the diagram on the jig as shown - align the top edge with the top of the top cross member of the jig and pin in place as show. **Place the frame face down (number 9 down)** on the jig and align to the jig using the diagram as a guide as shown. Fractionally adjust the frame joint angle until satisfied. Use a pencil to mark where the frames rest on the three jig cross members - drill a 0.7mm hole at these points. Apply glue to the frame joint - lightly hammer map pins into the drilled holes to hold the frames in place on the jig until the glue has set.

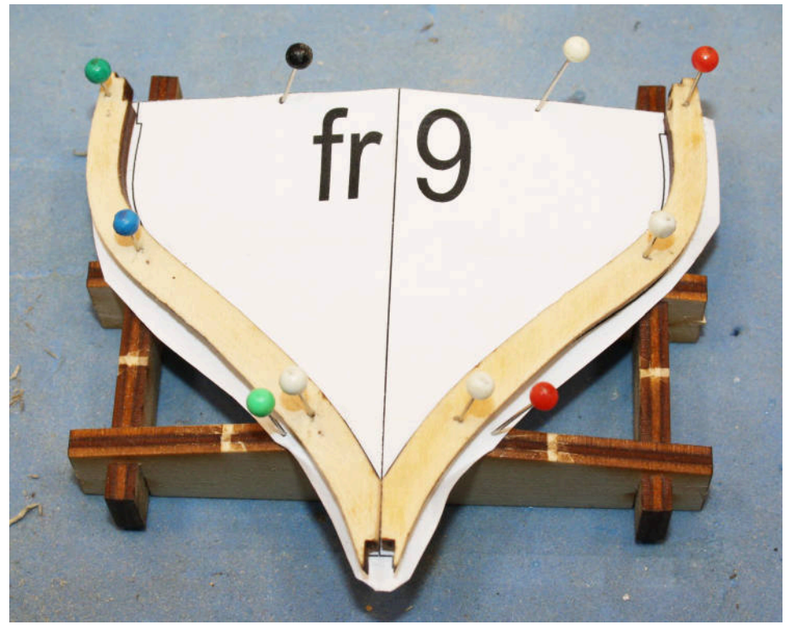










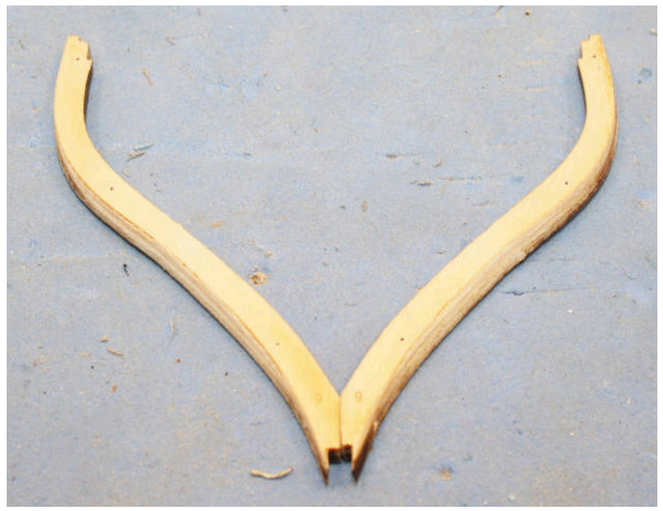


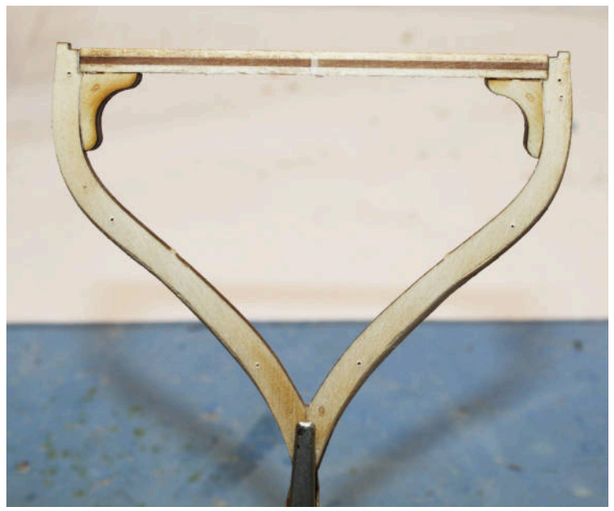
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7.0 Frames 9 to 11 Continued

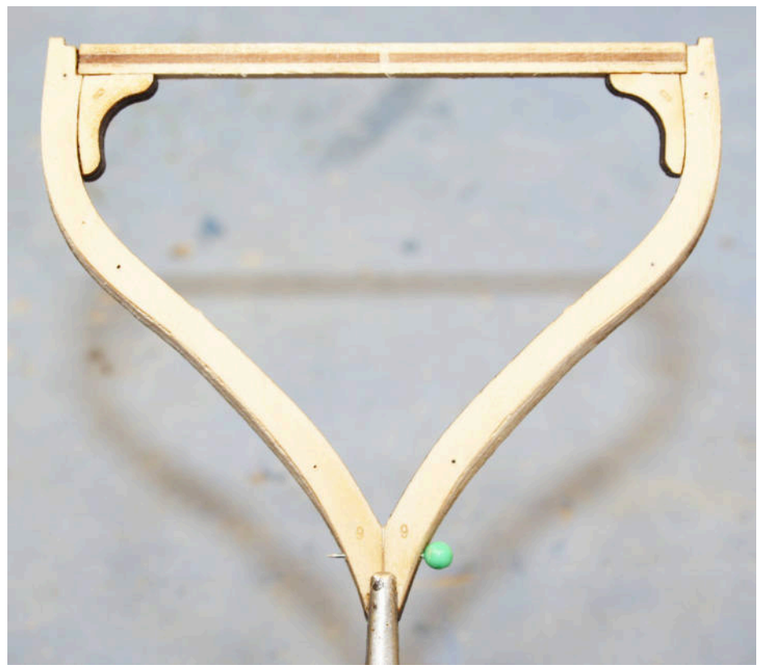
Identify frame 9 knees P27A and deck beam P27B. Notice the deck beam has slight angle at its ends - this is to accommodate the angle of the frame when assembled as shown. Glue the deck beam in place with the beam identification scored number facing up as shown. Glue the knees in place with their identification number facing the same as the frame numbers as shown. Clamp if necessary until the glue has set. To strengthen the frame joint drill a 0.7mm hole mid-joint and fix a map pin in place - use a cyanocrylate glue (super glue) to fix the pin in place - cut-off any pin over hang and file flush with frame if needed.

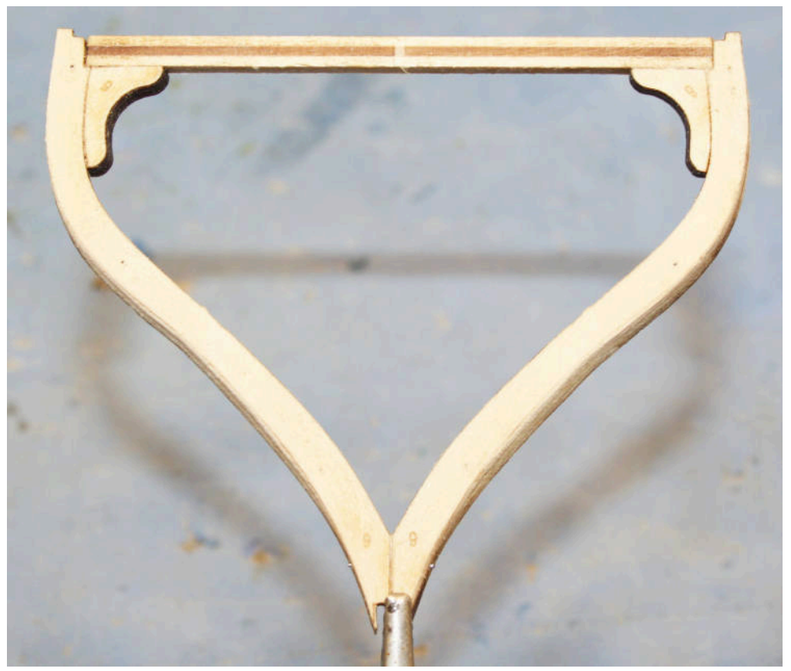






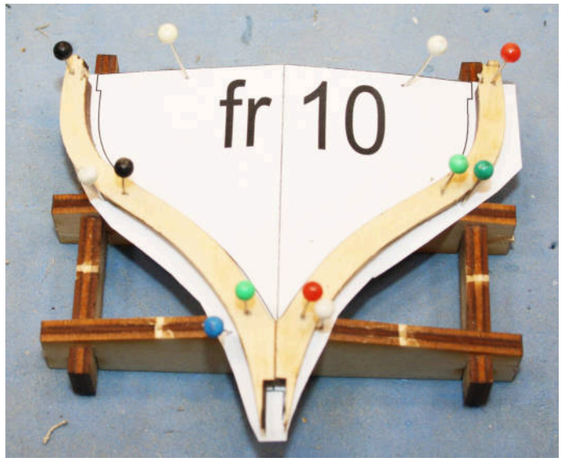


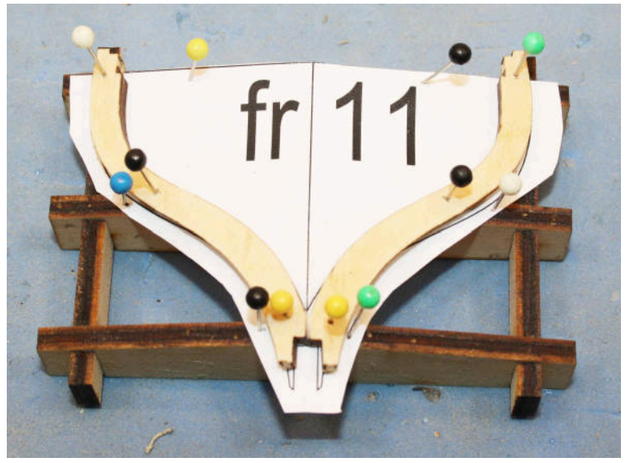


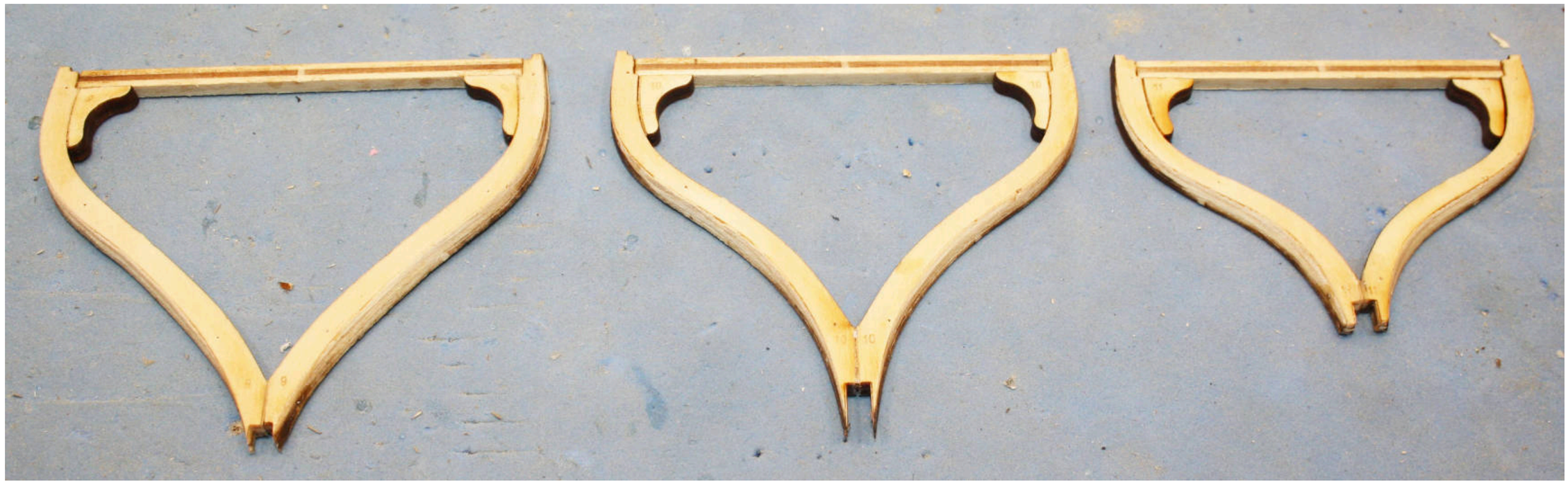


7.0 Frames 9 to 11 Continued

Repeat the same steps for frames 10 and 11 as shown.







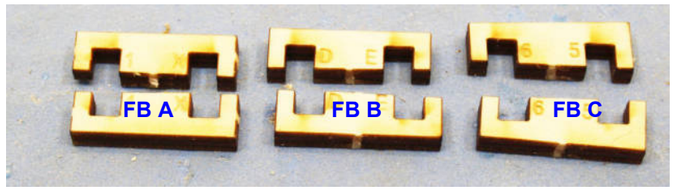
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SHEET 18

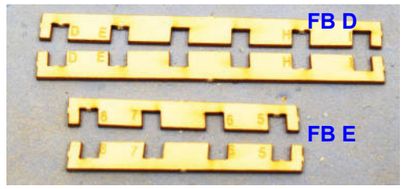
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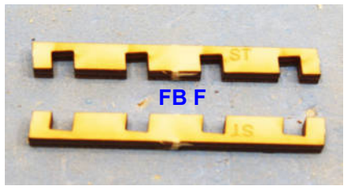
7.1 Frame Braces and Hull Assembled

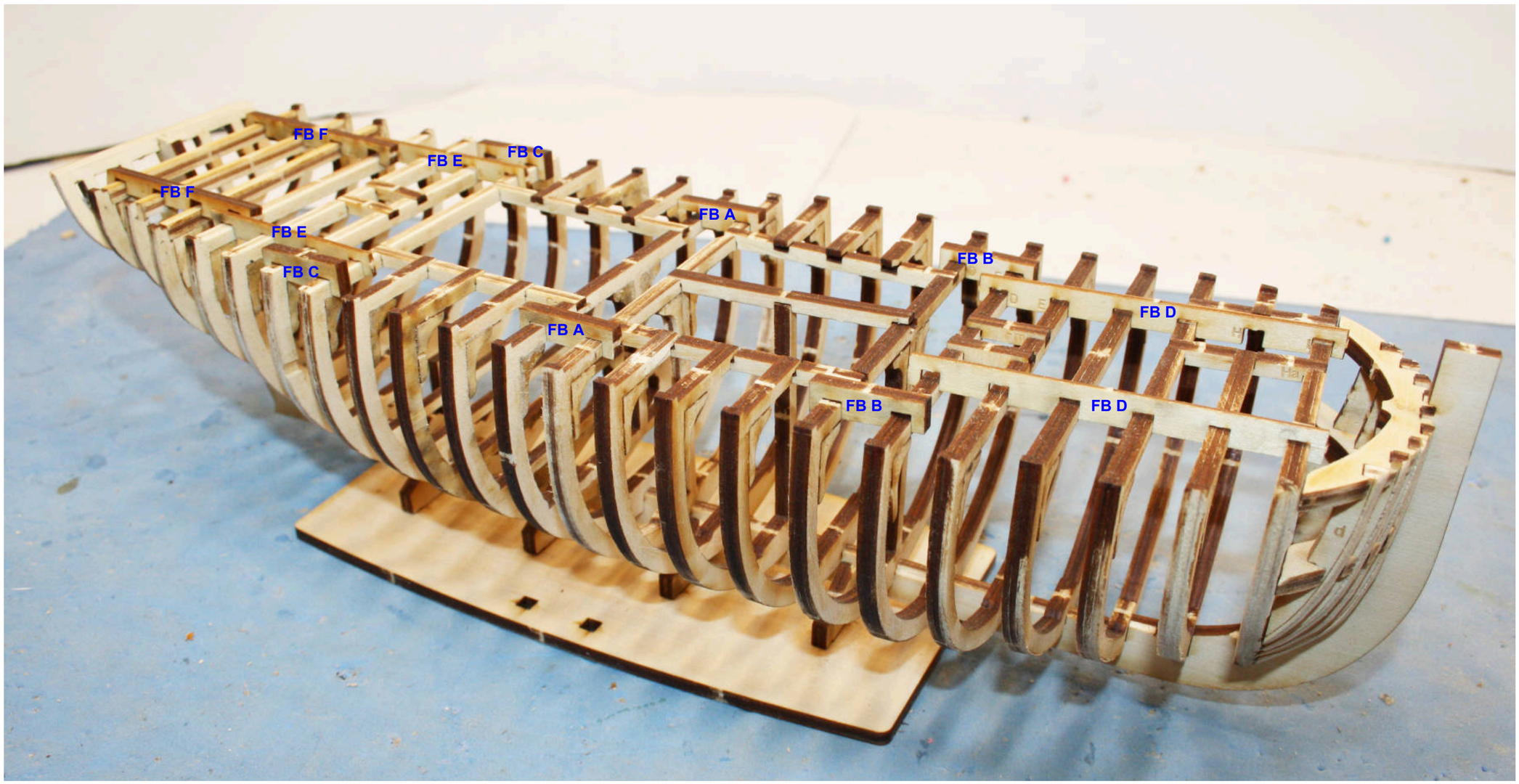
Identify the frame braces A to F (P33 to P38). Dry fit the frames oXo, A to I, the assembled bow blocks and frames 1 to 11 and the transom. Dry fit the beams for the main hatch, foremast, fore hatch, companionway and main mast. Dry fit the frame braces between the frames indicated on each brace to assist in holding the frames in place. The hull is now assembled.

Next, disassemble all the hull parts. Finish fully preparing all the parts to remove any laser burn marks. Round the knee edges.







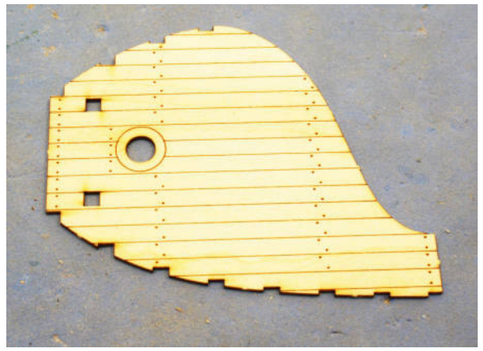


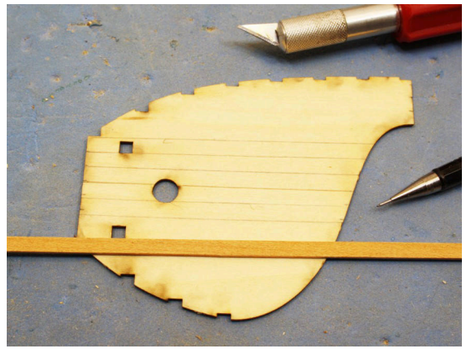
MARY BYRNE
1826
Admiralty Model
SHEET 19

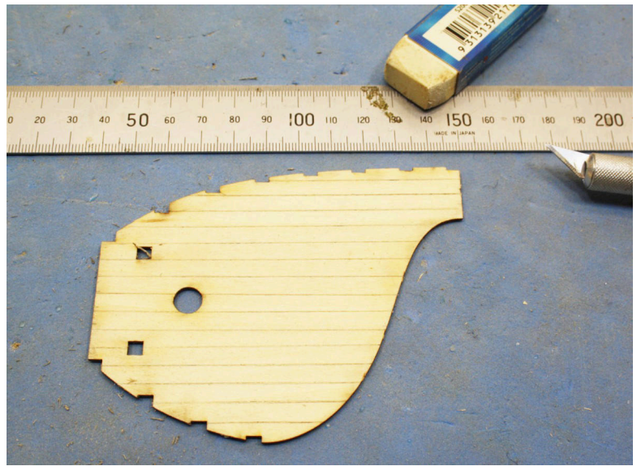
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7.2 Lower Deck

Identify the lower deck P40. As the underside of the deck can be seen there is the need to simulate the deck planking on this side. Use a pencil to mark the location of the ends of the score lines top face - use a pencil and a length of 5mm wide planking timber to lightly mark lines on the deck underside as shown. Once complete use a pointed blade knife to lightly score these lines. Then draw along these lines with sharp pencil. Use a pencil eraser to lightly remove any excess. Apply two coats of a clear matt polyurethane spray finish to both sides of the deck as protection - set aside to dry.









7.3 Mast Steps

Identify the main mast step P41 and the mizzen mast step P42. Prepare each part and round the edges. Glue the main mast step to frame F as shown. Glue the mizzen mast step to frame 6 as shown. Dry fit the frames in place - fractionally adjust if needed. Remove frames and set aside.

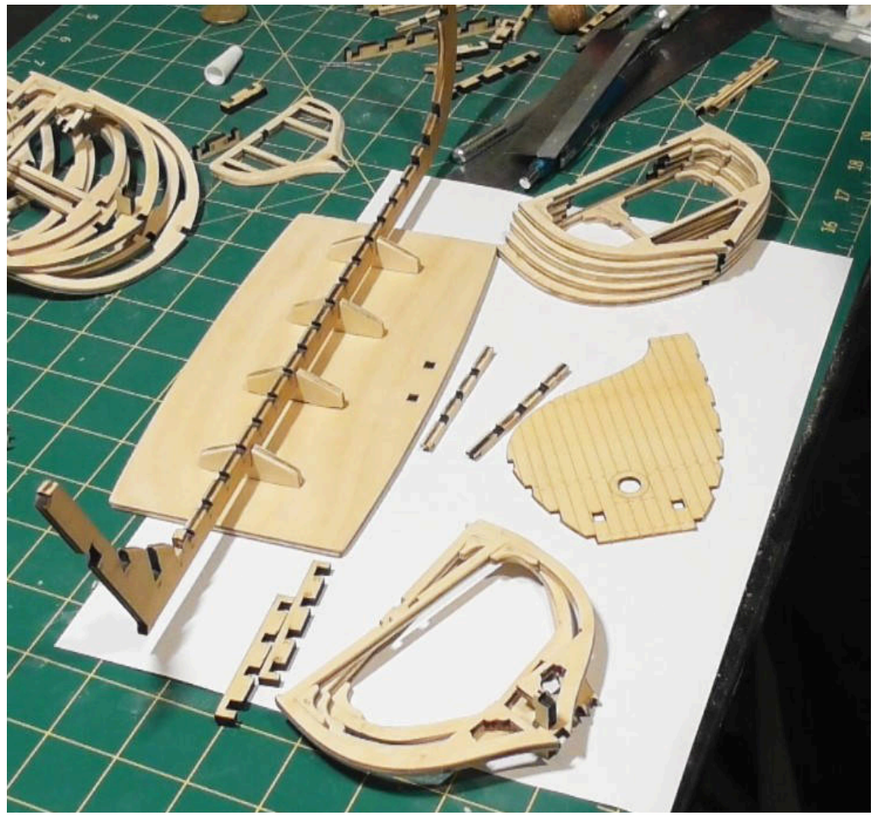




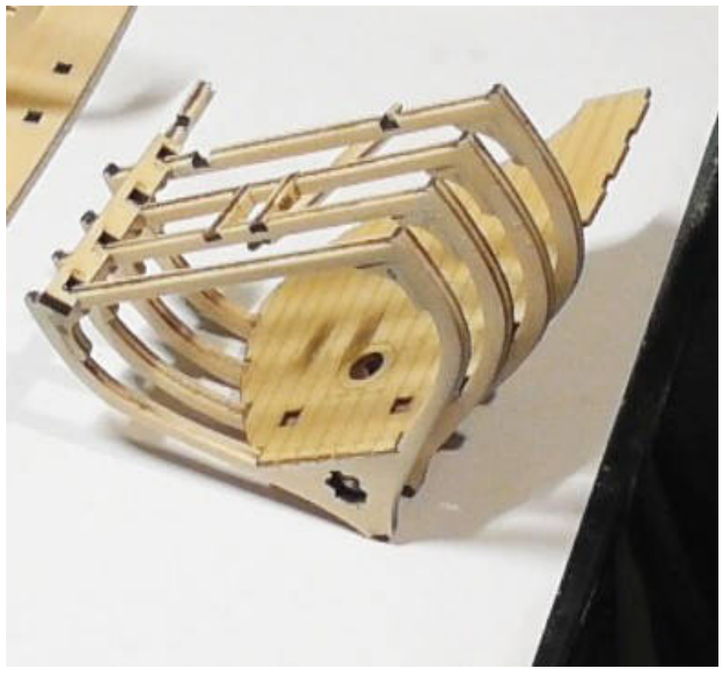
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7.4 Fitting Lower Deck and Frames 1 to 8

Retrieve the lower deck, frames 1 to 8, companionway beams and mizzen mast beams along with frame braces F. Glue frame 1 into position on the keel as shown. Trial fit the deck to frame 5. Glue deck into position as shown - apply glue to the frame and deck contact points. Glue the deck in place to frames 6, 7 and 8 as shown. Also glue in place the mizzen mast beams as shown.



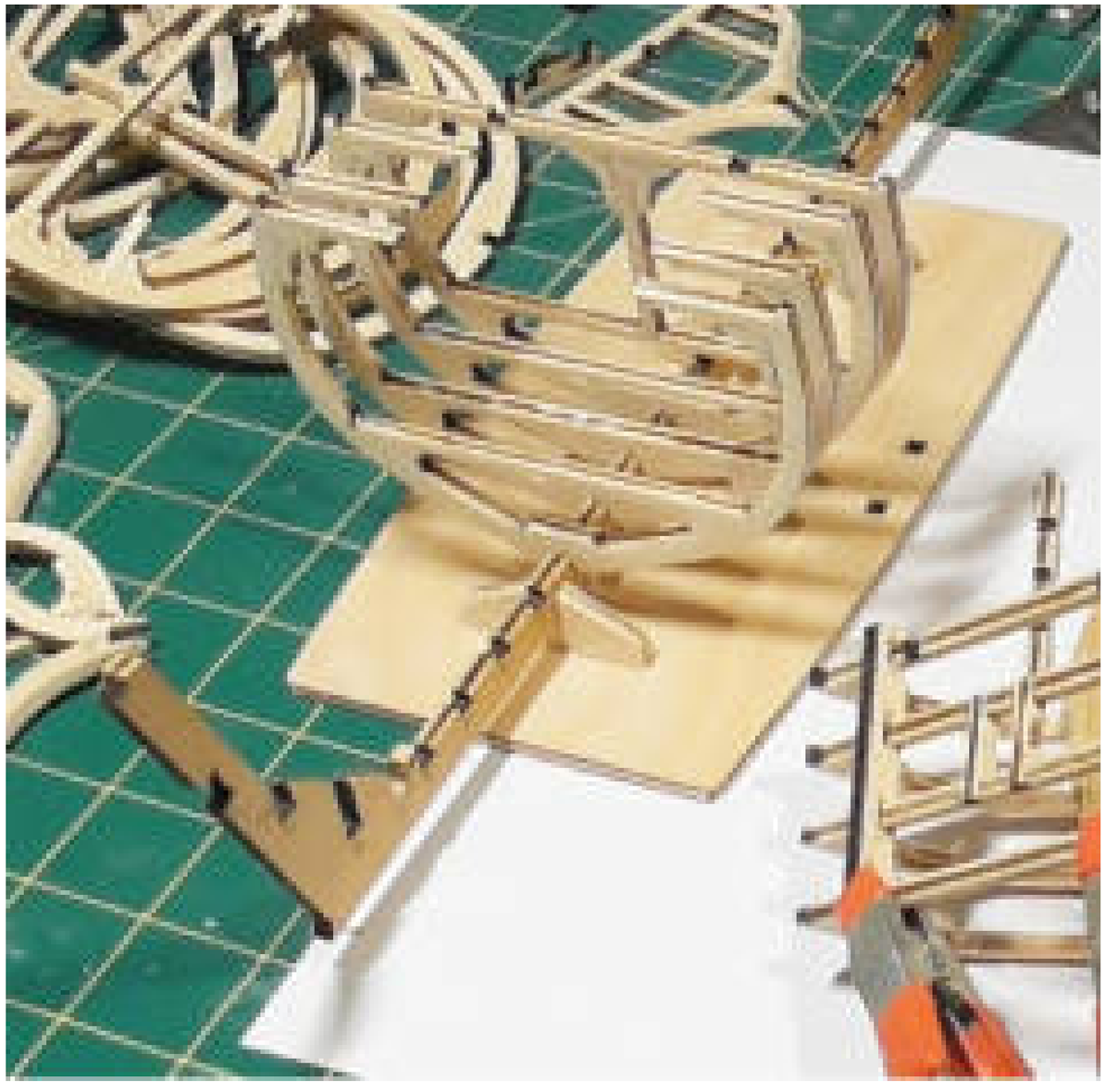


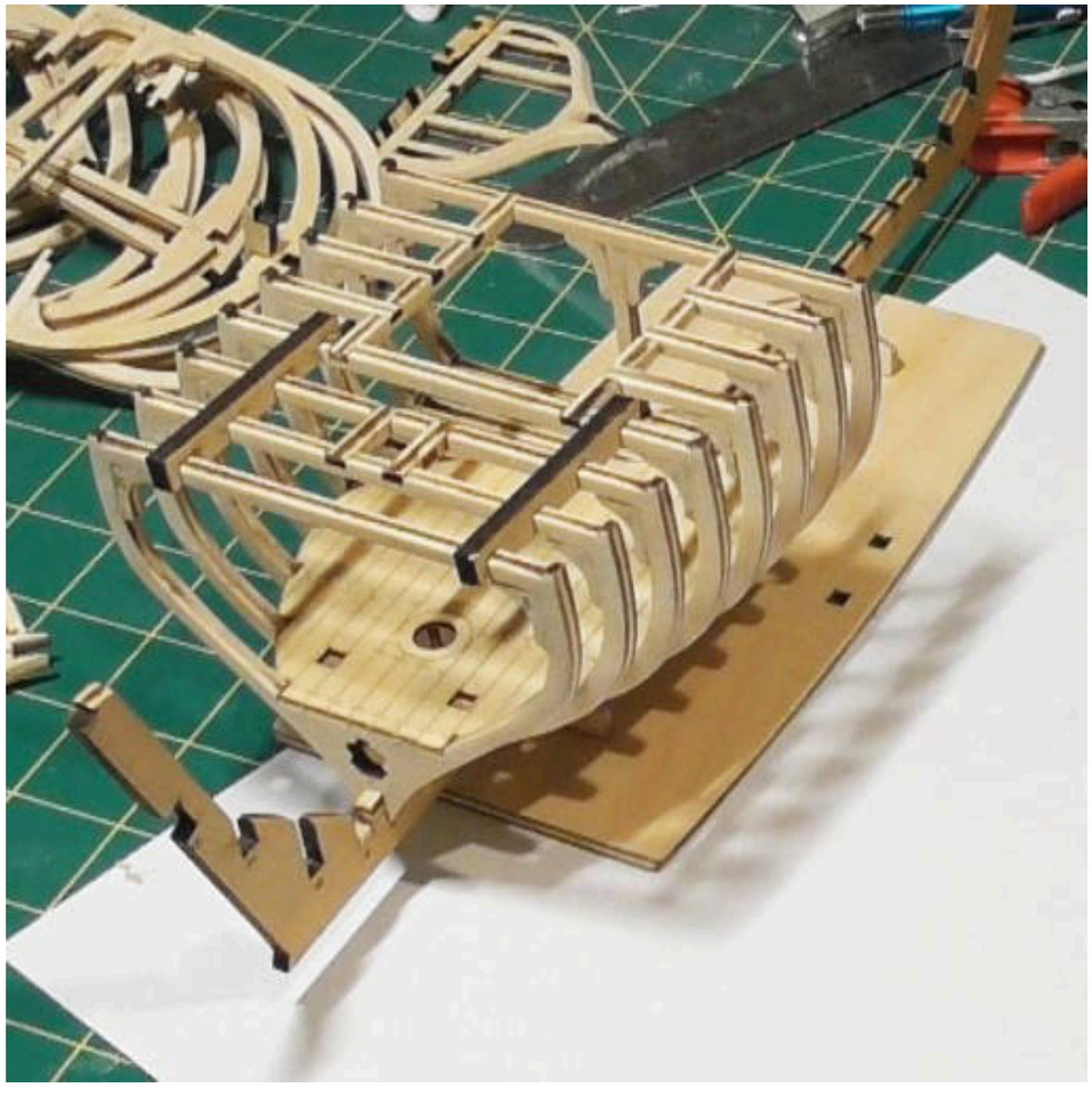


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7.4 Fitting Lower Deck and Frames 1 to 8 continued

Retrieve frames 2 to 4 - glue each frame in position on the keel as shown. Take the assemble lower deck and frames 5 to 8 and glue in position on the keel as shown. Glue the companionway beams in place as shown. Fit frame braces F in place as shown.

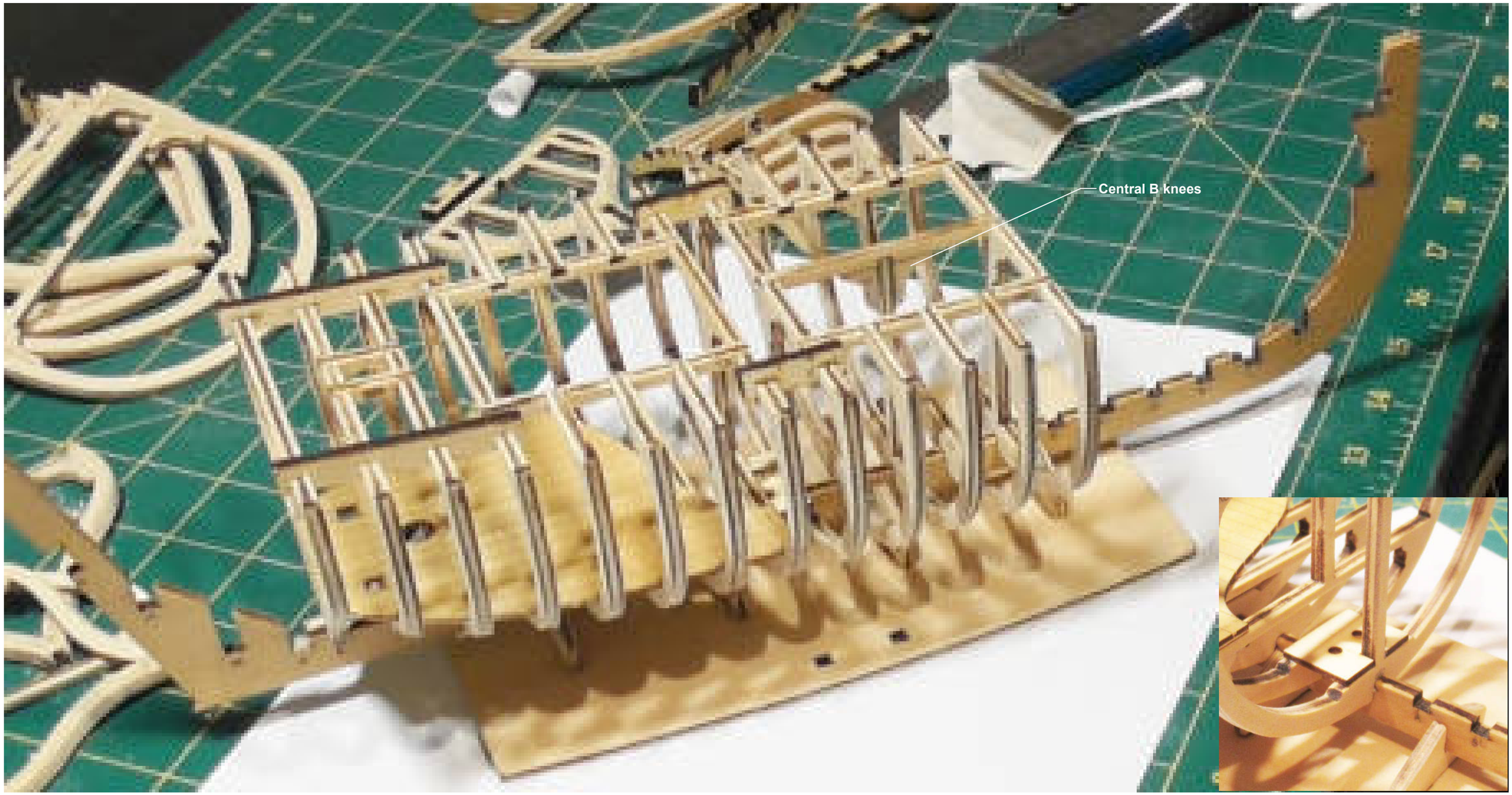




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7.5 Frames oXo and A to D

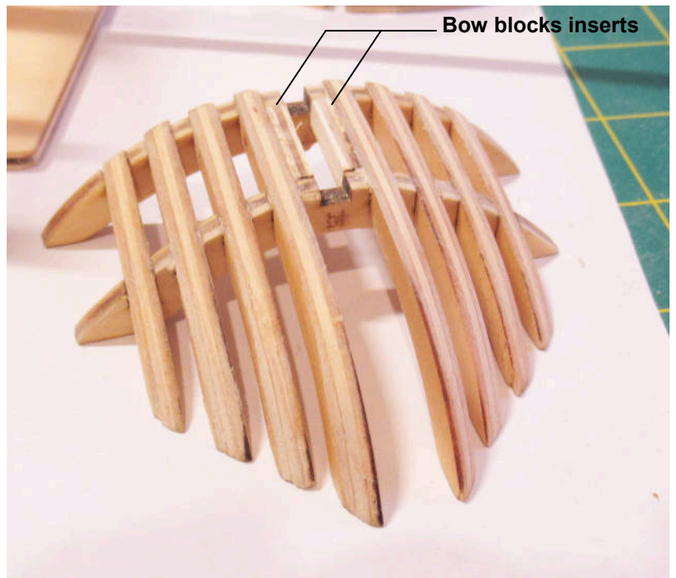
Retrieve frame oXo and frames A to D along with the main hatch beams and the remaining knees B. Glue frame oXo in place on the keel. Identify the pump pipe base P44 - glue in place between frames oXo and 1 as shown. Glue frames A to D in position on the keel as shown. Glue the main hatch beams in place as shown. Glue the two B knees on either side of the central hatch support as shown. Fit the frame braces as shown to hold all parts in place while the glue sets.

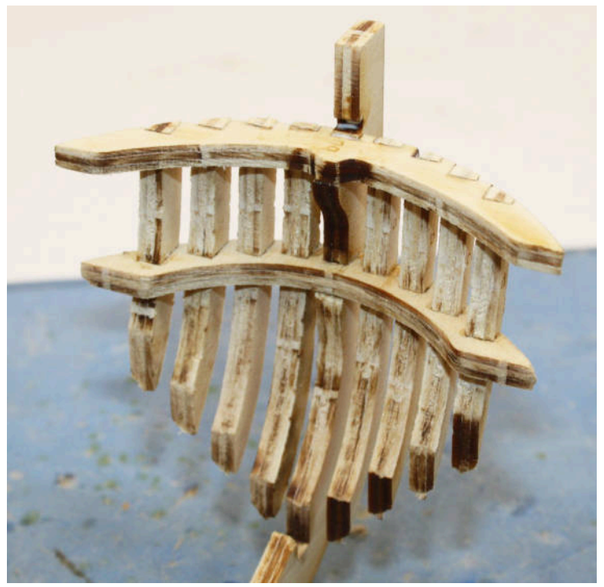


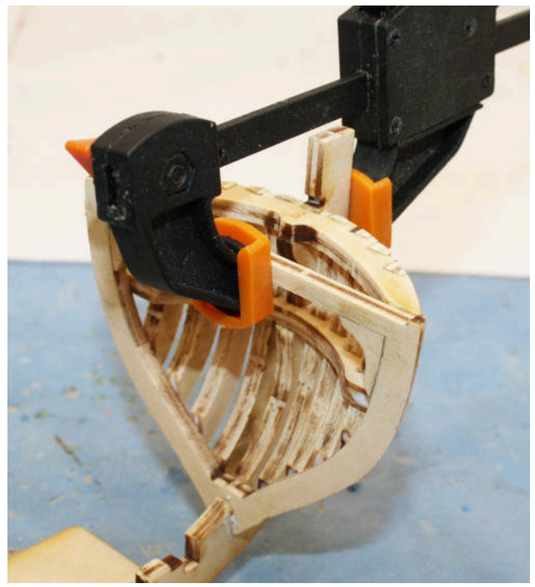
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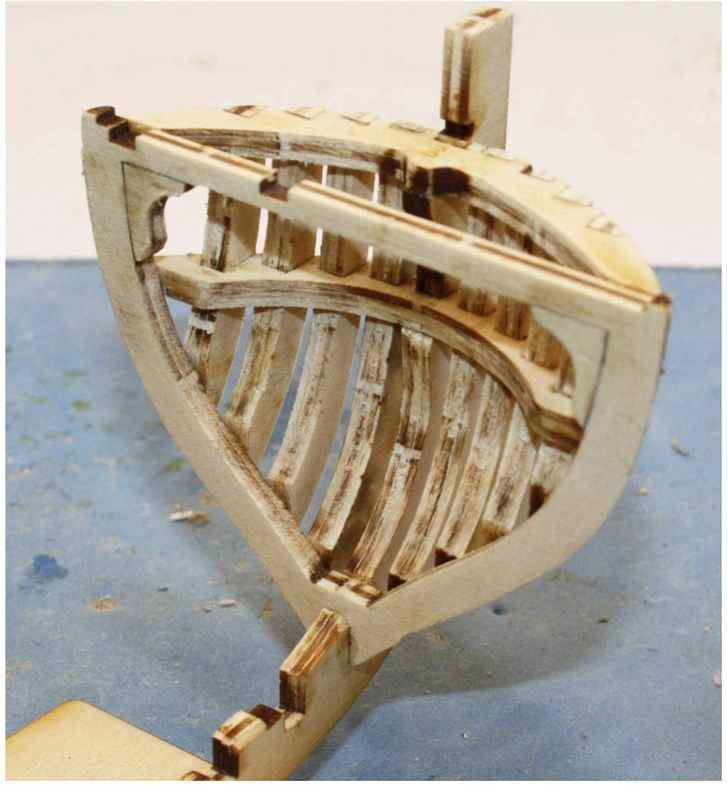
7.6 Assembled Bow Blocks and Frame J

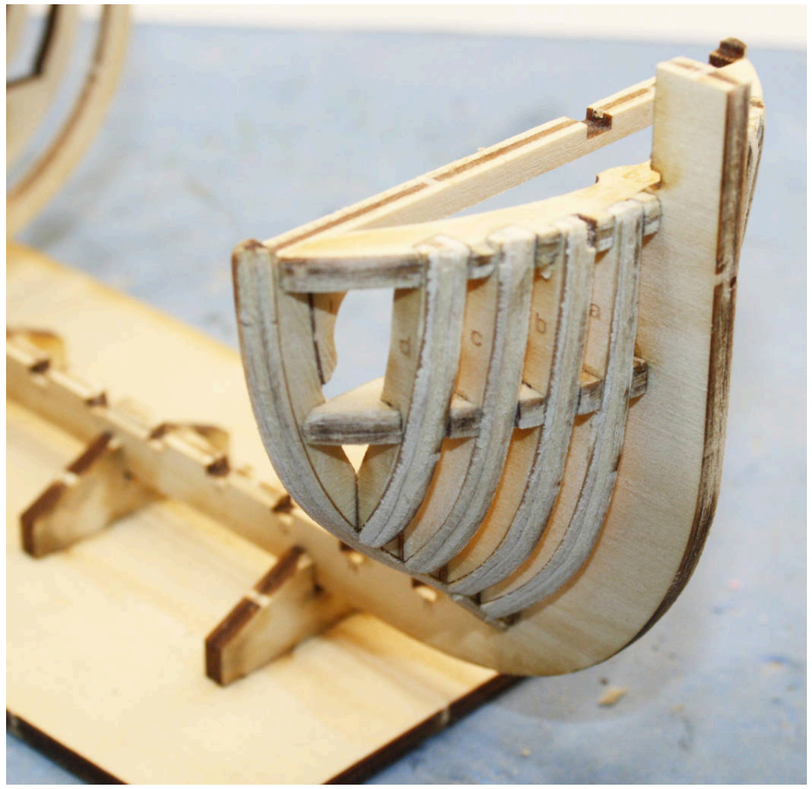
Retrieve the assembled bow blocks and frame J. Identify the bow block inserts P45 - glue in place against bow blocks A as shown. Glue the assembled bow blocks in place as shown. Glue frame J in place and clamp as shown.







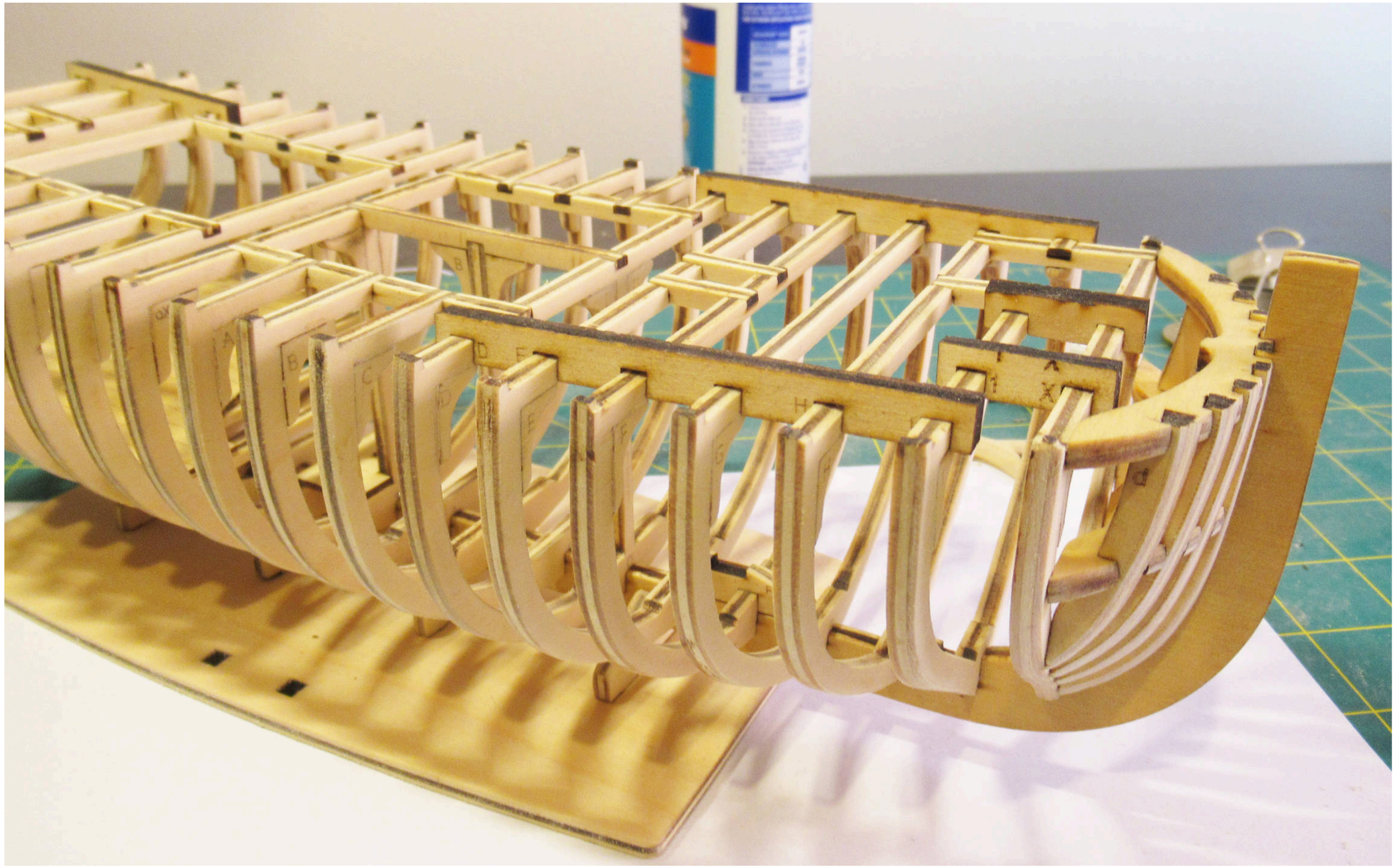




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7.7 Frame E to I

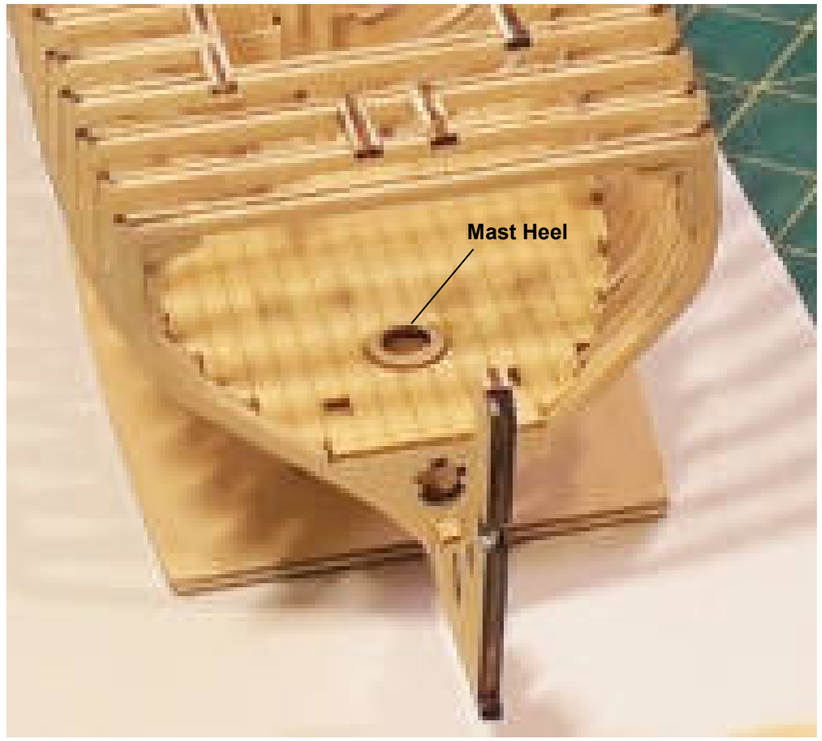
Retrieve frames E to I along with the main mast beams and forward hatch beams. Glue the frames in place along with the relevant beams. Fit the frame braces as shown to hold all parts in place while the glue sets.

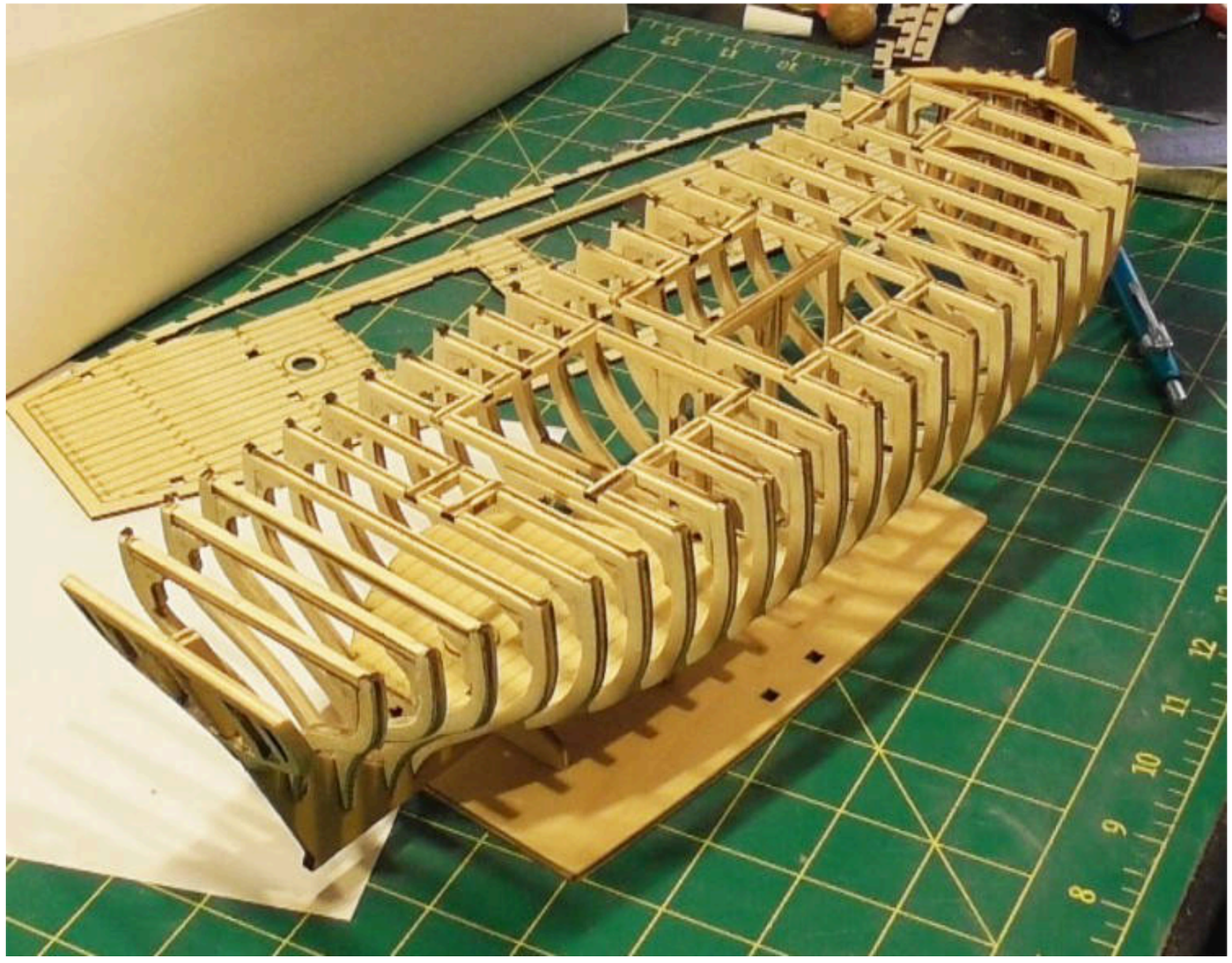


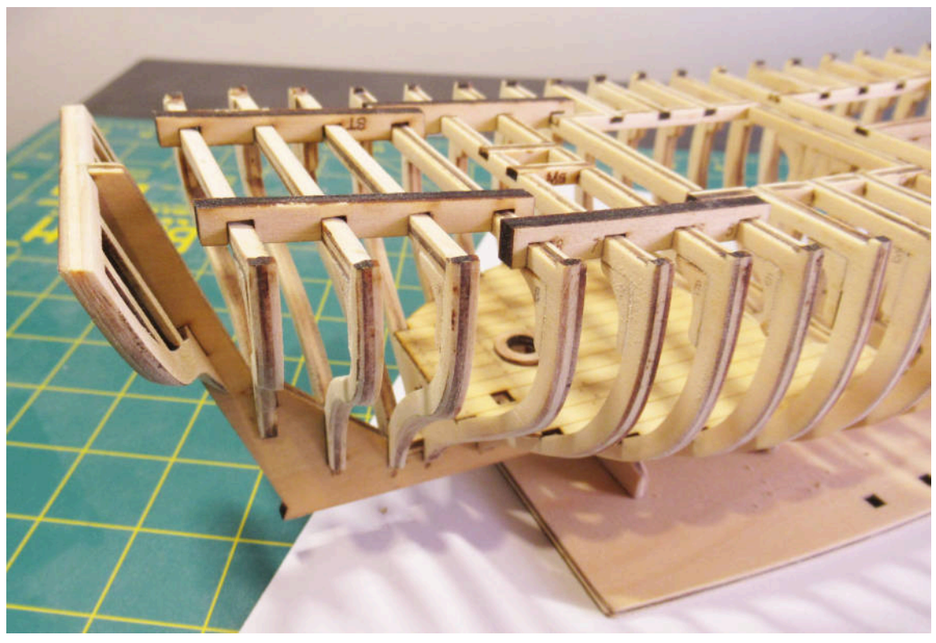
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7.8 Lower Deck Mast Heel and Frames 9 to 11

Identify the mast heel P43 - glue the mast heel in place on the lower deck as shown. Retrieve frames 9 to11 and the Transom. Glue the frames and transom in place along with the relevant beams. Fit the frame braces as shown to hold all parts in place while the glue sets. Once glue has set remove frame braces. Next choose your preferred timber finish - take your time to do a thorough job. Apply additional coats to achieve your desired colour shade. Once finished allow to dry naturally.



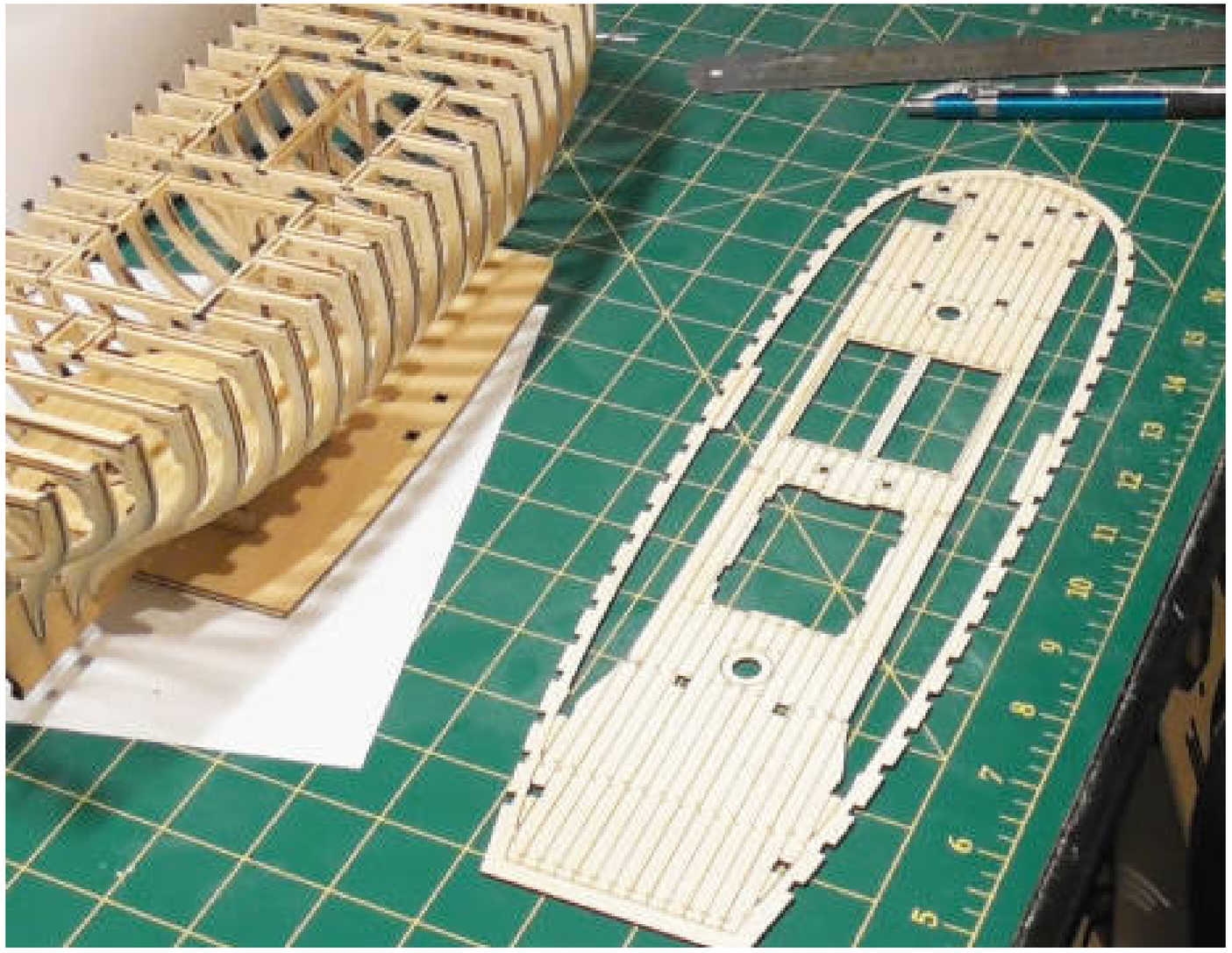


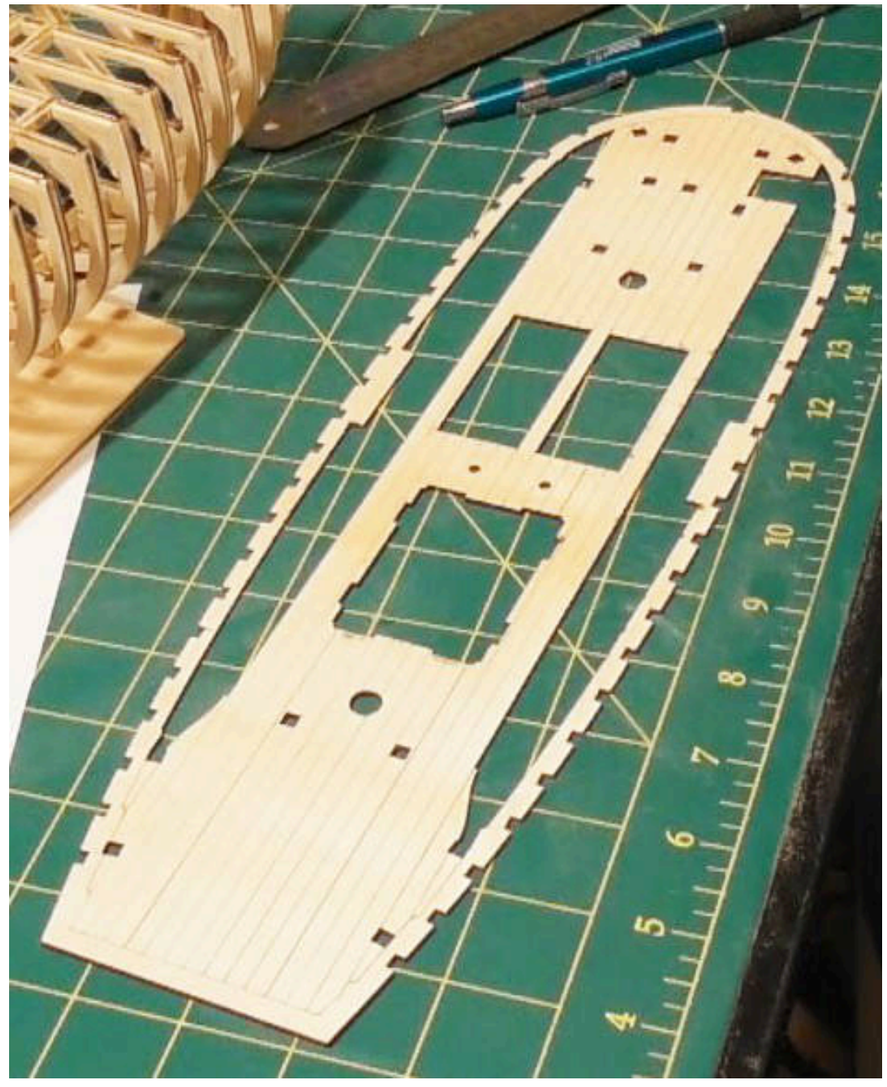


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7.9 Main Deck

Identify the main deck P46. Carefully remove the laser burn marks from the deck edge. As the underside of the deck can be seen there is the need to simulate the deck planking on this side. Use a pencil to mark the location of the ends of the score lines top face - use a pencil and a length of 5mm wide planking timber to then lightly mark lines on the deck underside as shown. Once complete use a pointed blade knife to lightly score these lines. Then draw along these lines with sharp pencil. Use a pencil eraser to lightly remove any excess. Apply two coats of a clear matt polyurethane spray finish to both sides of the deck as protection - set aside to dry.

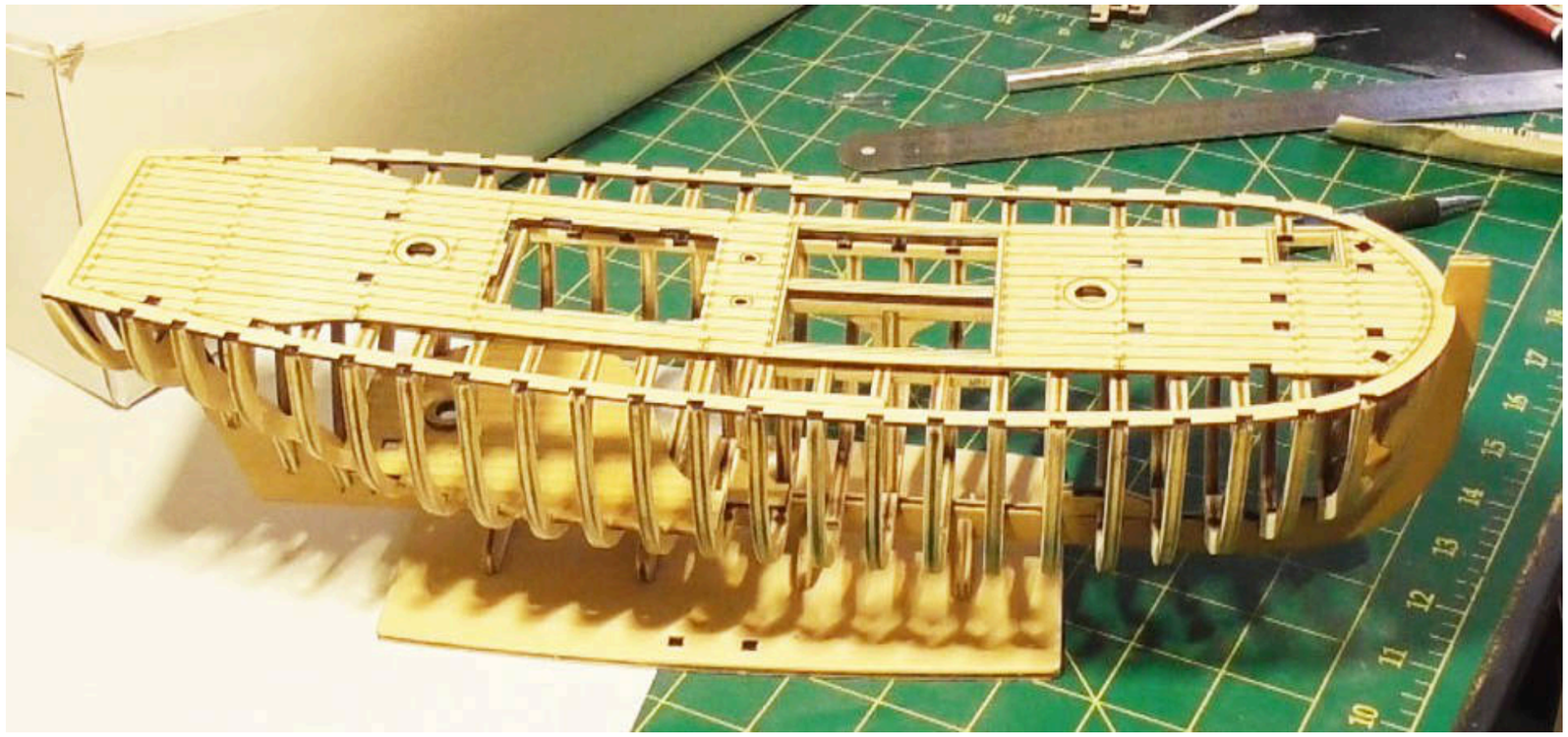


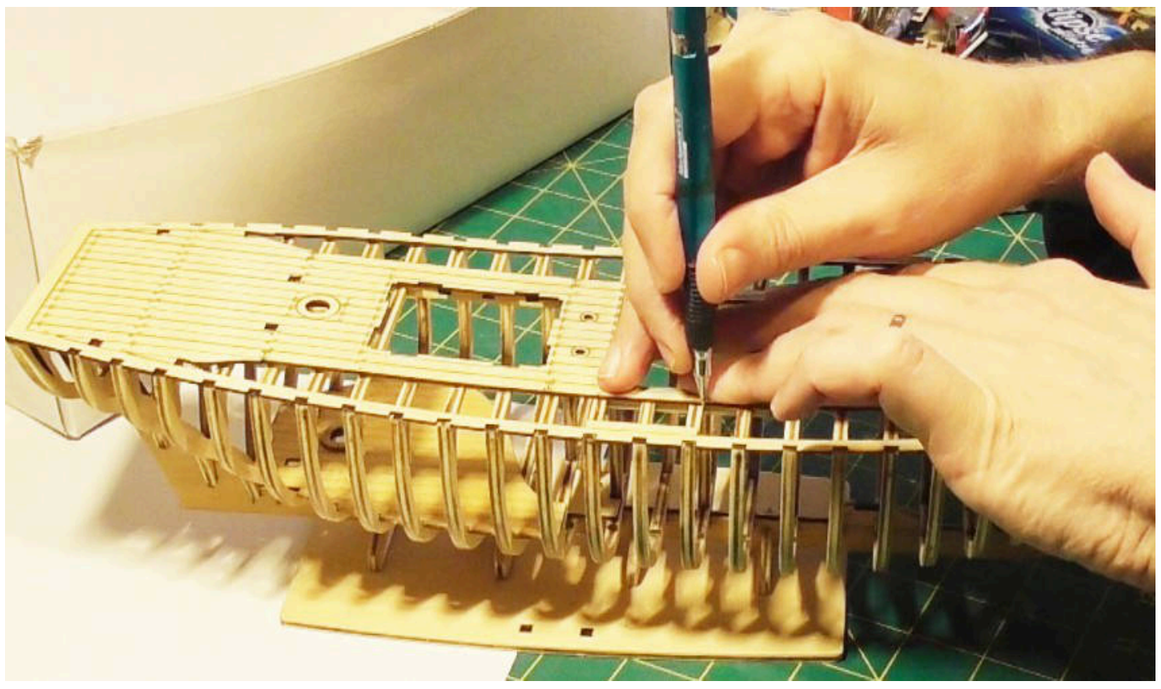


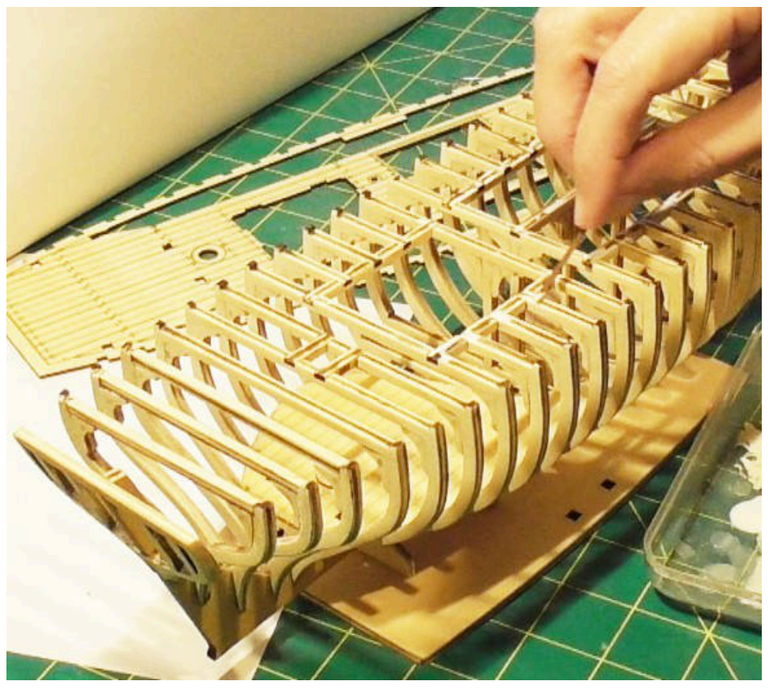
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7.9 Main Deck continued

Trial fit the main deck. Use a pencil to mark the outline of the deck across the frames. Remove the deck and apply glue to the contact points between the deck and frames as shown. Fit the deck in place.



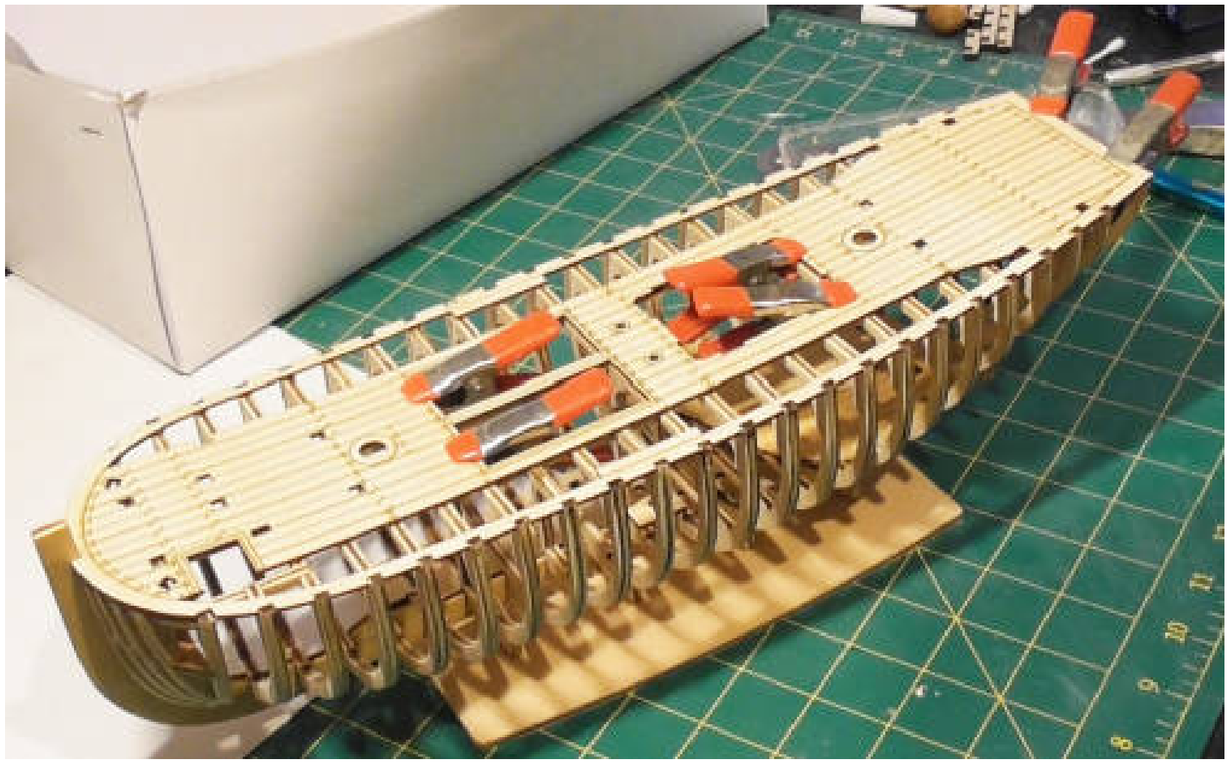




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7.9 Main Deck continued

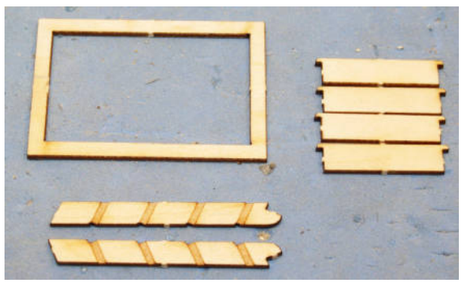
Apply clamps and weights to hold the deck in place until glue has set. Once the glue has set use a sanding block to fractionally adjust the frames and deck edge to ensure they are flush.

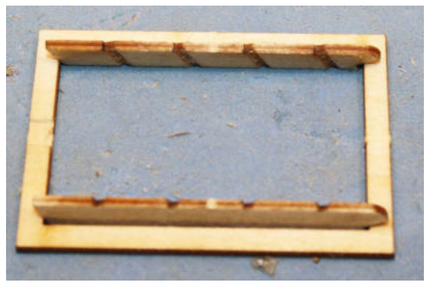




7.10 Companionway Steps

Identify the companionway step runners P47A, step treads P47B and step jig P47C. Assemble as shown - fit the runners inside the jig. Glue a tread in place at the top and bottom as shown. Glue remaining treads in place. Set aside for glue to set. Glue assembled steps in place on model as shown.

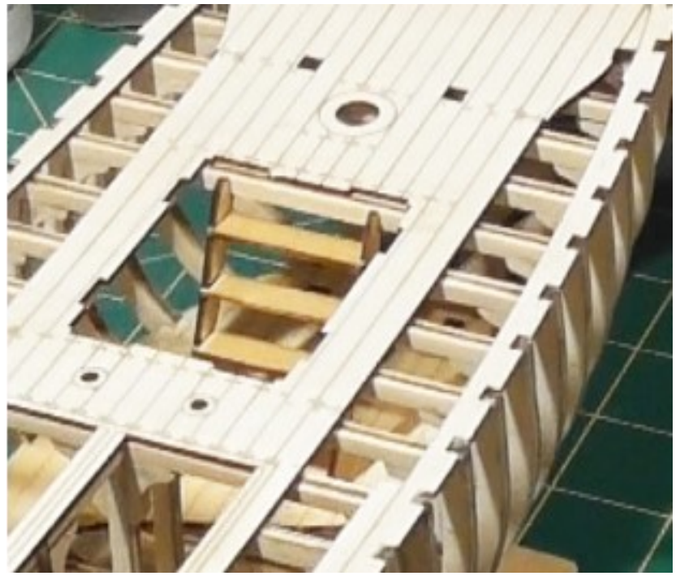








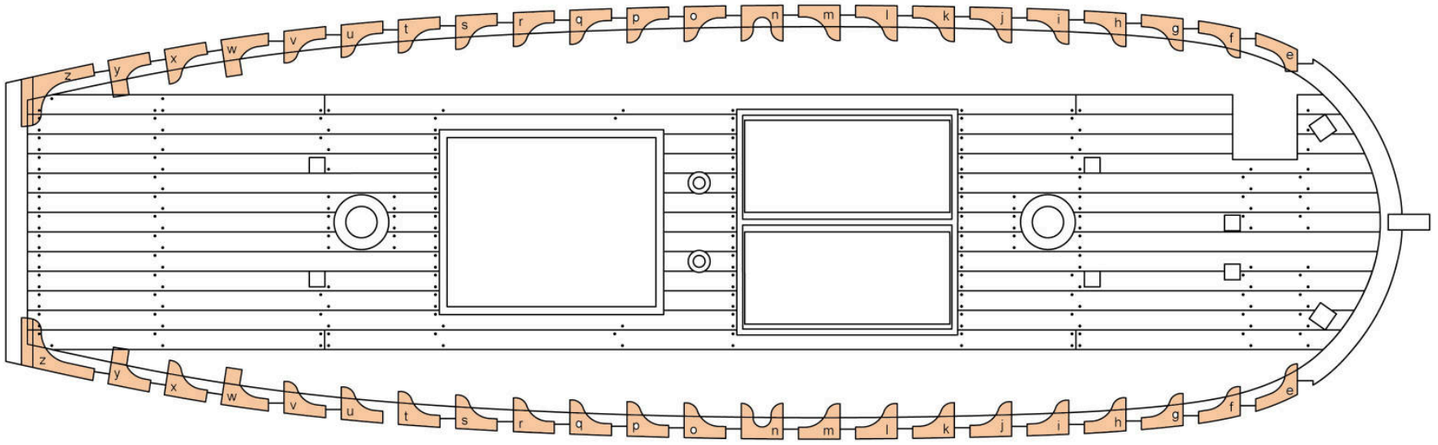


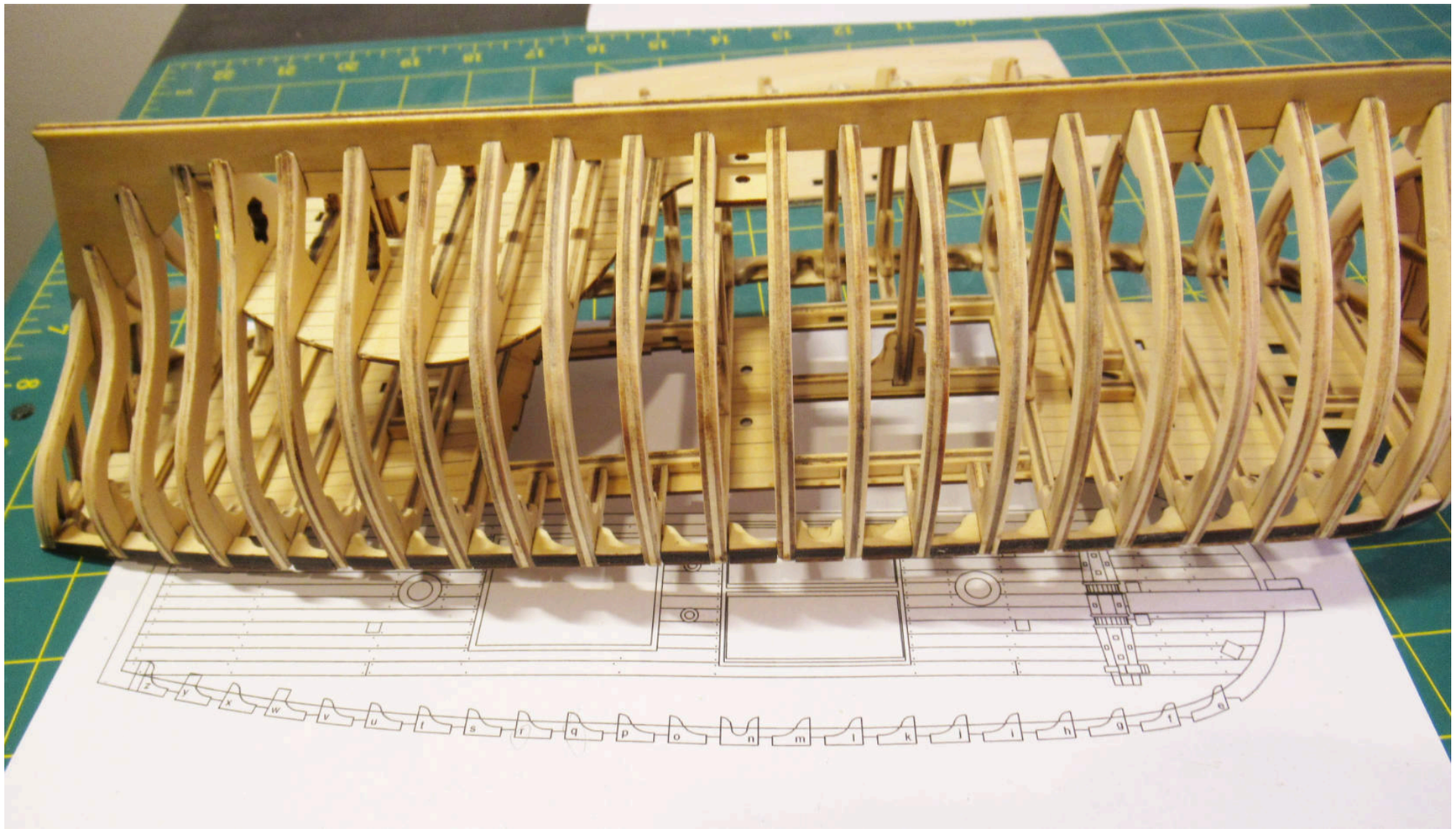


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7.11 Lodging Knees

Identify the lodging knees P48 e to z. Prepare each knee making sure to round the curved edges. Note knee “n” is called a double lodging knee. Note also knee “z” has pre-fairing lines. Turn the model over as shown. Starting with knee “e” glue in place as shown in the figure below. Place the identification letter down. Make sure the knee is flush with the deck edge. Repeat for the rest of the knees. Repeat for the other side of the model.



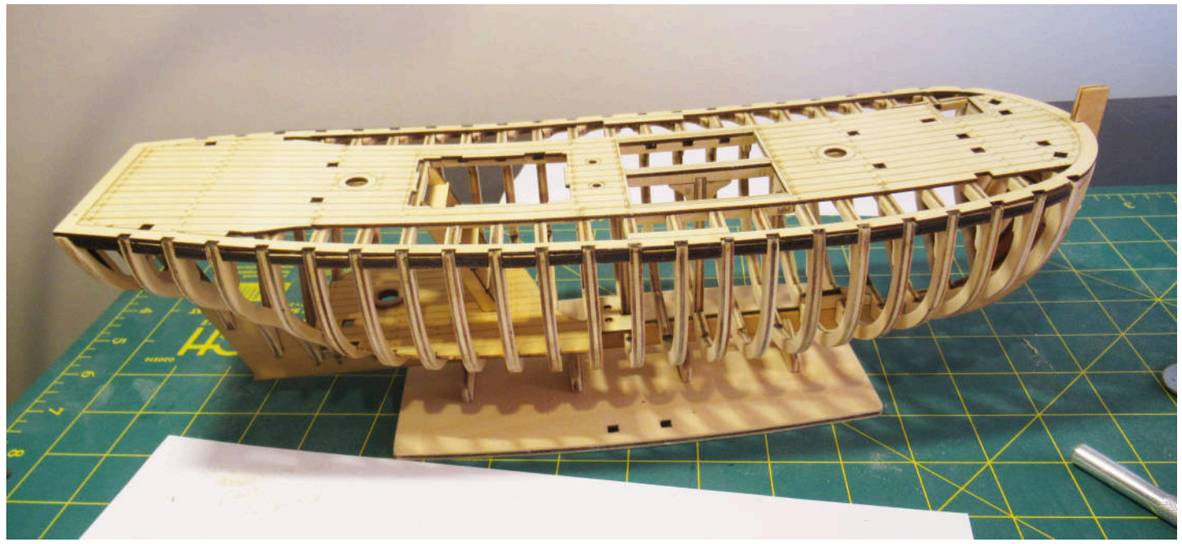


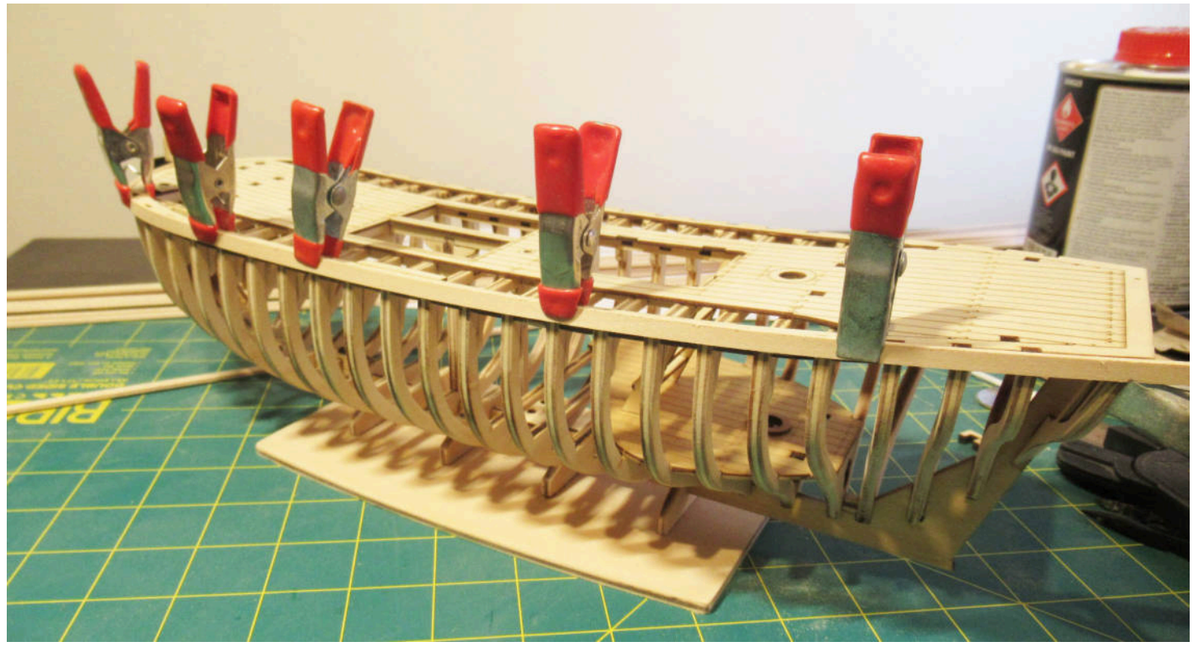
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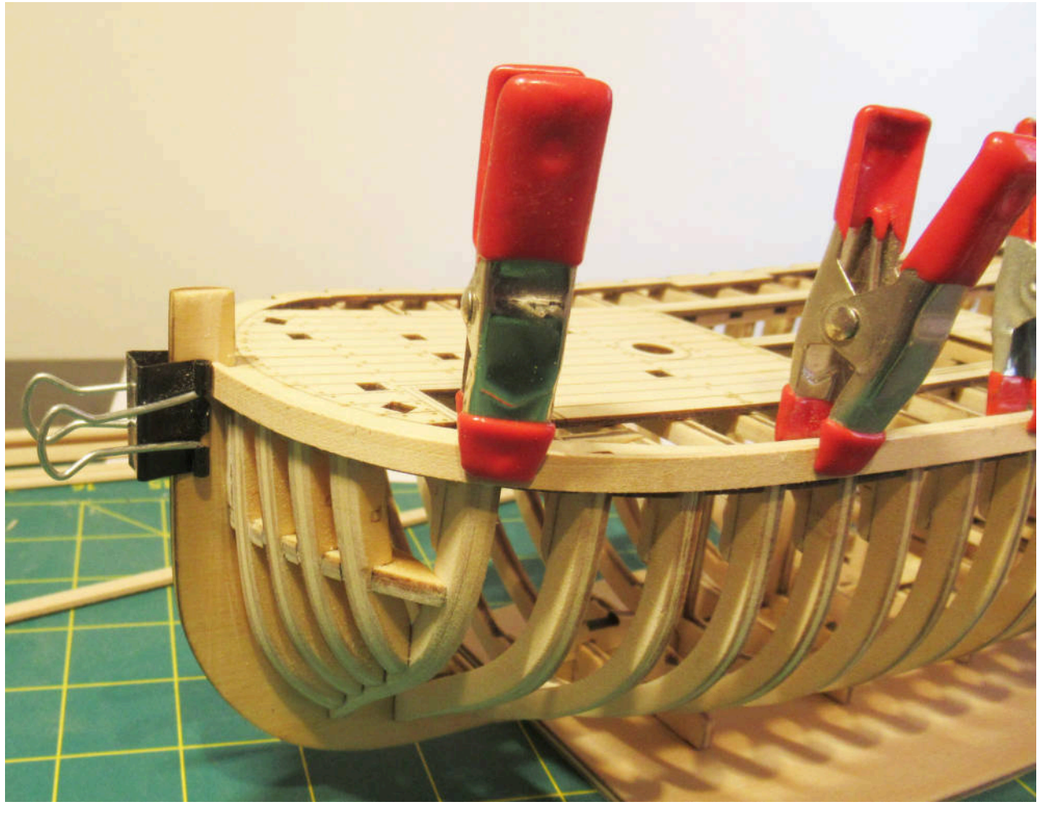
8.0 Hull Planking

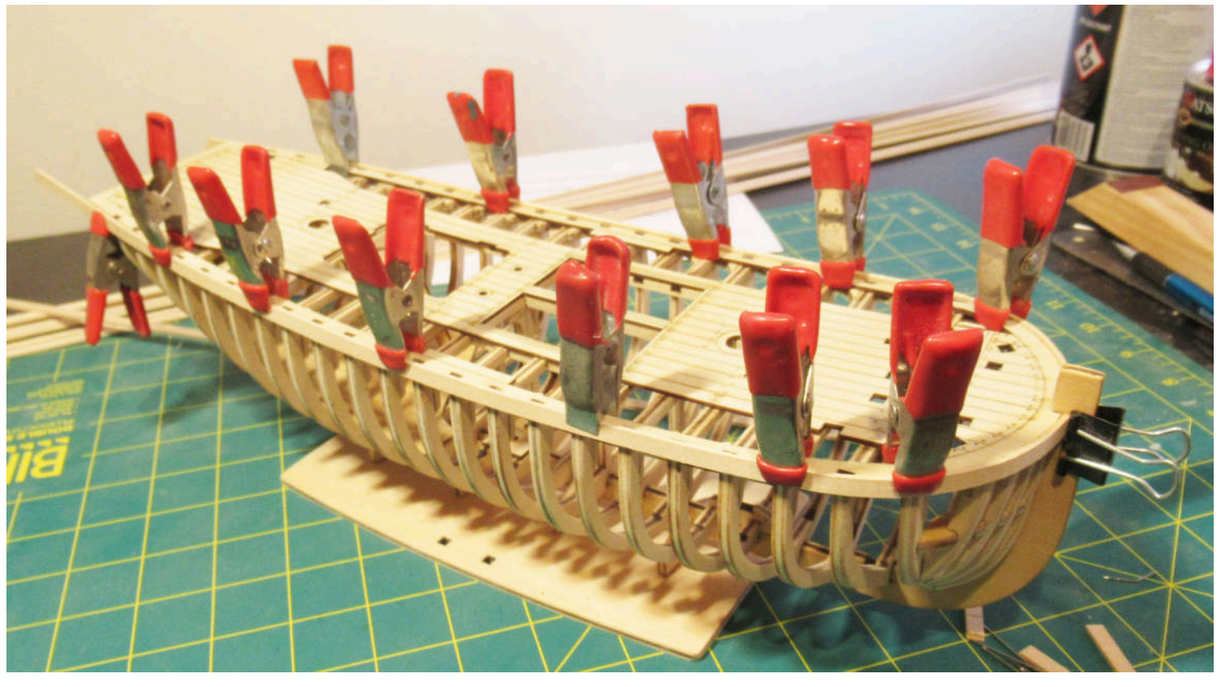
8.1 First Layer

Identify the 2x5x400mm basswood planking P49. Take one plank and lay it across the frames from bow to stern - move it up and down over the frames checking the fairing of the frames - if there are any minor inconsistencies use a sanding block to fractionally adjust. Take one plank and shape it to fit along the hull flush with the top of the deck - use a hand held plank bender to shape the bow end to fit around the bluff bow. **Do not taper this plank.** Use map pins/clamps to hold the plank in place as shown. Once satisfied glue and pin/clamp the first plank in position - repeat for the other side of the hull as shown.





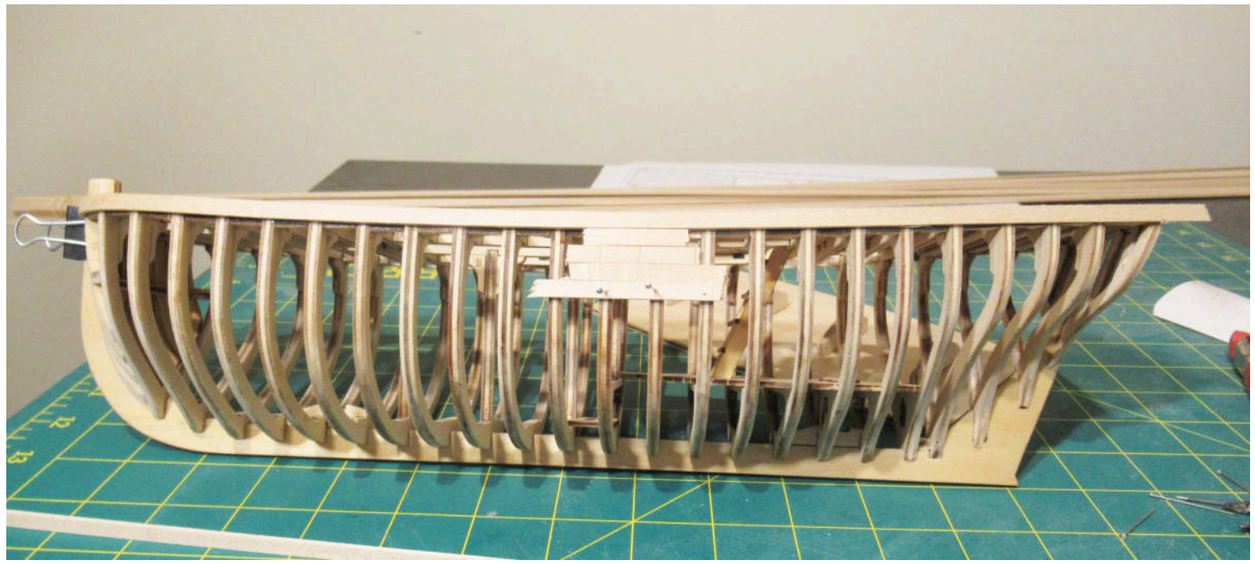


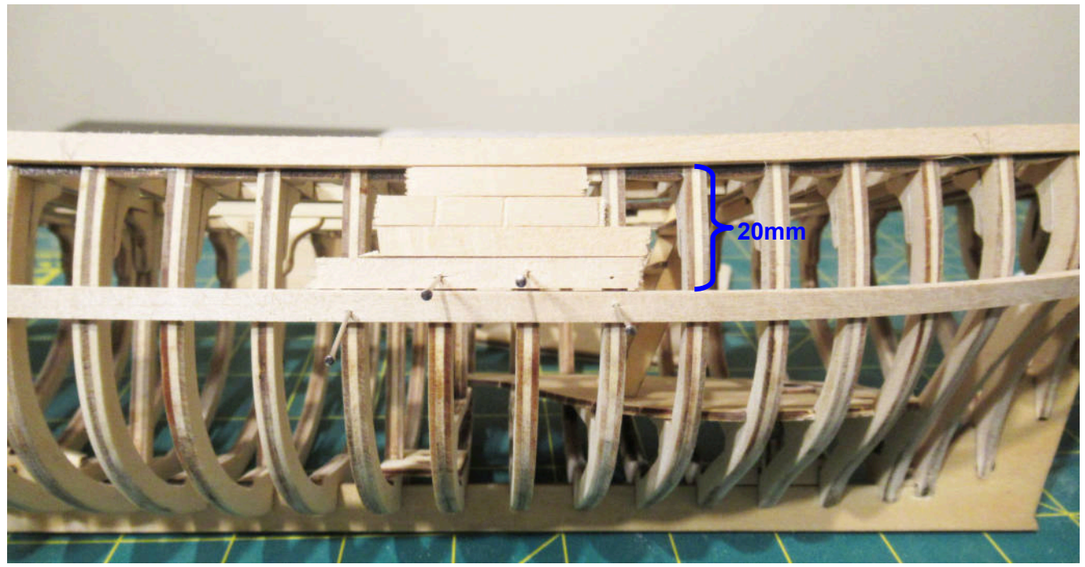


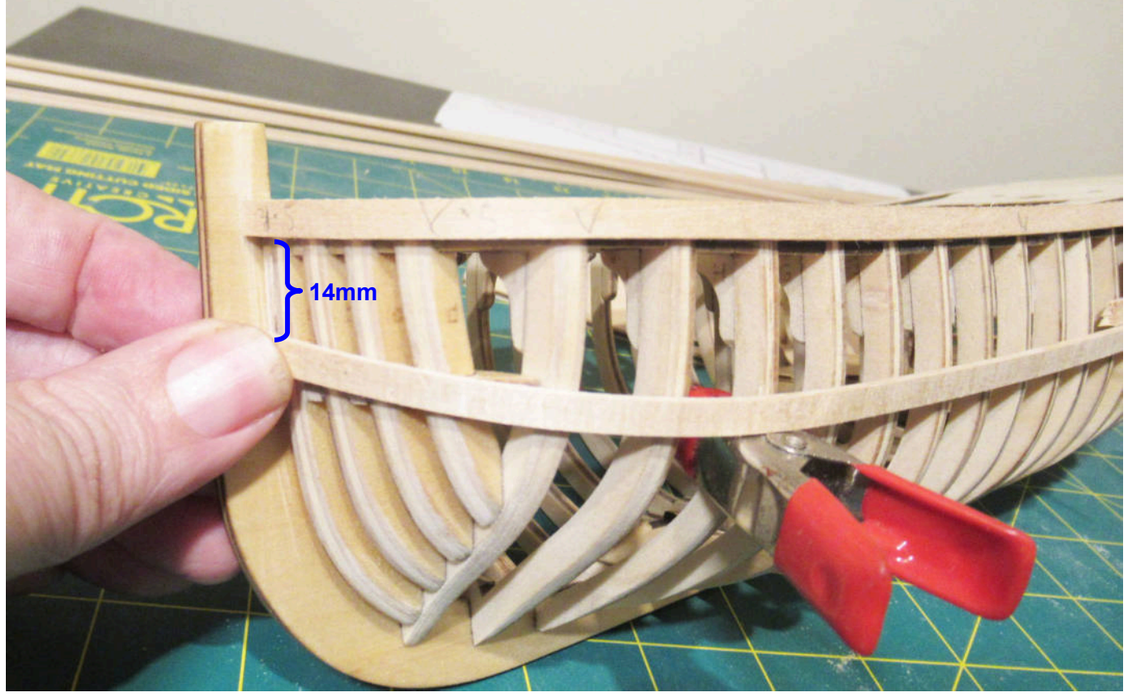
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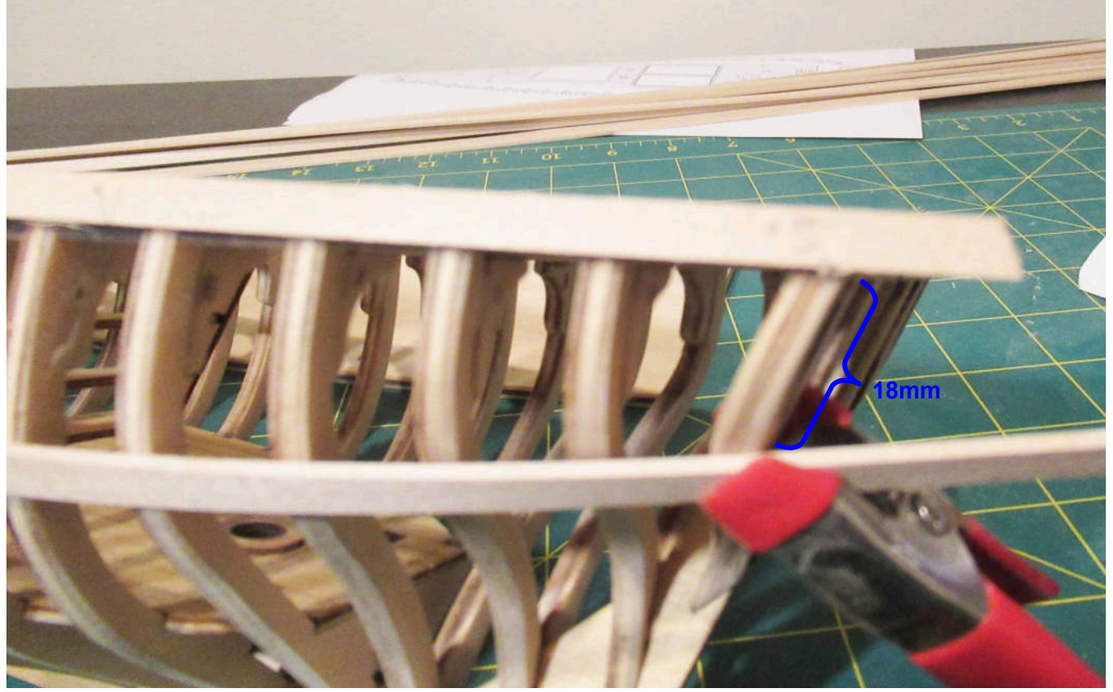
8.1 First Layer continued

We are going to create a planking band. First cut 4 short lengths of the 2x5mm basswood planking - use map pins to hold these 4 lengths across the mid-ship frames 2 to B as shown. Next take a length of planking and pin it in place immediately below the 4 mid-ship planks - this is a temporary plank. Allow this plank to follow its normal direction across the frames both fore and aft - do not force the plank into any particular position - use map pins/clamps to hold the plank in place at the bow and stern as shown. The nominal width of the basswood planking is 5mm. This means the gap between the first plank fitted and the temporary plank is 20mm (approximately) as shown at the mid-ship area. The gap at the bow-stem post is approximately 14mm. Using a dressmaker's tape measure the gap across the transom side is approximately 18mm. This has created a band within which the planks will be tapered to fit.





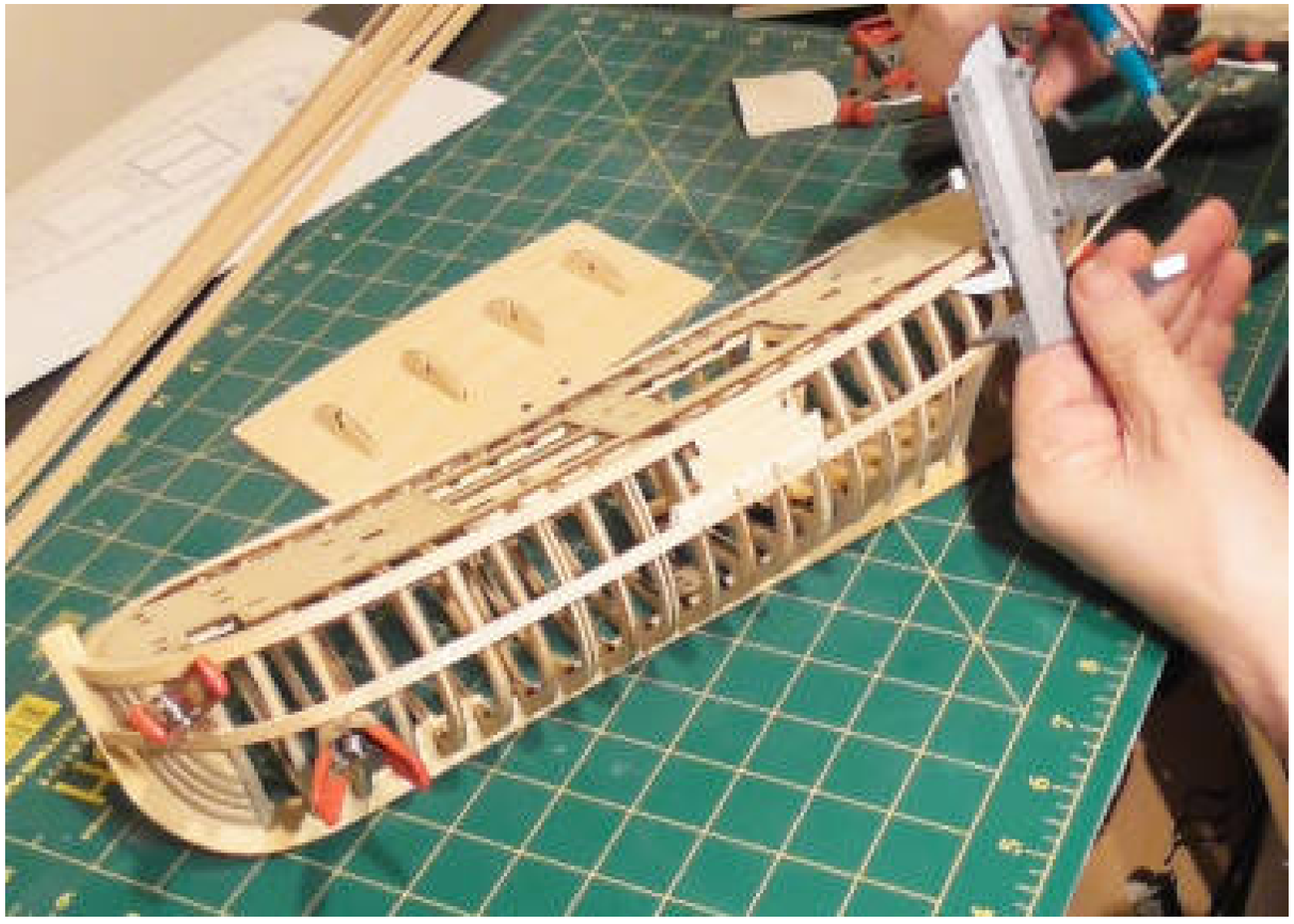




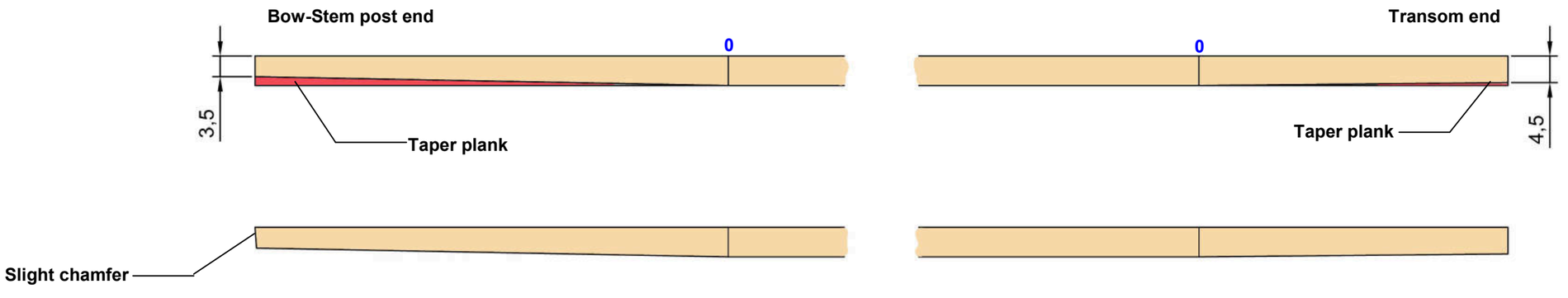
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8.1 First Layer continued

From these measurements, at the bow-stem post gap the planks need to be tapered from 5mm down to 3.5mm (14/4). At the transom gap the planks need to be tapered from 5mm to 4.5mm (18/4). To determine the location on each plank where to start the tapering set your vernier calipers at 20mm - then starting at the mid-ship area where the gap is 20mm slowly move the calipers along the gap towards the stern - at the point where the gap starts to become less than 20mm - you will notice the verniers tighten within the gap. At this point use a pencil to mark on the first plank fitted the number “0” - this is where your tapering will start. Repeat these steps going from the mid-ship are to the bow.



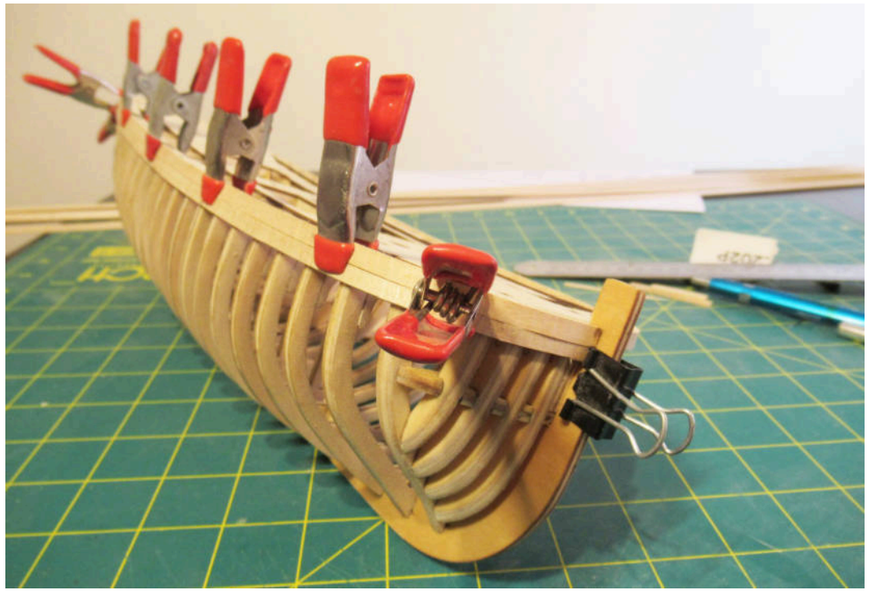
Next take a plank P49 and roll it around the bow and cut it to length allowing approximately 5mm overhang at the transom end. Lay this plank in place under the first plank and transfer the two “0” points. At the bow-stem post end mark 3.5mm. At the transom end mark 4.5mm at the plank end. Next draw a line from each “0” point to the plank ends. Lay the plank flat on a cutting surface and using a steel rule and a pointed blade knife slowly and carefully remove 1.5mm from the bottom edge of the plank along the pencil line. To remove the minimal amount of transom end of the plank use a sanding board from the “0” point to the end of the plank. Cut a slight chamfer at the bow-stem post end to make sure the plank fits square on to the stem post. Shape another 7 planks - 4 planks for each side of the hull.

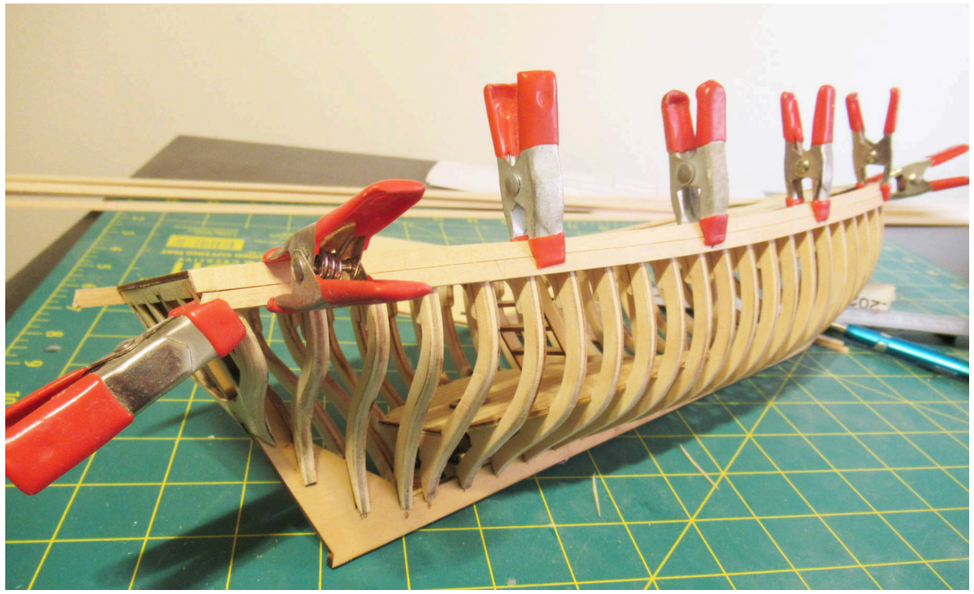


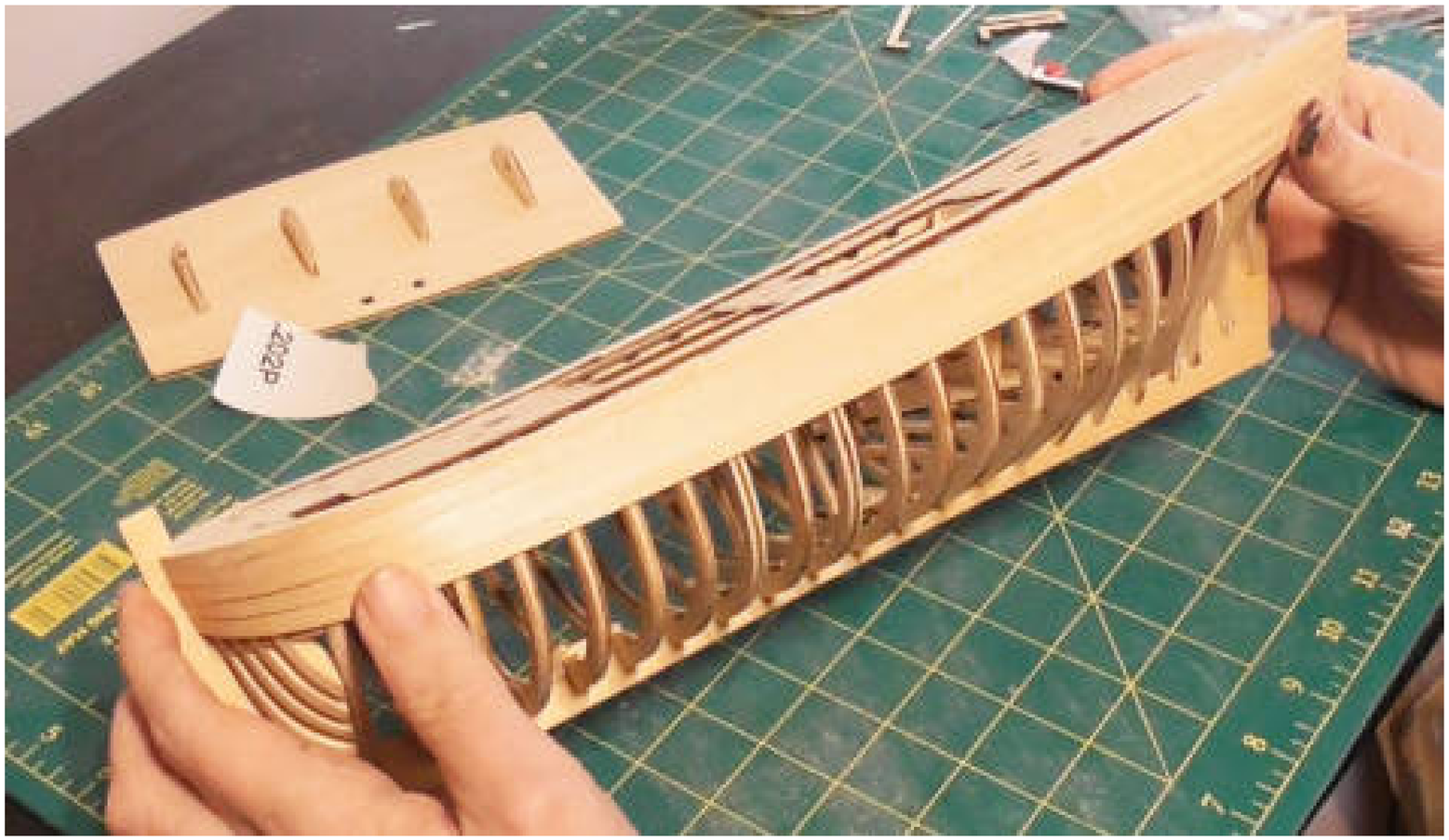
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8.1 First Layer continued

Remove the temporary plank. Glue and pin/clamp another tapered plank on each side of the hull. Continue until you have fitted the additional 4 planks on each side. Once complete use wood filler to fill any gaps then lightly sand the planks to give a smooth finish. Sand the top plank so that it is flush with the deck. Sand the planks at the stern to be flush with the transom.



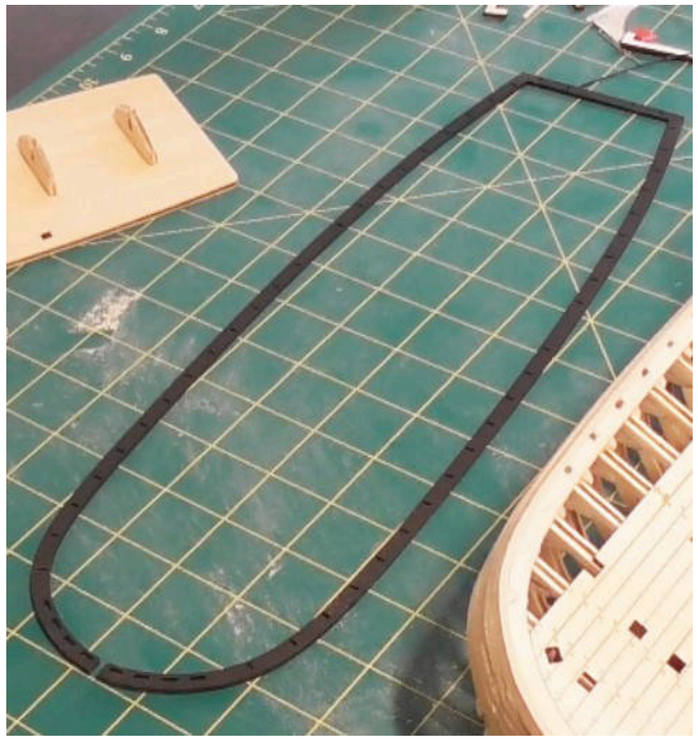




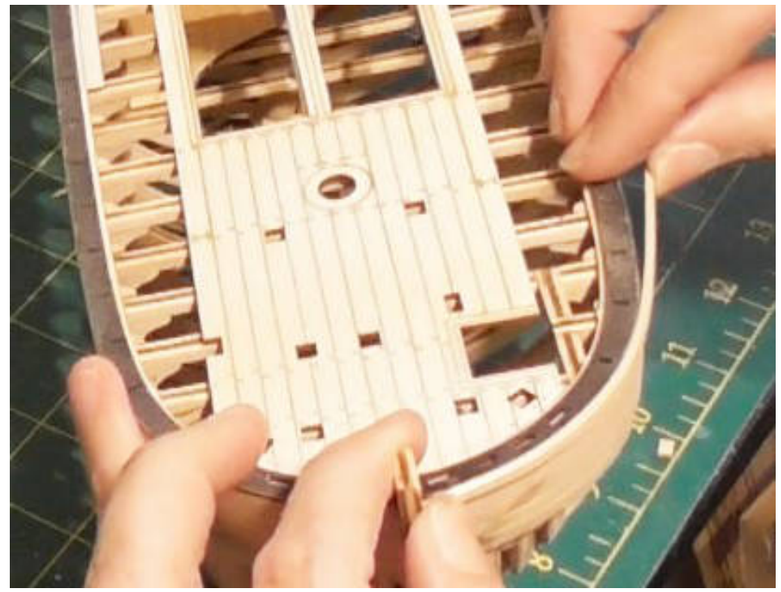
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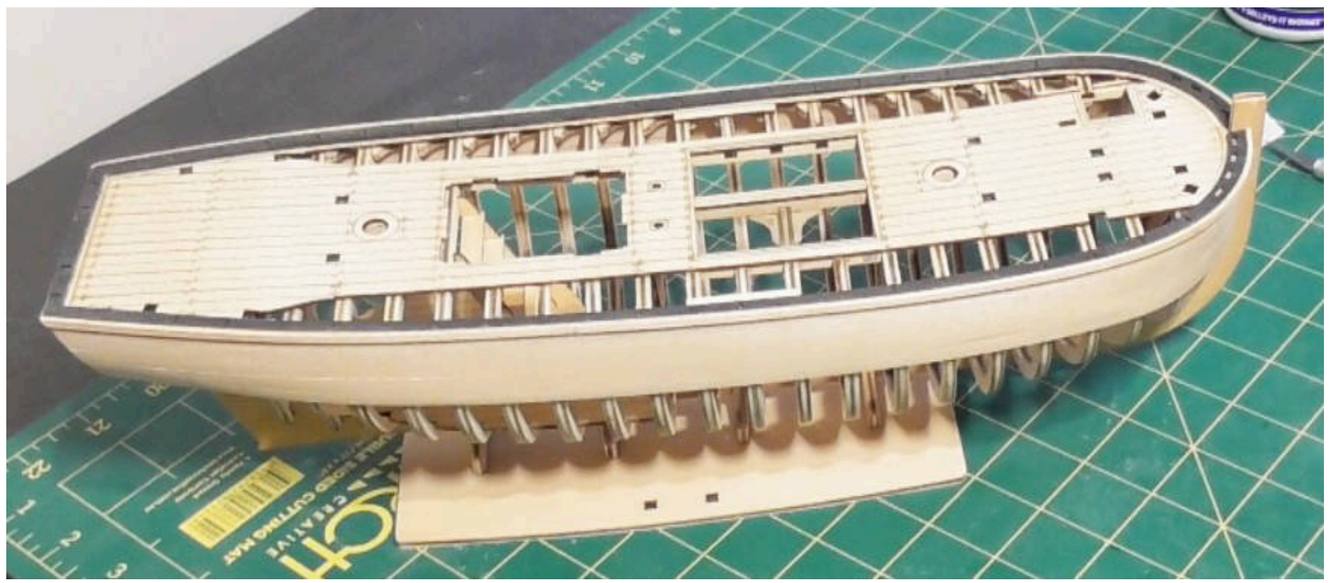
8.2 Deck Fence Base and Trim

Identify the deck fence base P50 - lightly sand and paint matt black as shown. Once dry glue and pin/clamp in position around the deck edge as shown. Once glue has set lightly sand the edge to be flush with the planks. Identify the 1x3mm limewood P51 - cut lengths to fit around the top edge of the fence base on both sides of the hull and across the top at the transom. Glue and pin/clamp in place. Once glue has set paint this trim matt black.







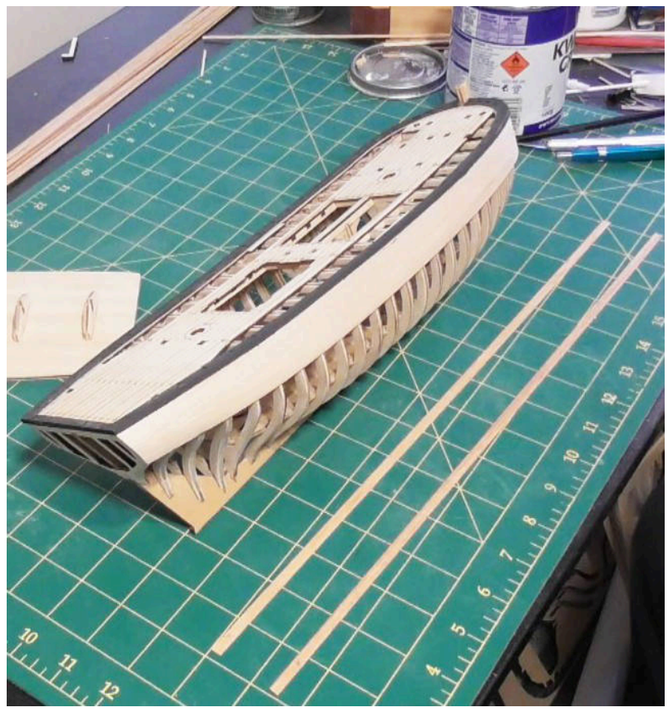


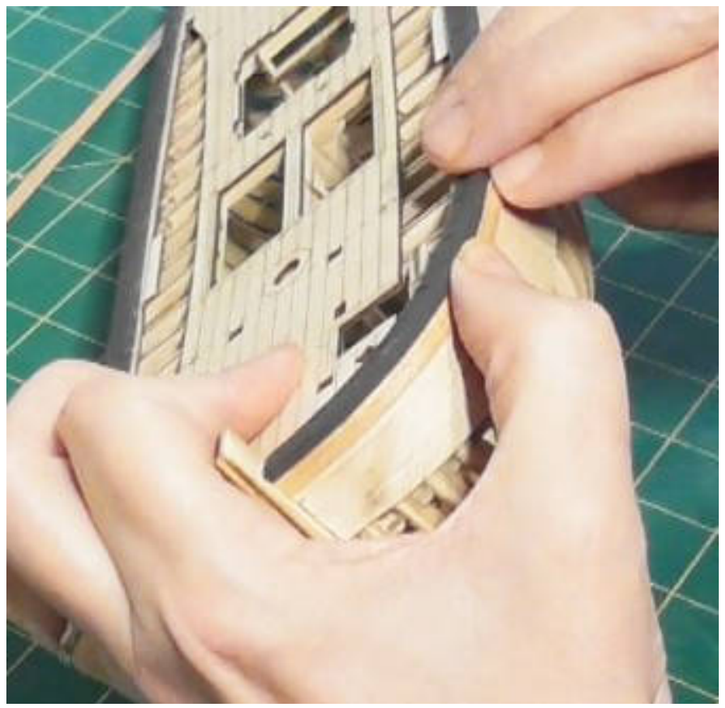


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8.3 Second Layer

Identify the 1x6x400mm tanganika planking P52. Do not taper these planks. Trial fit a plank in place - trim the plank end at a slight angle that fits against the stem post. Use a contact glue to fix the second layer planks in position. Use a paint brush to apply the glue to both surface areas - when both surfaces are touch dry slowly and carefully fit plank in position. Fix three planks immediately below each other as shown - slide a round knife handle along the newly placed plank to ensure a good bond. Trim off the over hang at the stern of each plank as shown. Repeat for the other side of the hull.











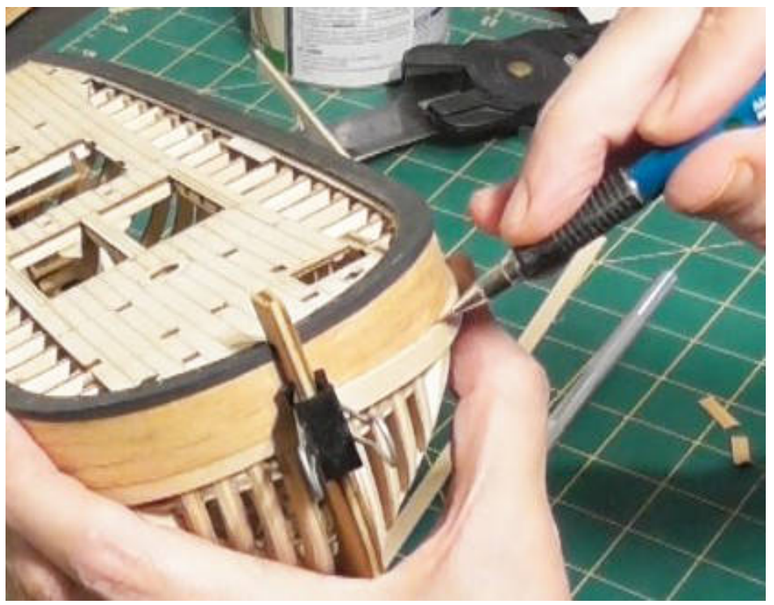
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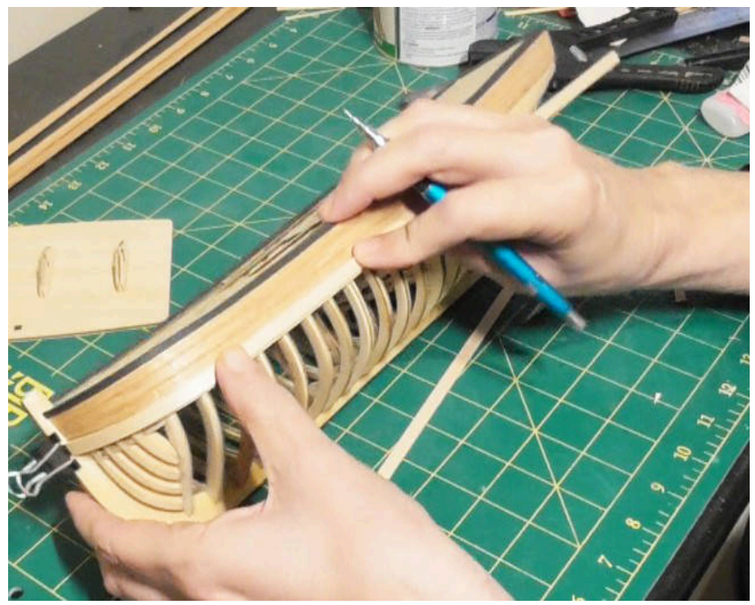
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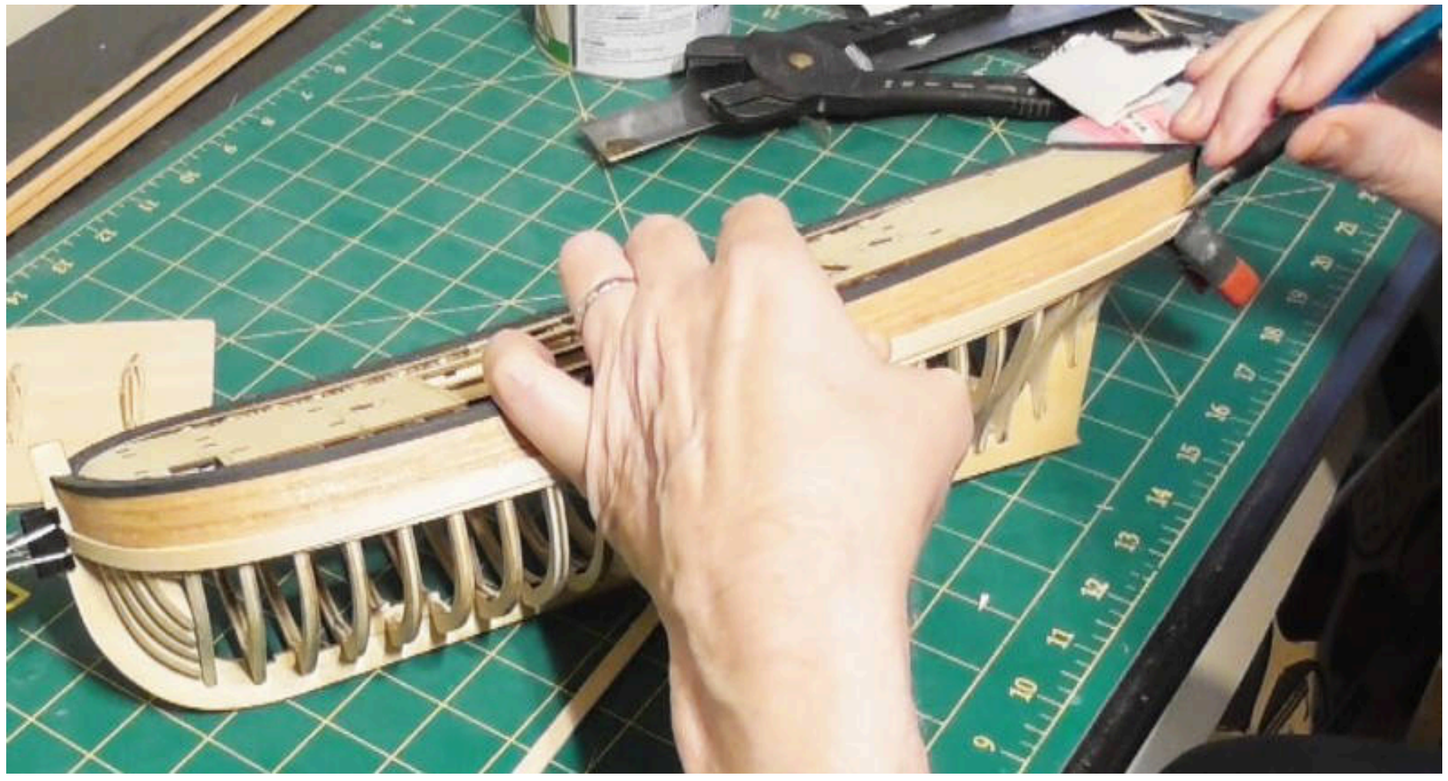
8.4 Wale

Identify the 1.5x6x400mm limewood P53. Shape the bow end of the plank to curve around the bow. Trim the stem post plank end at a slight angle that fits against the stem post. Trial fit the plank in place along the hull so that it fits flush with the bottom edge of the last plank fitted of the first layer. Temporarily use map pins/clamps to hold the plank in place. You will notice at the bow the plank will rise over the second layer plank. Also at the stern the plank will rise over the second layer plank. Use a pencil to mark the area of overlap.





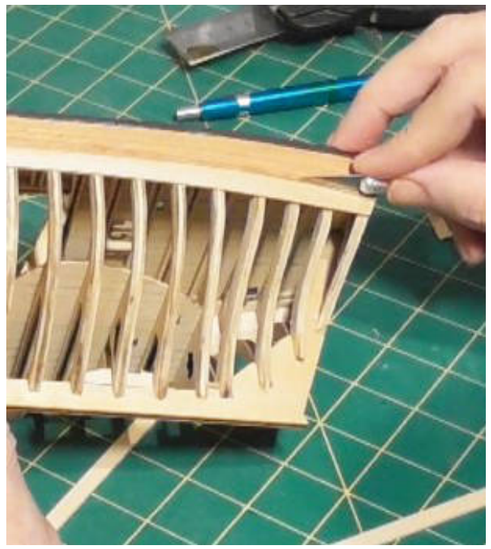




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8.4 Wale continued

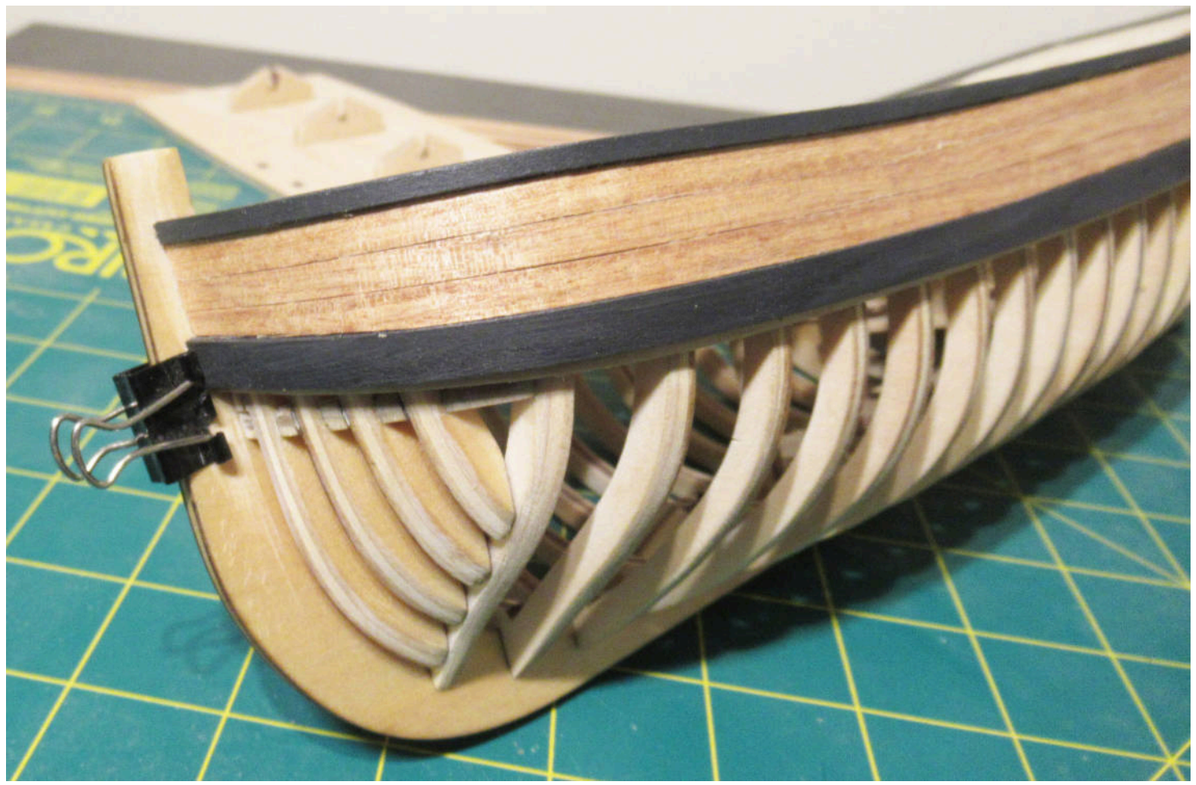
At the bow and stern areas use a pointed blade knife to slowly and carefully remove the overlap area of the second layer plank. Remove any glue residue on the surface of the exposed first layer planking. Trial fit the wale plank in place. Once satisfied repeat for the other side of the hull. Paint the two wale planks matt black. Once paint is dry glue and pin/clamp in position as shown.

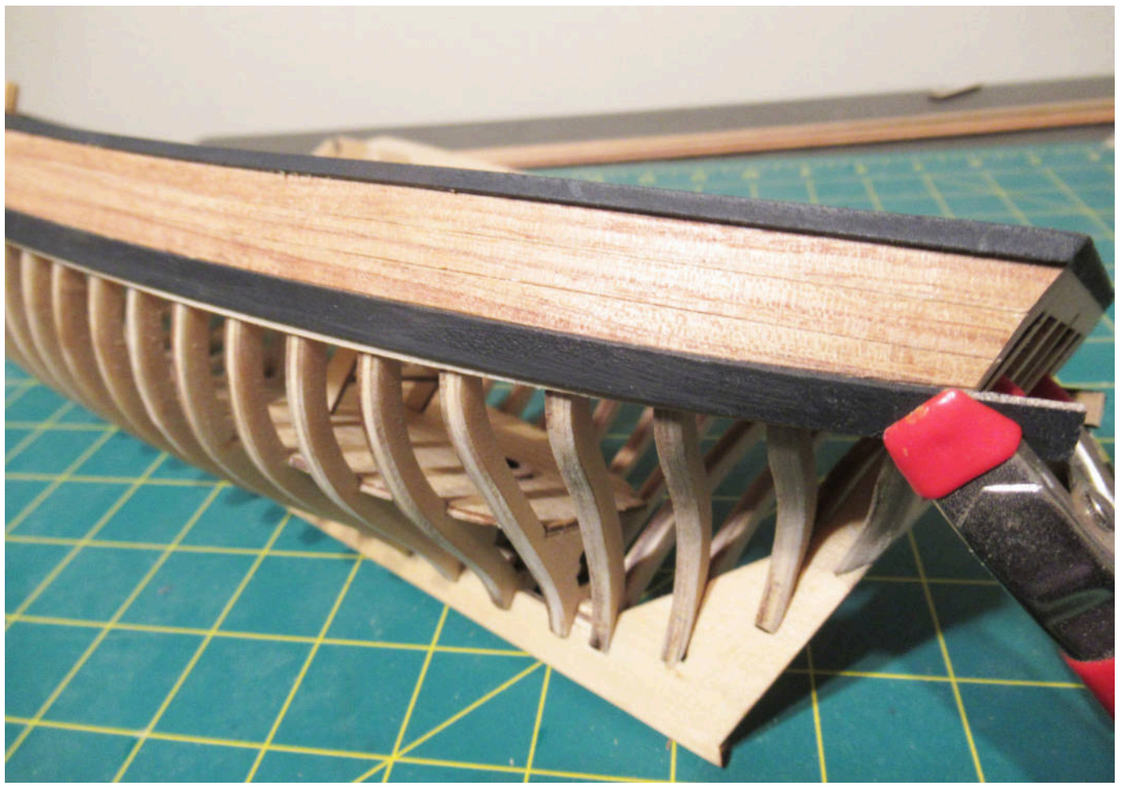










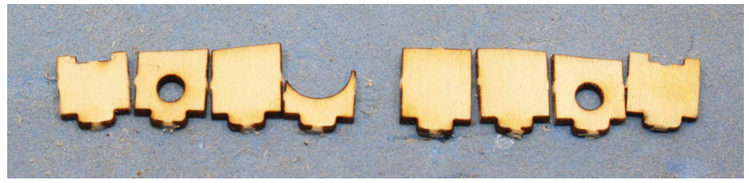


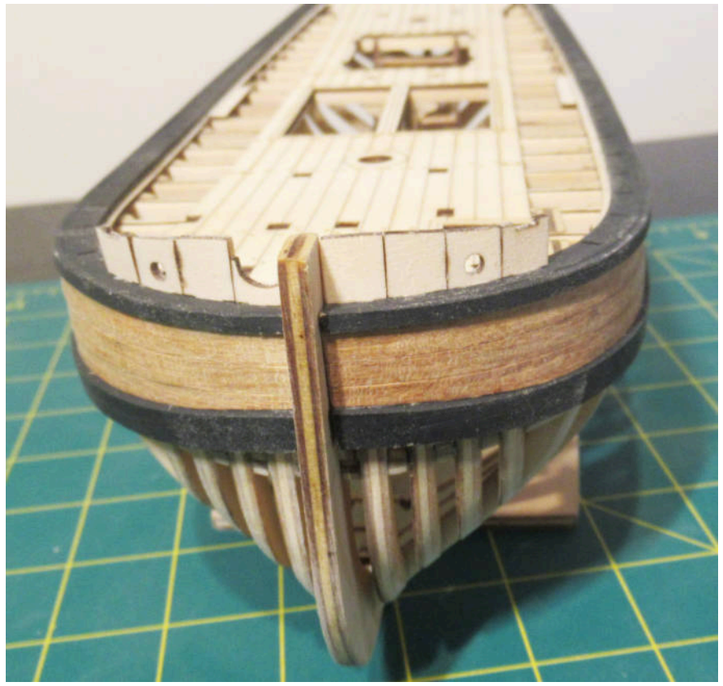
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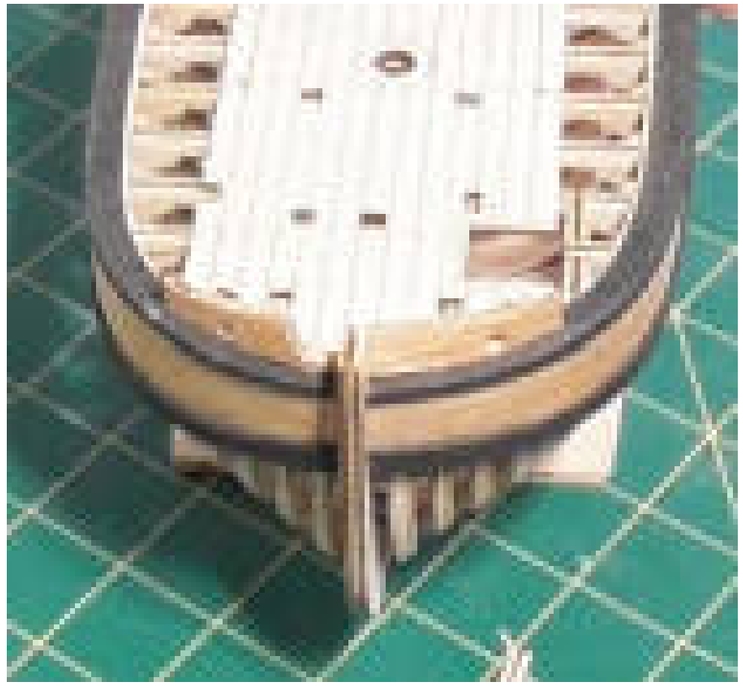
9.0 Deck Fittings & Furniture

9.1 Hawses

Identify the hawse parts P54A-E. The hawse fit around the bow either side of the stem post as shown. Chamfer the edges of adjoining parts to create the curvature required. Trial fit the pieces into the slots in the deck fence base at the bow. Once satisfied glue the pieces in place with glue also applied to the adjoining pieces. Once the glue has set use planking P52 to cover the external and internal faces of the hawse - make sure to drill the hawse holes.

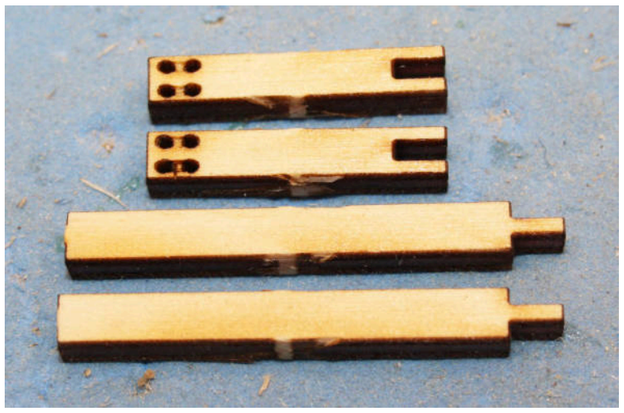


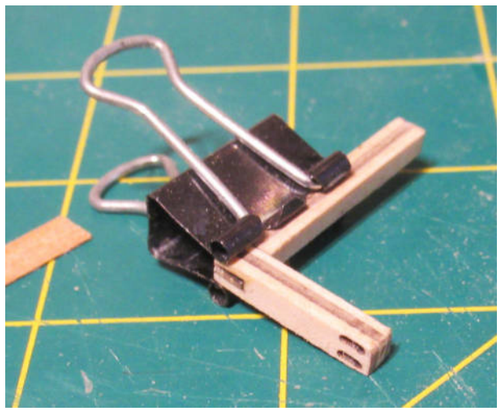


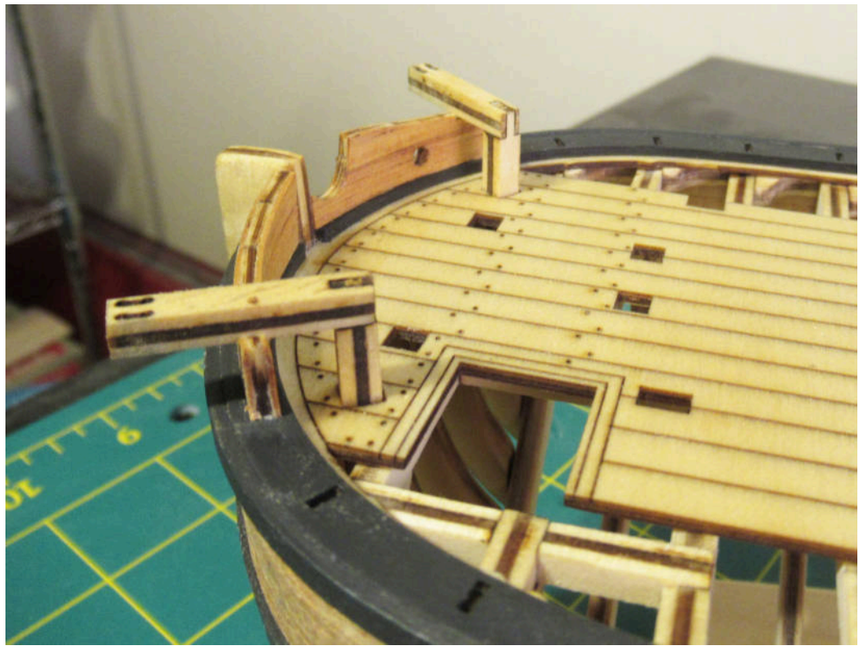


9.2 Catheads

Identify the cathead pieces P55A-B. Prepare the parts. Glue and clamp together as shown. Once glue has set trial fit the catheads into the pre-cut deck location - the vertical arm fits down until it rests on the inner ledge of lower bow block brace while the cathead arm rests across the end on the hawse. Once satisfied glue the catheads in place applying glue to all contact points.







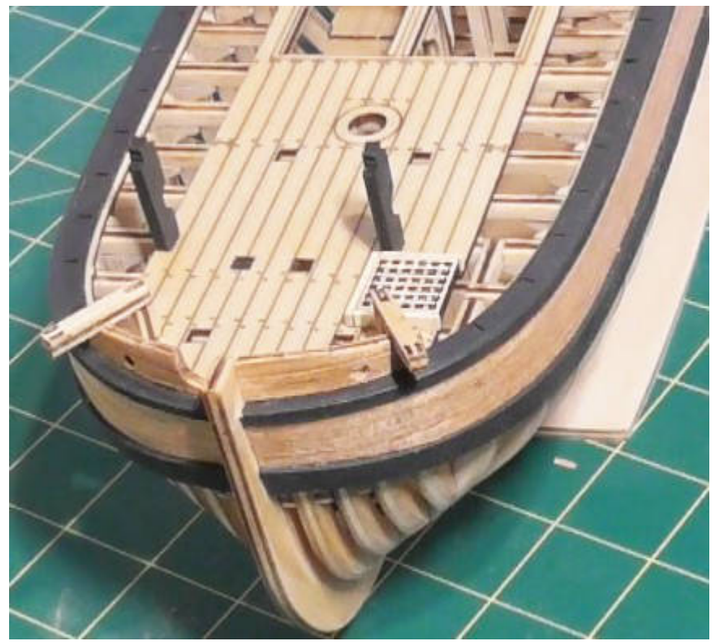
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9.3 Carrick bitt pins and Cheeks

Identify the carrick bitt pins P56. Note the pre-fairing lines on the bitt pins ends - shape these as required. Prepare the parts. Trial fit the bitt pins in place - the longer bitt pin is fitted on the port side. Indentify step jig P47C - break in half and place against the bitt pins to ensure they are perpendicular. Note where the pin fits against the frame. Once satisfied remove the bitt pins and paint the above deck part of the bitt pins matt black. Once paint is dry glue and clamp the bitt pins in place as shown. Once glue has set fractionally shape their lengths to be flush with where they rest on frame H. Identify the cheeks P57 - paint matt black and set aside to be fitted later.



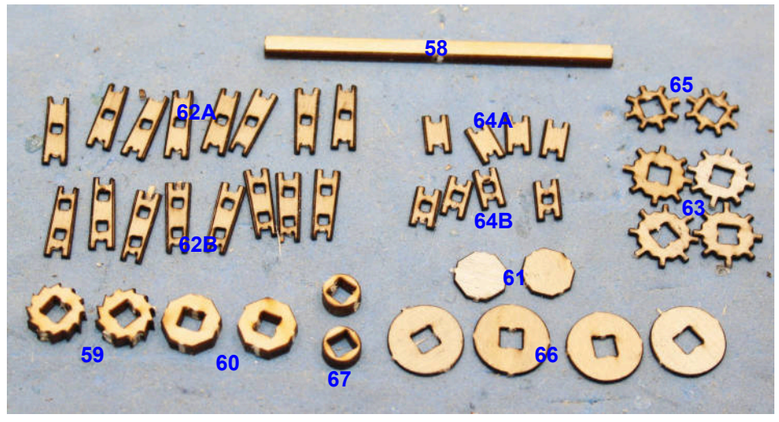


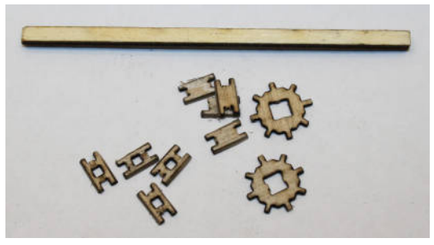


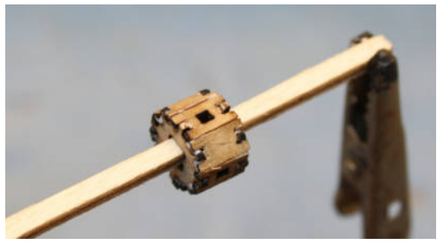
9.4 Windlass

Identify the windlass parts - P58 - 67. Assemble in the sequence as shown - trial fit parts and once satisfied glue in place. Identify the windless axle P58, large spindle ends P63 and spindle centre pieces P64A & 64B. On each of the spindle centre pieces notice a scribe line on each top side - chamfer to this line on each piece. Temporarily fit the spindle ends onto the axle and glue the centre pieces in place as shown - top side facing inwards - alternating A & B as shown.

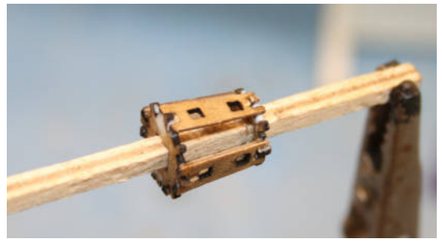
Identify a large spindle end P63, a small spindle end P65 and the outer spindle pieces P62A & 62B. On each of the spindle pieces notice a scribe line on each top side - chamfer to this line on each piece. Temporarily fit the spindle ends onto the axle and glue the spindle pieces in place as shown - top side facing inwards - alternating A & B as shown. Repeat for the second outer spindle. Set aside to be fitted later.

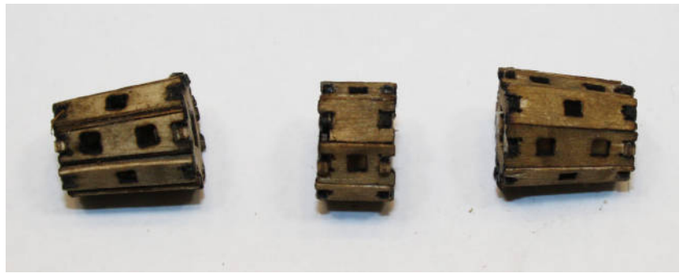










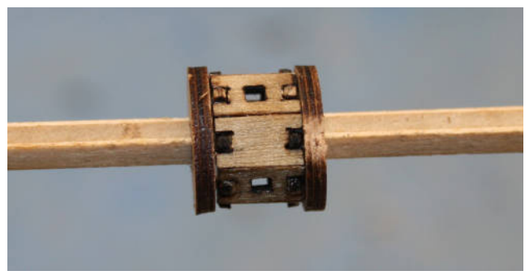


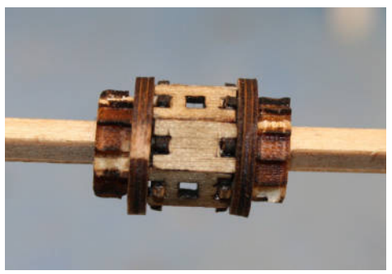
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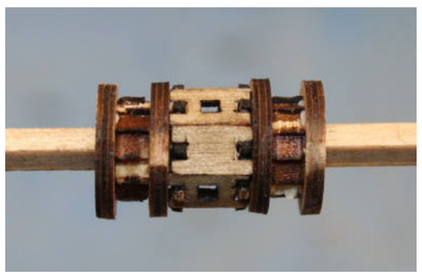
9.4 Windlass continued

Identify the spindle face P66 - glue two pieces in place as shown. Identify the pawl ring gears P59 - glue in place as shown - make sure the gear teeth are placed in the same direction. Glue in place another two spindle faces as shown. Retrieve the assembled outer spindles - glue in place as shown.

Identify the axle spacers P67 - glue in place as shown. Identify the warping heads P60 - glue each in place so the outer face is flush with the ends of the axle. Identify the warping head cover P61 - glue each in place as shown. Use fine grade sandpaper to lightly sand the assembled windless. Trial fit in place between the carrick bitt pins - fractionally adjust as required. Once satisfied glue in place making sure the gear teeth direction are correct as shown. Retrieve the cheeks P57 and glue in place.



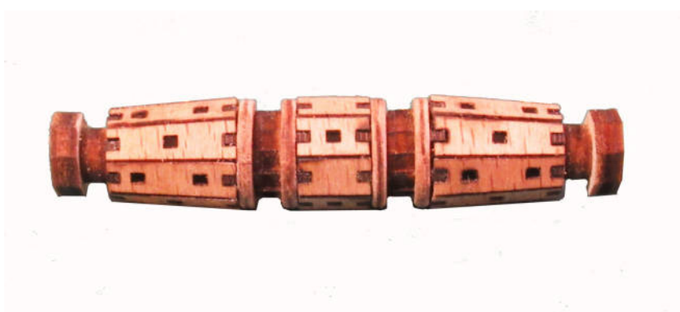


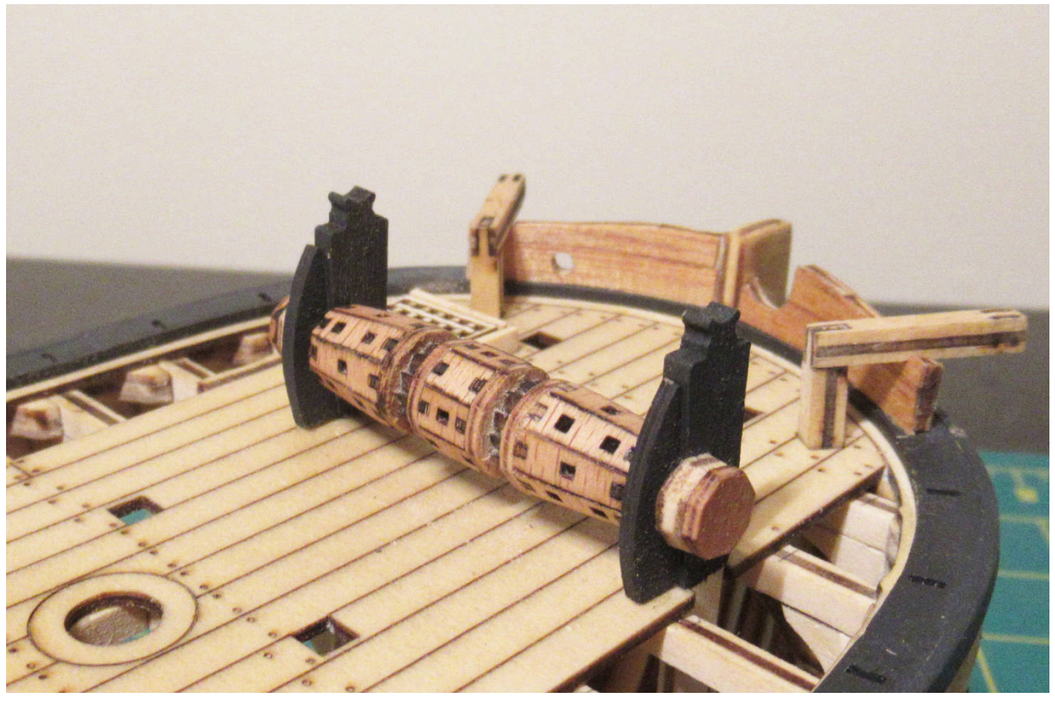








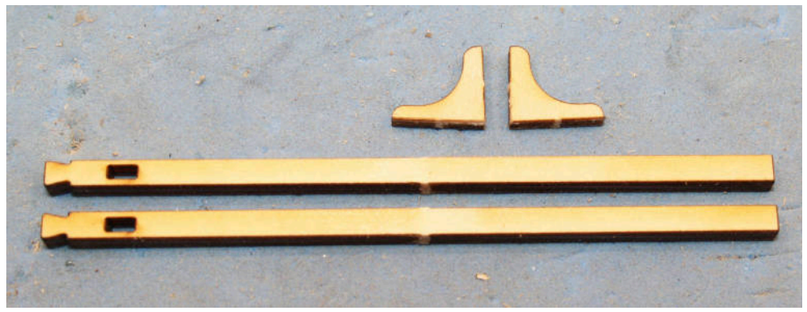


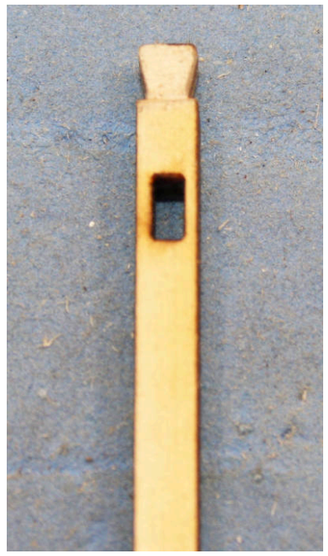


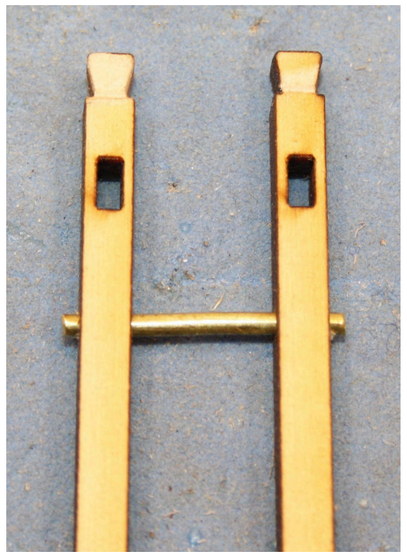
9.5 Pawl bitt pins

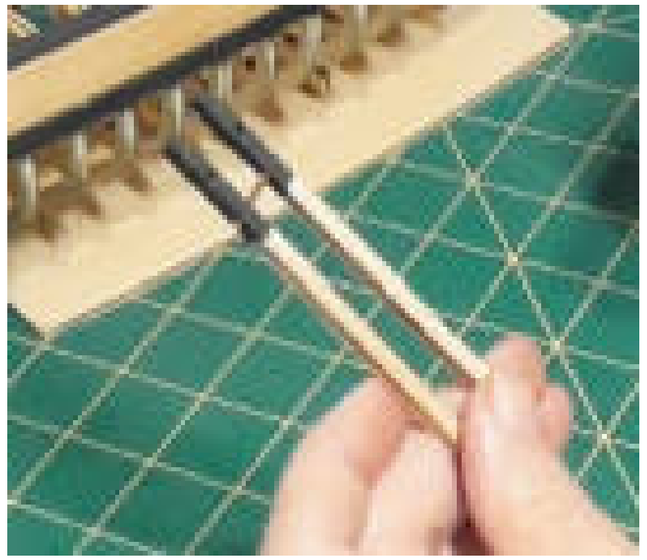
Identify the pawl bitt pins P68 and pawl bitt standard P69.Prepare the parts. Shape the head of the bitt pins as shown. On the side edge of each pawl bitt measure down 20mm from the top - mark the pint and drill a 1.5mm hole through the bitt. Identify the 1.5mm brass wire P70 - cut a 20mm length - trial fit as shown. Trial fit the assembled pawl pins in place - mark deck level on each pin. Note the port bitt pin rests in the keel slot immediately behind frame I. Remove the brass wire and paint the bitt pins matt black above the deck marking. Paint the pawl bitt standard matt black. When paint is dry fit and glue the assembled pawl bitt pins in place. Indentify the broken step jig P47C - place against the bitt pins to ensure they are perpendicular.

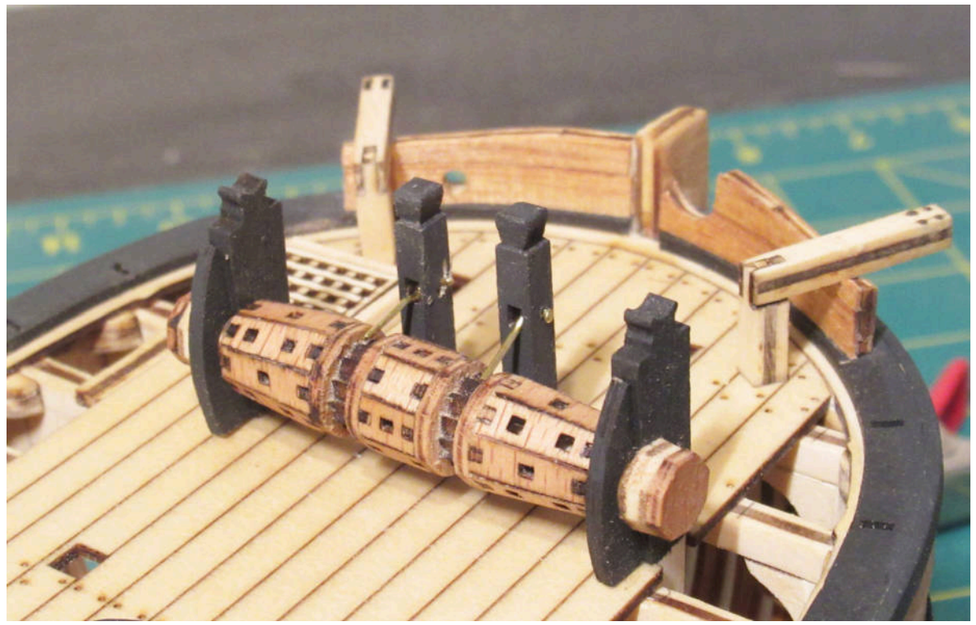
Once glue has set fractionally shape the starboard bitt to be flush with frame I. Glue the pawl bitt standards in place - the shorter edge fits on the deck. Identify the brass eye pins P71. To create the pawls drill a 0.7mm hole centrally through the pre-cut slots in the bitt pins. Fit an eye pin into this slot then push another eye pin through the 0.7mm holes to capture the first eye pin. Cut off the head and tail of the second eye pin - use a dab of super glue to fix the second eye pin in place. Repeat for the second pawl bitt pin. Locate the pawls onto the pawl rings as shown.











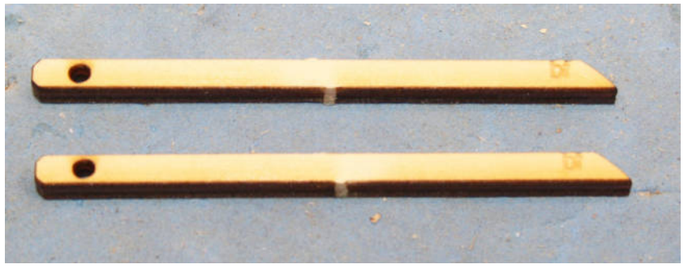


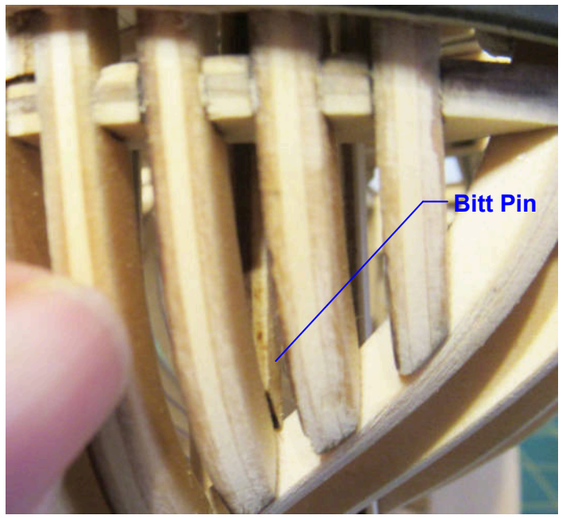
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9.6 Fife Rails

9.6.1 Fore-fife rails

Identify the fore-fife rail bitt pins P72. Prepare the parts. Trial fit the bitt pins in place as shown - the end of each pin rests at the joint between frame J and bow block B. Mark deck level on each bitt pin. Remove the bitt pins and paint matt black above the deck marking. Identify the 2mm dowel P73 - cut a 37mm length. Fit and glue the bitt pins in place. Indentify the broken step jig P47C - place against the bitt pins to ensure they are perpendicular. Fit and glue the dowel in place as shown.



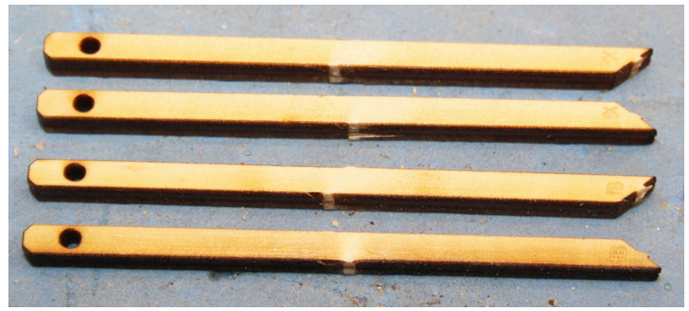


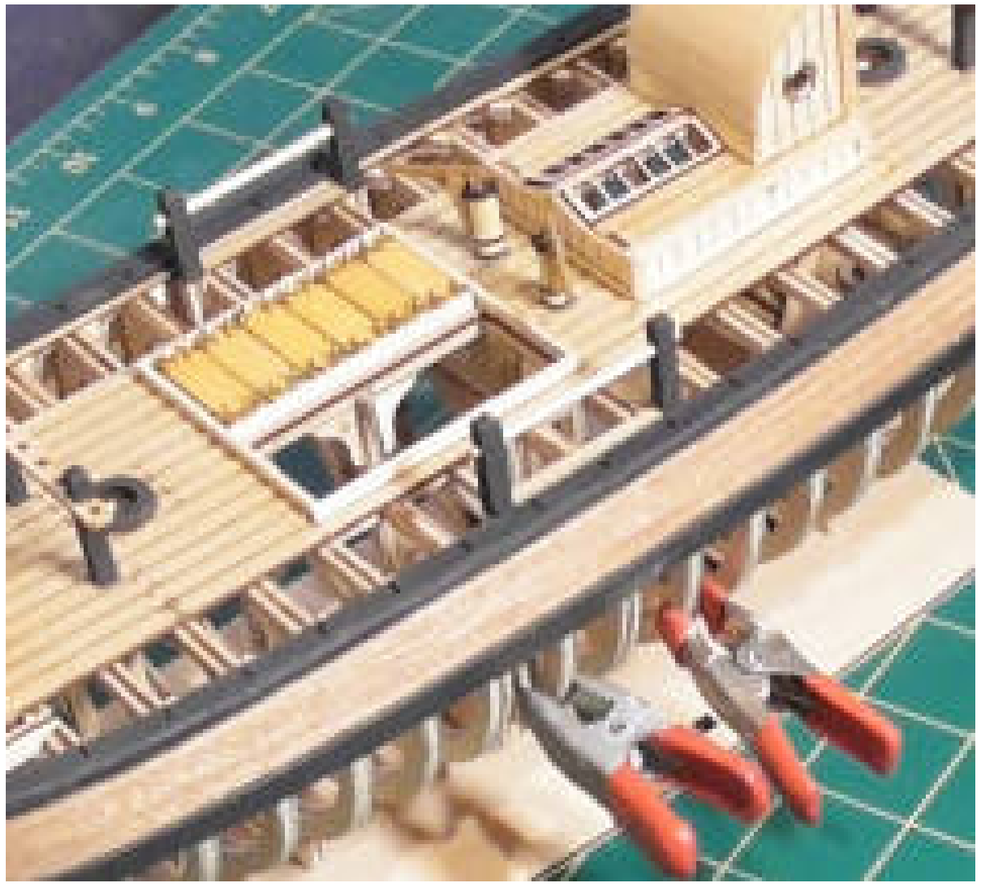


9.6.2 Mid-ship fife rails

Identify the mid-ship fife rail bitt pins P74. Prepare the parts. Trial fit the bitt pins in place - the ends of the bitt pins rest against frame oXo and frame 2. Mark deck level on each bitt. Remove the bitt pins and paint matt black above the deck marking. Identify the 2mm dowel P73 - cut two 45mm lengths.

Fit and glue the bitt pins in place. Indentify the broken step jig P47C - place against the bitt pins to ensure they are perpendicular. Fit and glue the dowel in place as shown. Fractionally shape the end of each bitt pin to be flush with the frame to which it is glued.

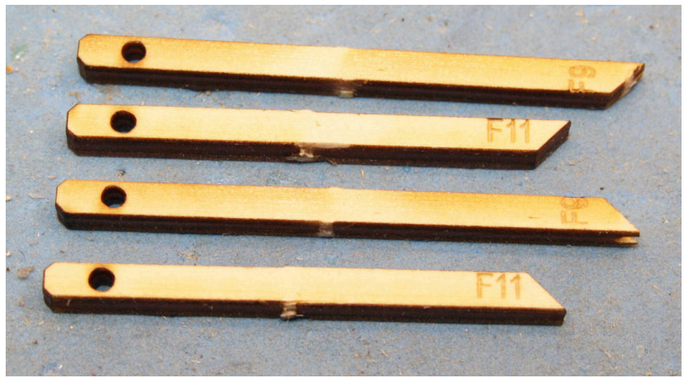


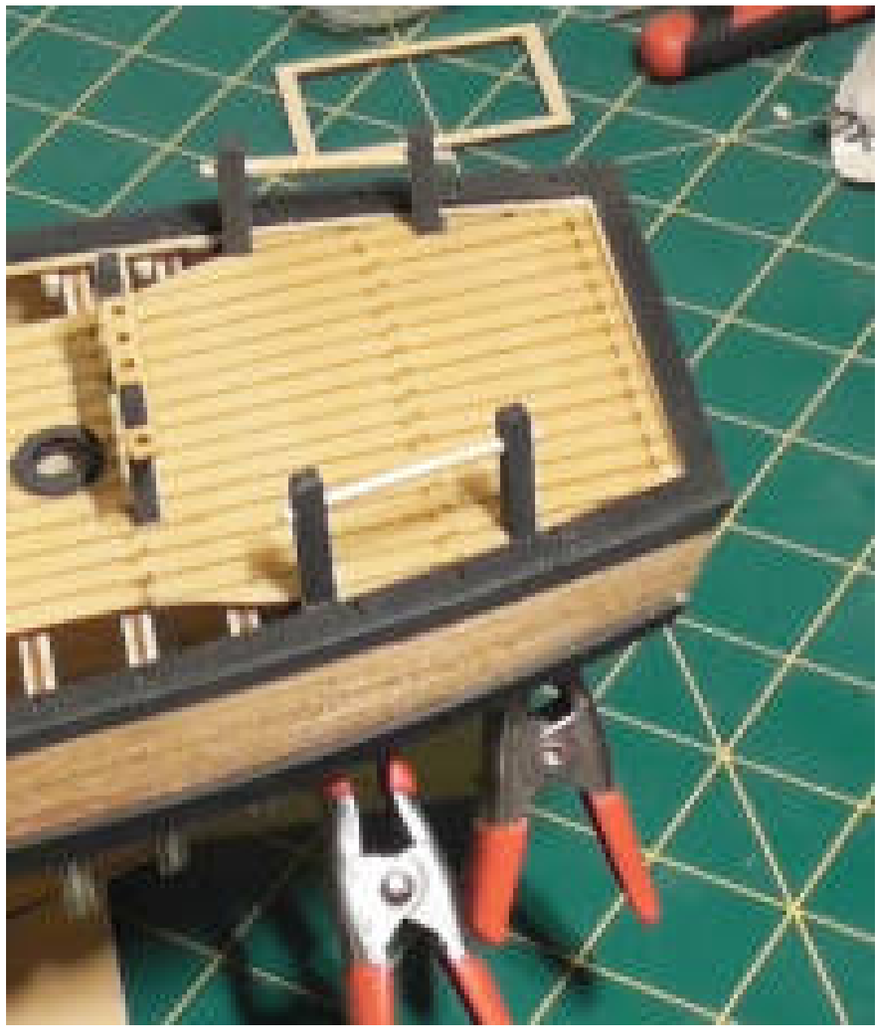


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9.6.3 Aft fife rails

Identify the aft fife rail pin bitts P75A-B. Prepare the parts. Trial fit the bitt pins in place. The end of the bitt pins P57A rest on frame 9 while bitt pins 57B rest on and frame 11. Mark deck level on each bitt. Remove the bitts and paint matt black above the deck marking. Identify the 2mm dowel P73 - cut two 37mm lengths. Glue and clamp the bitt pins in place. Indentify the broken step jig P47C - place against the bitt pins to ensure they are perpendicular. Fit and glue the dowel in place as shown. Fractionally shape the end of each bitt pin to be flush with the frame to which it is glued.



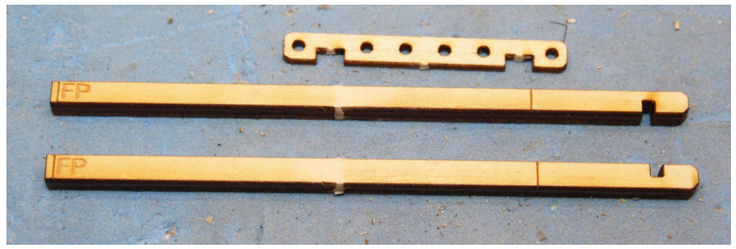


9.7 Pin Rails and Mast Heels

9.7.1 Main mast pin rails and mast heel

Identify the main mast bitts P76, pin rail P78 and the main mast heel P43. Prepare the parts. Paint the mast heel matt black and once dry glue in place as shown. Trial fit the bitts in place. The ends of the bitts are glued to the front of frame F.

Mark the deck level on each bitt. Remove the bitts and paint matt black above the deck marking. Once paint is dry fit and glue the pin rail in place. Fit, glue and clamp the assembled mast bitts and pin rail in place. Fractionally shape the end of each bitts to be flush with the frame to which it is glued.

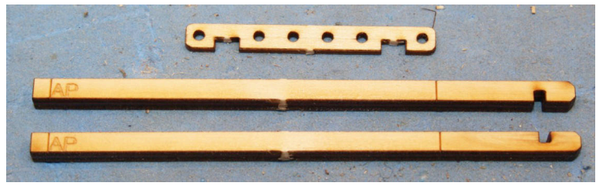




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9.7.2 Mizzen mast pin rails and mast heel

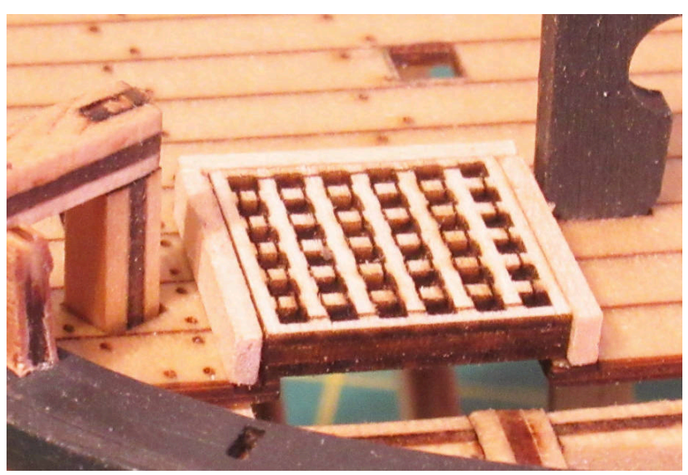
Identify the mizzen mast bitts P77, pin rail P78 and the main mast heel P43. Prepare the parts. Paint the mast heel matt black - once dry glue in place as shown. Trial fit the bitts in place. The ends of the bitts are glued to the rear of frame 7. Mark the deck level on each bitt. Remove the bitts and paint matt black above the deck marking. Once paint is dry fit and glue the pin rail in place. Fit, glue and clamp the assembled mast bitts and pin rail in place. Fractionally shape the end of each bitt to be flush with the frame to which it is glued.





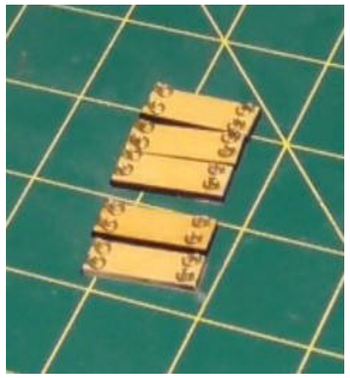
9.8 Deck grating & coaming

Identify the deck grating P79 and deck grate coaming P103 - glue parts together and glue in place on deck as shown.



9.9 Cargo hatch & coaming

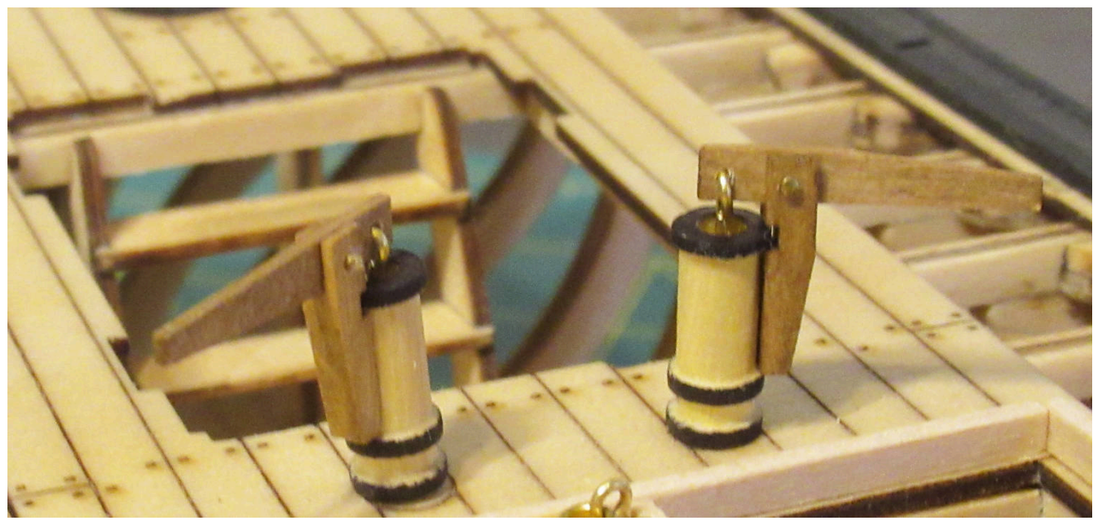
Identify the hatch covers P80. Apply shellac to each cover. At each of the pre-scored points drill a 0.6mm hole. Super glue an eye pin P71into each hole - on the underside of each cover snip-off the eye pin ends. Fit a 3mm brass ring P81 to each eye pin as shown. Identify the cargo hatch coaming P104 - glue in place on deck as shown. Glue the hatch covers in place as shown.





9.10 Pumps

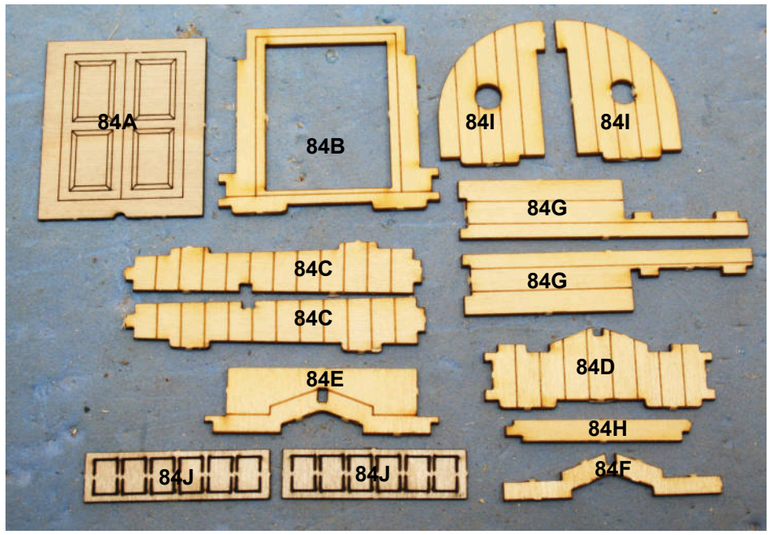
Identify the pumps P82. Assemble as shown. Identify the 3mm dowel P83 - cut 2 x 70mm lengths - fit these pipe pieces through pre cut holes in the deck down and through the holes in pump pipe base previously glued in place - once satisfied glue in place so the pipe is flush with the deck. Glue the pumps in place as shown.



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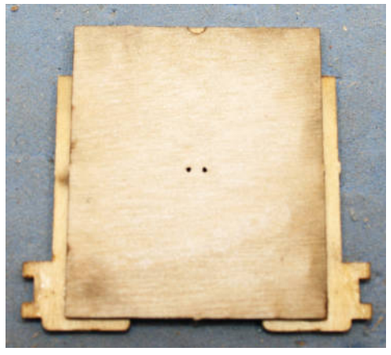
9.11 Companionway

Identify the companionway parts P84A-P84J. Lightly sand each part to remove any laser burn. Trial fit all parts before gluing in place. Turn 84A & 84B face down on a flat surface - glue 84A to 84B as shown - note the half circle score mark at the top of 84A - locate 84A centrally onto 84B. Glue parts 84A/B to 84C & 84D as shown - use blue tac to hold parts in place while assembling. Glue 84F to 84E as shown. Glue the assembled 84E/F in place as shown. Glue 84G in place as shown. Glue 84I in place as shown. Glue 84H in place as shown.

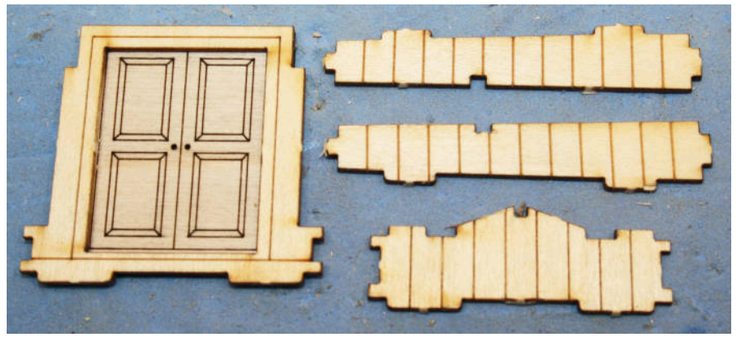
















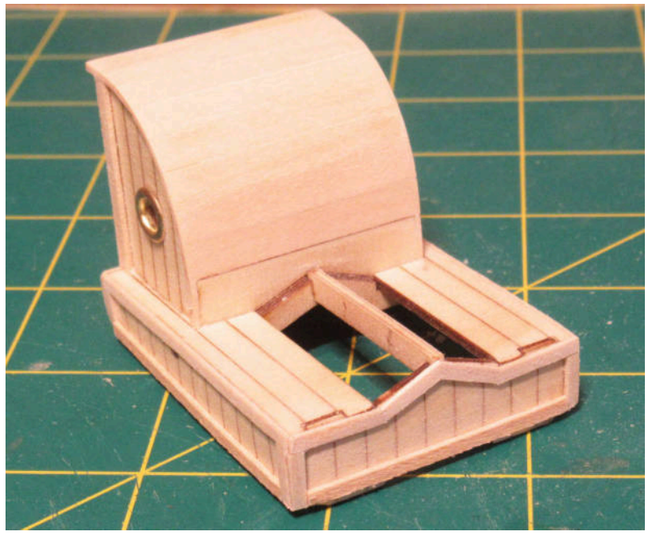


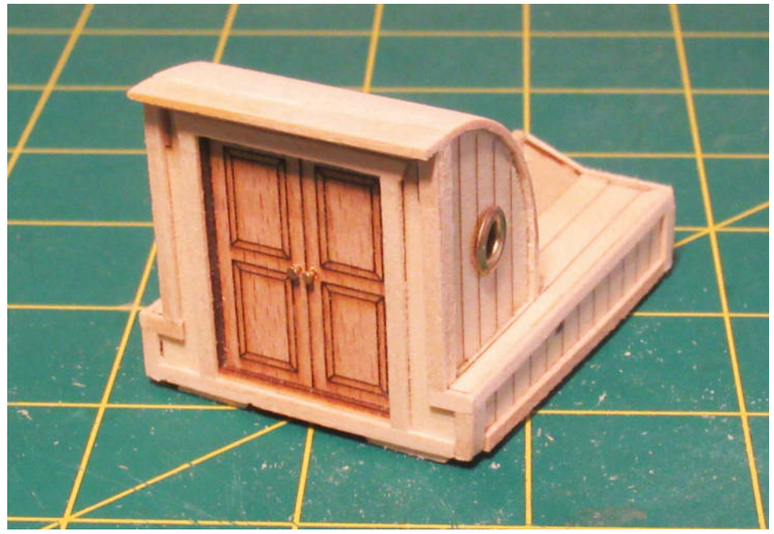
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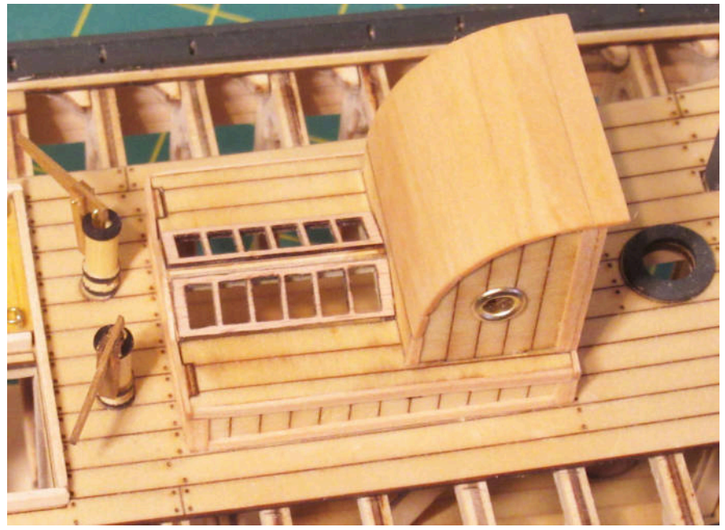
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9.11 Companionway continued

Identify the companionway roof slats P85 - glue in place centrally over the curve of the companionway entrance roof as shown. Sand lightly when complete. Identify the 1x2mm limewood P86 - cut and glue lengths to fit around all companionway edges including the door frame as shown. Identify the port holes P87 - glue in place as shown. Identify the nails P88 - glue 2 nails in place as the door knobs as shown. Glue skylights 84J in place. Apply a finish to the assembled companionway - once dry glue the companionway in place on the deck as shown.







9.12 Bitt heads

Identify the bitt heads P89 - glue in place on the deck fence base on both side between frames G & H and 5 & 6 as shown. Paint matt black.

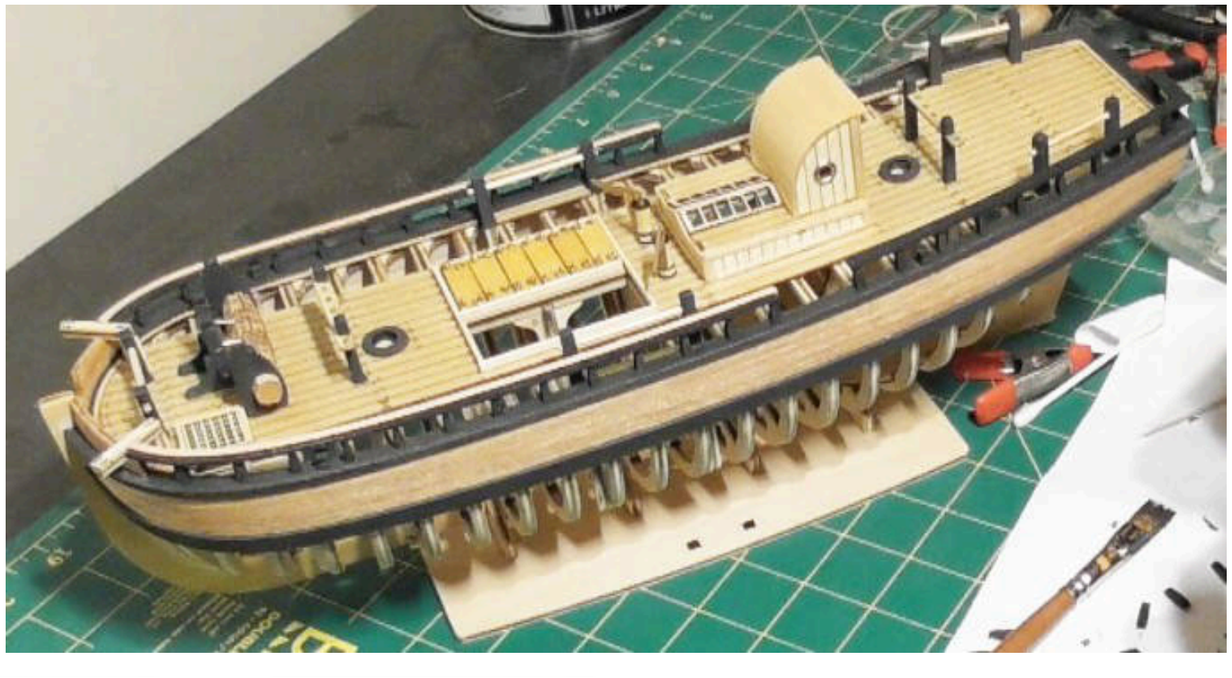


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9.13 Fence & cap rails

Identify the stanchions P90, cap rails P91A/B and cap rail trim P92A/B. Paint the stanchions matt black. Paint the cap rails P91A/B matt black. Starting at the bow glue 13 stanchions in place into the pre-cut slots in the fence base on each side of the hull. Once complete glue cap rail 91A in place. Glue stanchions in place from the mid-ships to the stern as shown. Once complete glue cap rail 91B in place as shown. Glue the cap rail tops P92A/B in place as shown. Apply a coat of tung oil to the rail tops.

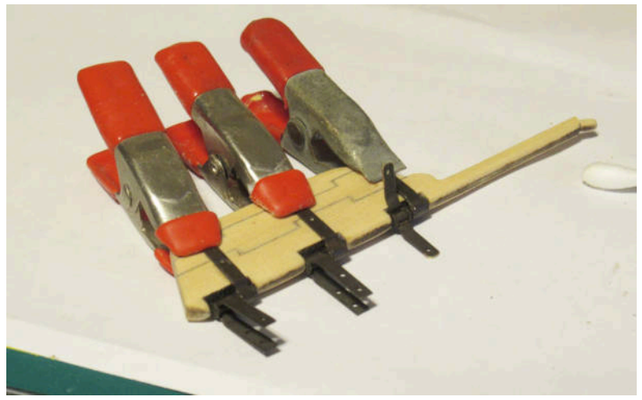


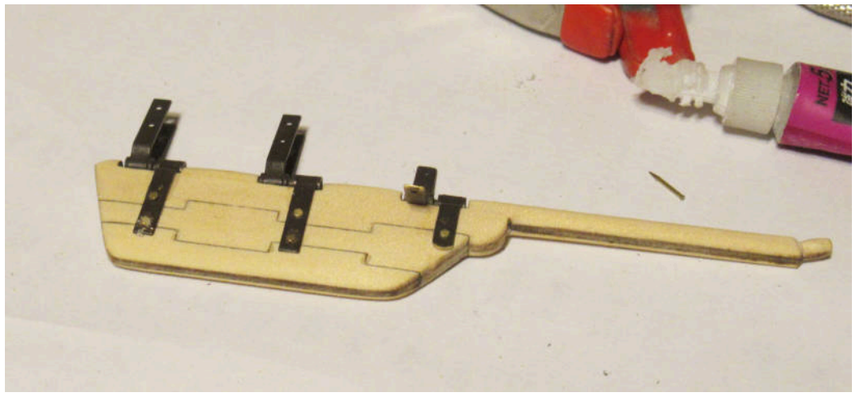




9.14 Rudder

Identify the rudder P93, rudder hinges P94 and tiller P95. The rudder is in 3 parts - glue the parts together - once glue is dry shape the rudder as shown. Fractionally shape the rudder head so it fits the tiller. Shape the tiller as shown. Fit the rudder hinges together - trial fit each into the slots in the rudder - the hinge with the pintal is placed at the top of the slot. Shorten the arm length of the top pintal hinge to fit on the rudder as shown. Super glue and clamp the hinge pairs as shown. Drill 0.7mm holes into the rudder at the pintal hinges locating holes - super glue nail heads P88 in these holes as cosmetic fixings. Trial fit the rudder with hinges attached to the keel - the arms of the top gudgeon hinge will need to be shortened to fit onto the base of the transom as shown. Fix the gudgeon hinge arms in place as shown. Fix the tiller in place as shown.









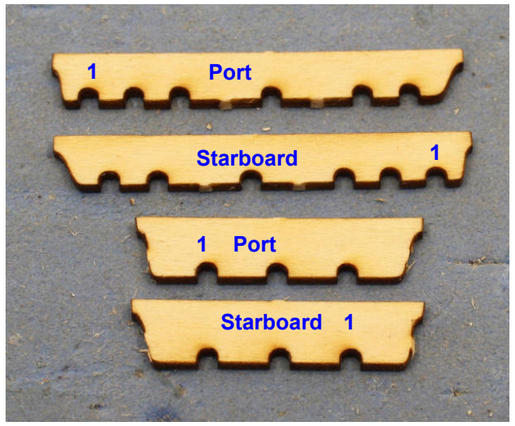
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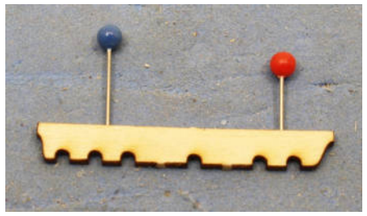
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9.15 Hull steps
Identify the hull steps P96. Shape and stain with a walnut finish. Glue steps either side of the hull a shown.

9.16 Bill board
Identify the bill boards P97. Shape and paint matt black. Glue in place as shown.

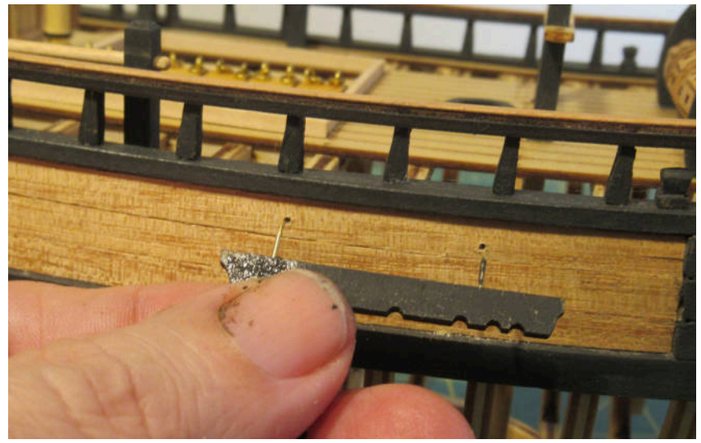
9.17 Channels
Identify the main mast channels P98 and the mizzen mast channels P99. For each channel drill two 0.6mm holes into the edge that fits against the hull side. Super glue map pins in place - snip off the ends as shown. The top edge of each channel is 2mm below the bottom of the deck fence base - use a short length of 1x2mm limewood to give this spacing. The front indent of each channel is identified as 1 - this indent is aligned with the front of the relevant mast heel. The port and starboard channels are also identified. Locate each channel marking on the hull the position of the map pin ends - drill 0.6mm holes at these points. Paint the channels matt black - then use super glue to fix each channel in position as shown











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9.18 Deadeye strap angle

Identify the false mast P102. Fit the false mast in position - fractionally adjust the width of the lower section to fit into each mast hole and rest in the mast step. The location on the hull where the end of each deadeye strap is fixed is determined by the shroud extension angle - the angle of the shroud and the strap need to be the same so as to maximise the purchase between the shrouds and deadeye straps. The end of each strap is fixed 2mm above the wale - using a short length of 1x2mm limwood as a guide make light pencil line along the top of the limewood. Next take a length of rigging cord - tie to the top of the false mast and pull over the channel in each slot - marking the point on the pencil line where the cord crosses the line. Repeat this for each channel slot on the main and mizzen masts on both sides of the hull. At each marked point drill a 1.0mm hole.



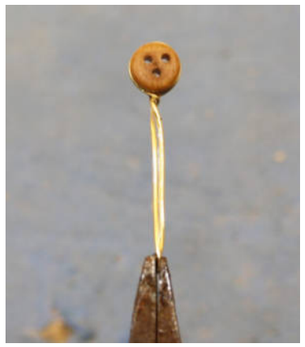


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9.19 Deadeye straps

Identify the deadeyes P100 and 0.5mm brass wire P101. Cut 18 x 50mm lengths of the brass wire. Wrap a length of wire around a deadeye as shown - twist once. Hold the tails in pliers and run a bead of super glue along the joined tails - make another 13 deadeye straps. For the tie-off straps take a length of wire and twist once around a length of 3mm dowel or tooth pick as shown - hold tails with pliers and seize with super glue - make 3 more. Paint all straps matt black. To fit the straps feed the end into the hole previously drilled in the hull - bend the strap at a right angle and fit into the channel slot so that the deadeye rests on the top of the channel - for the tie-off strap fit into channel slot so that the loop rests on the top of the channel. Once satisfied remove the strap and cut-off excess to only allow a short length to extend into the hull. Glue the strap in position - deadeye straps are fitted to slot numbers 1, 3, 4, 5, 7, 8 & 9 - tie-off straps are fitted to slots 2 & 6. Cut lengths of 1x2mm limewood P87 and glue across the face edge of each channel - paint matt black as shown.









Port Side Channels



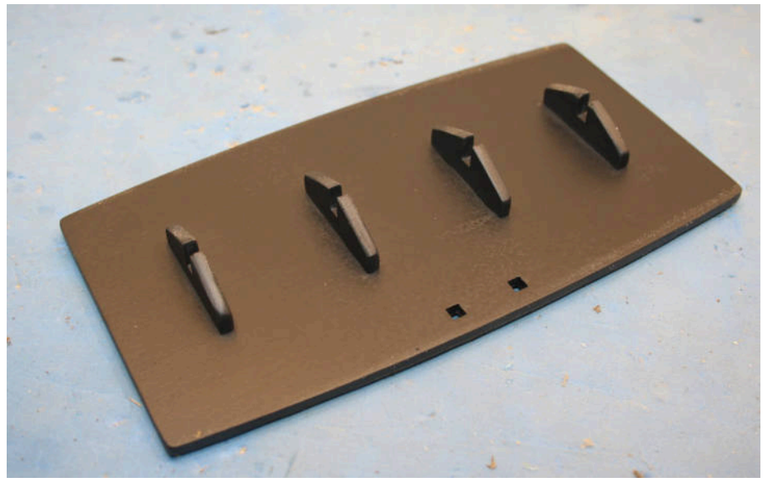


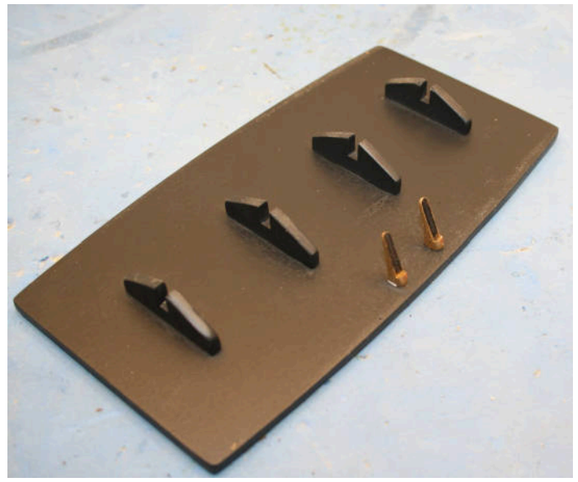
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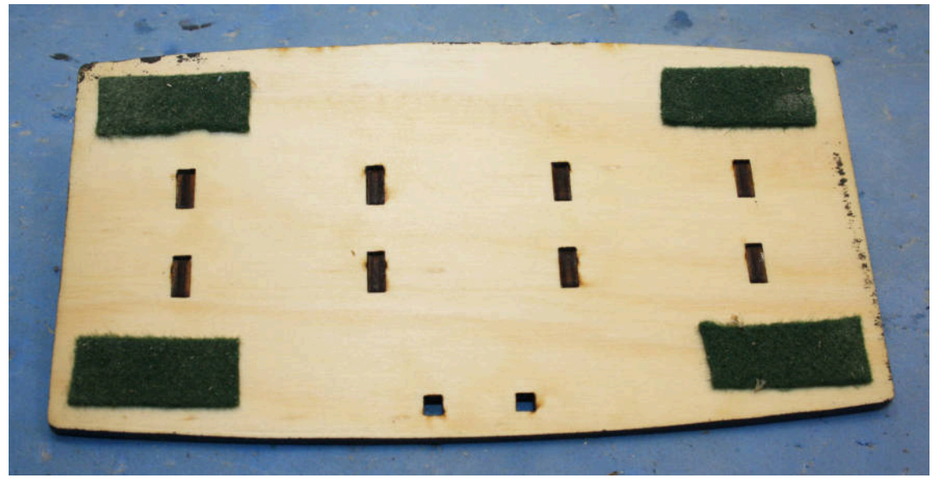
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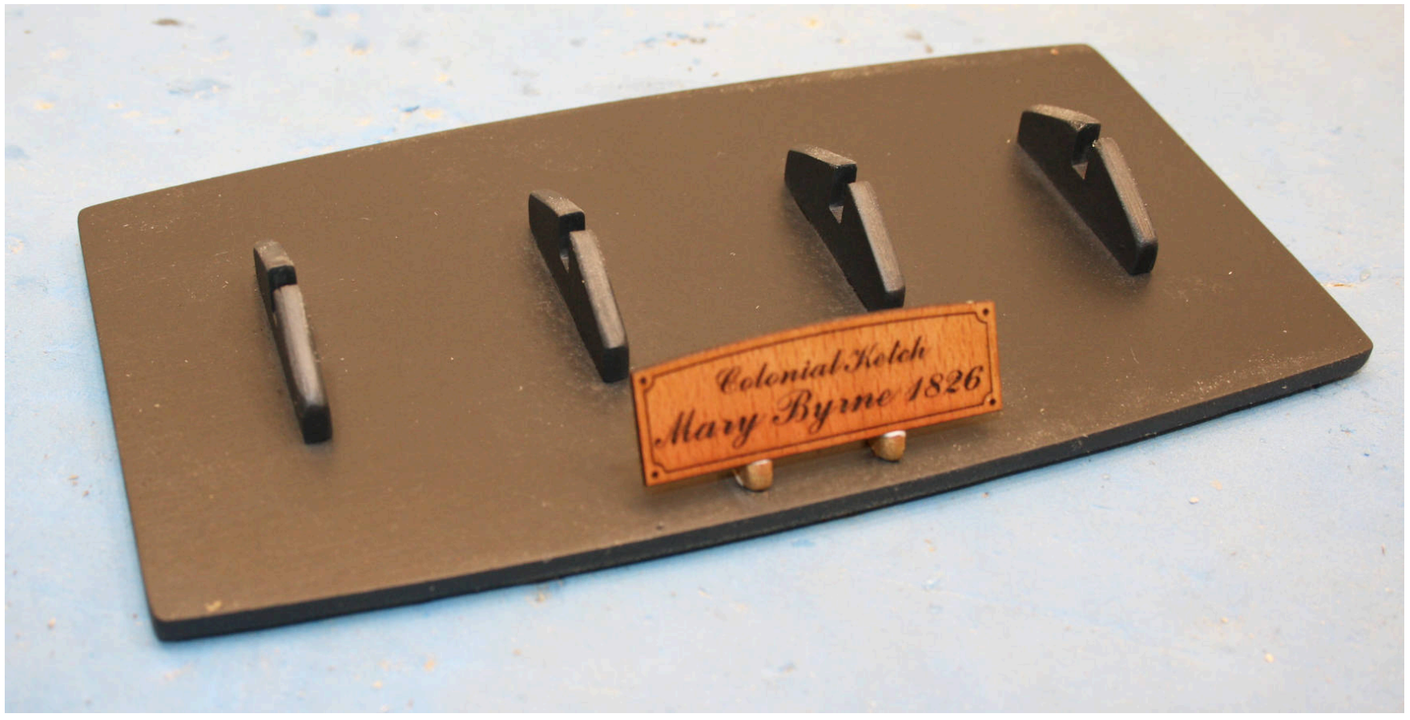
9.20 Display board

Retrieve the display board - spray paint matt black. Identify the name plate supports P103 - paint gold. Turn base over and glue felt pads in place as shown. Identify the name plate P104 - glue in place centrally on the supports as show.









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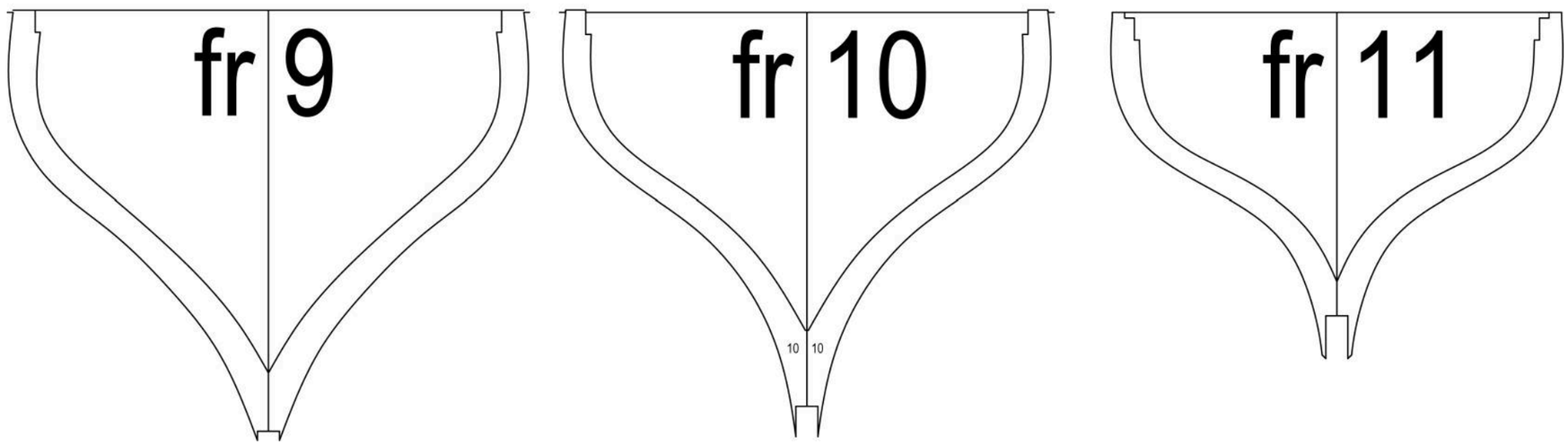
10.0 Completed Model
Look carefully over the instructions and photos and check to ensure that you have not forgotten anything.

Take great pride in your achievement of building a work of art to be handed-on to future generations.



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10.1 Templates - Frames 9, 10 & 11
Templates to be cut-out - see Section 7.0 Sheet 16.



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