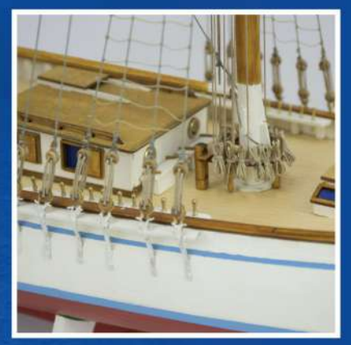
WOODEN MODEL SHIP KIT

MATTHEW TURNER BRIGANTINE



Modellers Shipyard

www.modelerscentral.com

SCALE 1:48

LENGTH: 870mm / 34.5" HEIGHT: 630mm / 27.5" Width: 340mm / 13.5"

ITEM CODE: KTMS1020

BUILDING INSTRUCTIONS

Version 2.0

1.0 Introduction
Modeller's Shipyard is proud to add another wooden model ship kit to our range.

2.0 Background
Matthew Turner was born in Geneva, Ohio on June 17, 1825, the fourth child of George Turner and Emily Atkins. George Turner owned a sawmill on the shores of Lake Erie and later launched his first ship, the sloop *Geneva*, in 1839, to ship lumber and building stone. Matthew, after watching the construction of the *Geneva* and a later vessel the *Philena Mills*, designed his first ship, the schooner *G.R. Roberts*. His father was sufficiently impressed with the design to build the boat, which was launched in 1848. Matthew took on the command of the boat and later that year married Amanda Jackson. Amanda died in childbirth with their first child. On a trip down the Mississippi river in late 1849 he heard about gold mining in California and set off for the West Coast in 1850. He spent 3½ years mining gold in Calaveras County and was quite successful.

Turner later travelled to New York where he bought the schooner *Toronto*, sailing her back to California. There he went into business with Captain Richard Thomas Rundle and started shipping timber to San Francisco from the Mendocino coast. They were soon able to replace the *Toronto* with another larger schooner, the *Louis Perry*, and a few years later they purchased the brig *Temandra*. When Turner took this larger vessel to the Sea of Okhotsk he noticed the abundance of cod and so bought the *Porpoise* to capitalize on this, as cod were selling in San Francisco at a high price. Meanwhile, Turner also set up a company to trade with Tahiti.

He designed his first ocean-going ship, the brig *Nautilus*, in 1868, which was built at Eureka, in an attempt to get a faster ship for the Tahiti run. The hull of *Nautilus* was exactly the reverse of what was customary in the area at that time, being "long and sharp forward, lean and full on the waterline aft. Despite the predictions of sceptics that the ship would dive and pitch into the water, resulting in a very wet ride, *Nautilus* proved a great success. Turner decided to move into shipbuilding, setting up a yard near Hunter's Point with his brother Horatio. In 1876 he married for a second time, to Captain Rundle's widow, Ashbeline. The success of his first shipyard led him to search for another location, to allow the business to expand. He went into business with his brother and John Eckley, forming the Matthew Turner Shipyard at Benicia in 1883. This yard constructed at least 154 wooden-hulled ships.

Turner was something of an invalid from 1904 onwards. Nonetheless, in 1906, at age 81, Turner, was still personally supervising work at his shipyard, and found himself suddenly swamped with work following the San Francisco earthquake. He decided to retire. He died on February 10, 1909 at the age of 83 years after a short illness at his home in Oakland.

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** that the modeller study these instructions and associated drawings thoroughly before commencing construction. While reading these instructions, familiarise yourself with the contents of the kit.
2. Parts are numbered in the approximate order of assembly—note there are some minor variations in this numerical order. 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 reshape 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, the diagrams 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.
6. The construction of a wooden model ship can be divided into the following steps.
    - Hull Construction & Planking
    - Deck & Deck Furniture
    - Masts & Yards
    - Rigging

These written building instructions are to be followed to build your model.

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
1– 13	Bulkhead Frames	13	Board 1
10A	Propeller Shaft Supports	2	Board1
14	Transom Base	1	Board 1
15A	False Keel	1	Board 1
15B	Keel	1	Board 1
15C	Stem Post	1	Board 1
15D	Stern Post	1	Board1
16A-B	Bow Blocks	2	Board 2
16C-D	Bow Blocks	2	Board 5
17A-B	Inter-bulkhead Blocks	2	Board 5
18A-B	Stern Blocks	2	Board 5
18C-D	Stern Blocks	2	Board 5
19	Deck	1	Board 3
20A-N	Underdeck Frame Supports	28	Board 3
21A	Deck Trim	1	Board 3
21B	Deck Trim	2	Board 3
21C	Deck Trim	1	Board 3
22A	Transom	1	Board 4
22B	Transom Support	1	Board 3
23A-F	False Frames - Stern	24	Board 3
24	Basswood - 2x5x700mm	60	Timber Stock
25	Tube - Copper 3dia x 100mm	1	Parts Card 2
26	Limewood 3x3x330mm	4	Timber Stock
27A-D	Cradle	4	Board 2
27E	Name Plate - Cradle	1	Board 6
28	Battens	2	Board 3
29	Rudder	1	Board 1
29A	Rudder heel bearing	1	Board 2
30	Dowel 3mm dia x 330mm	1	Timber Stock
31	Dowel 2mm dia x 330mm	1	Timber Stock
32	Brass Wire 1mm dia x 100mm	1	Parts Card 1
33	Propellers	2	Parts Card 2
34	Hawse Pipes - Large	2	Parts Card 2
35	Hawse Pipes - Small	10	Parts Card 2
36	Cap Rail	2	Board 3
37	Bow Railing	2	Board 4
38	Side Railing	2	Board 4
39	Stern Railing	1	Board 4
40	Name Plate - Transom	1	Board 6
41	Name Plate - Bow	2	Board 6

Modellers Shipyard

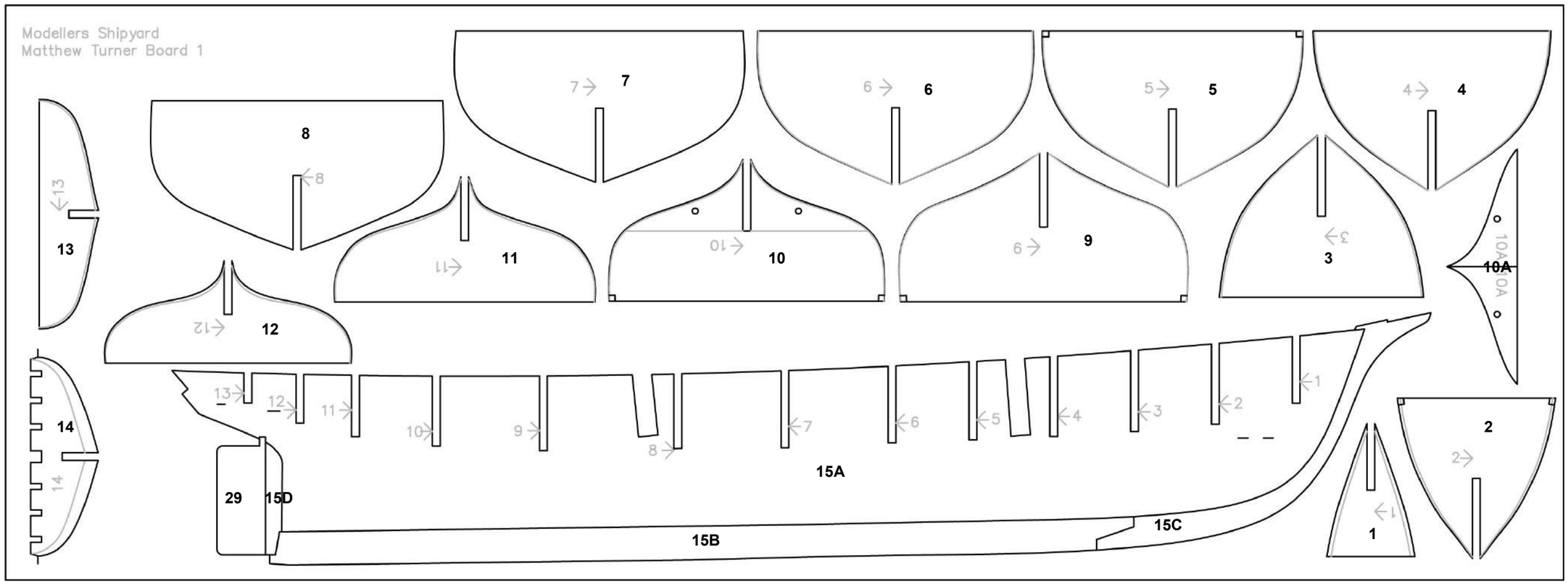
Brigantine
MATTHEW TURNER
SHEET 1

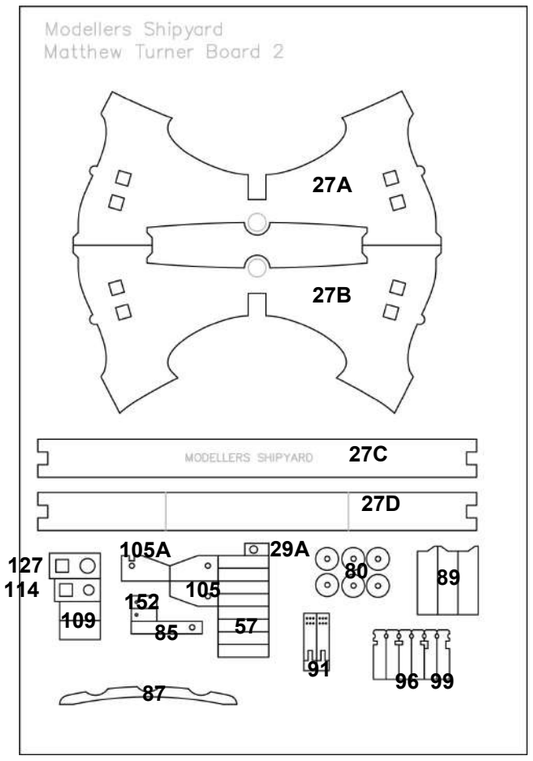
4.0 Parts List continued

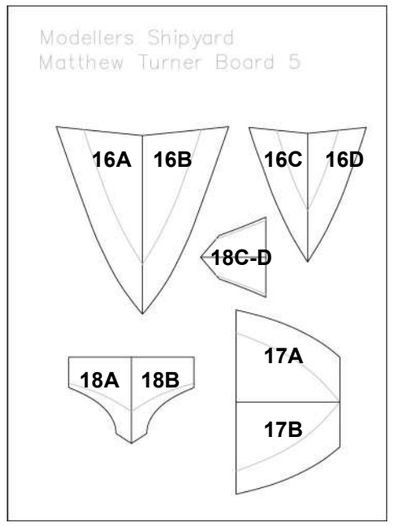
Part No	Description	Quantity	Location
42	Chart House Roof	1	Board 4
43	Hatch - Front Entry	1	Board 4
44	Hatch - Rear Entry	1	Board 4
45	Runners - Front Hatch	2	Board 4
46	Runners - Rear Hatch	2	Board 4
47	Racks - Chart House	2	Board 4
48	Skylight ends	2	Board 4
49	Central base	1	Board 4
50	Centre board	1	Board 4
51	Skylight frames	2	Board 4
52	Glazing sheet - 150 x 70mm	2	Parts Card 2
53	Side Walls	2	Board 4
54	Front Wall	1	Board 4
55	Rear Wall	1	Board 4
56	Window Shutters	11	Board 4
57	Inner Support Blocks	8	Board 2
58	Walnut 1x1x500mm	3	Timber Stock
59	Port Hole - 9mm	3	Parts Card 2
60	Walnut 0.5x3x500mm	2	Timber Stock
61	Galley House Roof	1	Board 4
62	Hatch	1	Board 4
63	Runners - hatch	2	Board 4
64	Racks - Galley House	2	Board 4
65	Side Walls	2	Board 4
66	Front Wall	1	Board 4
67	Rear Wall	1	Board 4
68	Locker Front	2	Board 4
69	Locker Side	2	Board 4
70	Locker Top	2	Board 4
71	Front panel	1	Board 4
72	Rear panel	1	Board 4
73	Side - inner	2	Board 4
74	Roof	1	Board 4
75	Rear Side	2	Board 4
76	Side - outer	2	Board 4
77	Skylight Frame	2	Board 4
78	Hatch	1	Board 4
79	Binnacle Base	1	Board 4
80	Binnacle Body	6	Board 2
81	Binnacle Top 1	1	Board 4
82	Binnacle Top 2	1	Board 4

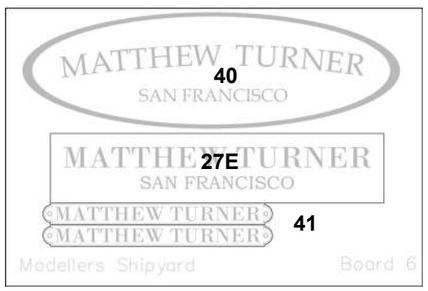
Part No	Description	Quantity	Location
83	Binnacle Top 3	1	Board 4
84	Ships Wheel	1	Parts Card 2
85	Wheel Post	1	Board 2
86	Grating	1	Board 4
87	Boom galley	1	Board 2
88	Dowel 4mm dia x 400mm	1	Timber Stock
89	Control stand	3	Board 2
90	Control lever bases	4	Board 4
91	Cathead	2	Board 2
92	Cathead knees	2	Board 4
93	Mast heels	2	Board 4
94	Dowel 10mm dia x 500mm	3	Timber Stock
95	Main mast fife rail	2	Board 4
96	Main mast fife rail posts	4	Board 2
97	Foremast fife rail	1	Board 2
98	Foremast fife rail bar	1	Board 4
99	Foremast fife rail posts	2	Board 2
100	Pin Rails - Foremast	2	Board 4
101	Pin Rails - Main Mast	2	Board 4
102	Channels - Foremast	2	Board 4
103	Channels - Main mast	2	Board 4
104	Winch base	1	Board 4
105A	Winch body - outer	2	Board 2
105B	Winch body - inner	1	Board 2
106	Winch sides	2	Board 4
107	Pulley Wheels - outer	6	Board 4
108	Pulley Wheels - inner	3	Board 4
109	Samson Post	2	Board 2
110	Anchor Chain 3mm x 330mm	1	Parts Card 2
111	Bowsprit Pin Rail	1	Board 4
112	Belaying Pins	68	Parts Card 2
113	Dowel 5mm dia x 500mm	4	Timber Stock
114	Mast Cap - Main Mast	1	Board 2
115	Mast Cheeks - Main Mast	2	Board 4
116	Trestle Trees - Main Mast	2	Board 4
117	Cross Trees - Main Mast	2	Board 4
118	Backstay Spreader - Main Mast	2	Board 4
119	Boom Rest	1	Board 4
120	Boom Rest Supports	4	Board 4
121	Dowel 6mm dia x 330mm	1	Timber Stock
122	Thumb Cleats	9	Board 4

Part No	Description	Quantity	Location
123	Copper Tape 4mm x 200mm	1	Parts Card 2
124	Eye Pins	Pkt	Parts Card 2
125	Block B - 5mm 2 hole	3	Parts Card 3
126	Cord G - 0.25mm fawn	1	Parts Card 1
127	Mast Cap - Foremast	1	Board 2
128	Mast Cheeks - Foremast	2	Board 4
129	Trestle Trees - Foremast	2	Board 4
130	Cross Trees - Foremast	2	Board 4
131	Backstay Spreader - Foremast	2	Board 4
132	Block A - 5mm 1 hole	31	Parts Card 3
133	Trusses	4	Board 4
134	Brass Rod 1mm x 500mm	2	Timber Bag
135	Eye Pins - Footrope Stirrups	24	Parts Card 2
136	Block D - 7mm 2 hole	2	Parts Card 3
137	Boom Yoke	1	Board 4
138	Cleats	4	Parts Card 2
139	Block C - 7mm 1 hole	1	Parts Card 3
140	Life Rings	4	Board 4
141	Wire - Brass 0.7mm x 1m	1	Parts Card 2
142	Chain Straps	22	Parts Card 3
143	Deadeyes - 5mm	44	Parts Card 3
144	Nails - brass	Pkt	Parts Card 2
145	Cord K - 0.75mm silver	1	Parts Card 1
146	Cord H - 0.5mm fawn	1	Parts Card 1
147	Cord J - 0.5mm silver	1	Parts Card 1
148	Deadeyes - 3mm	20	Parts Card 3
149	Anchors	2	Parts Card 3
150	Block E - 7mm 3 hole	2	Parts Card 3
151	Rings - brass 4mm	4	Parts Card 3
152	Boom buffer posts	2	Board 2
153	Boom buffer base	1	Board 4
154	Parrel beads	Pkt	Parts Card 2
155	Block F - 10mm 2hole	2	Parts Card 3
156	Flag Set	1	Parts Card 3

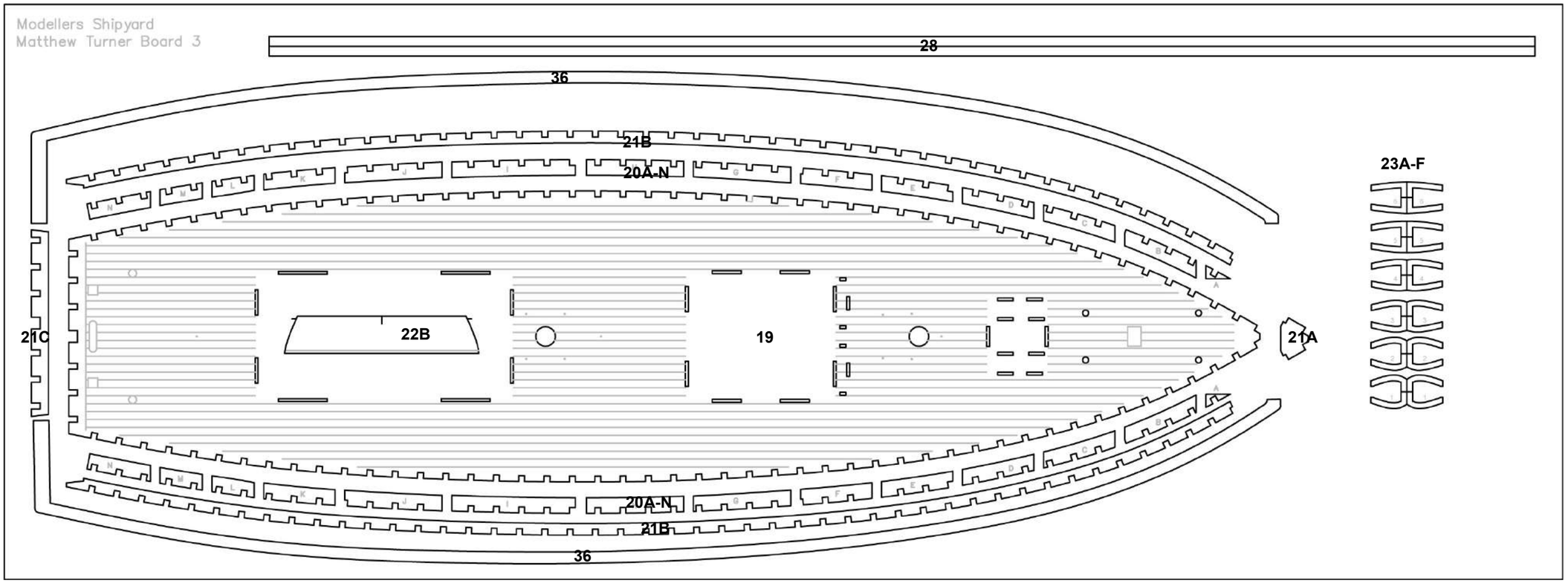


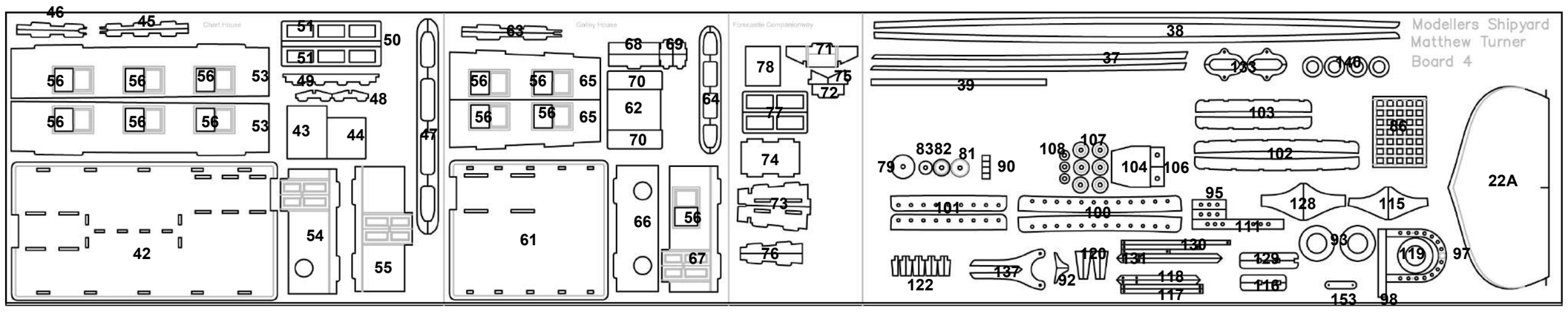






Brigantine
MATTHEW TURNER
SHEET 3



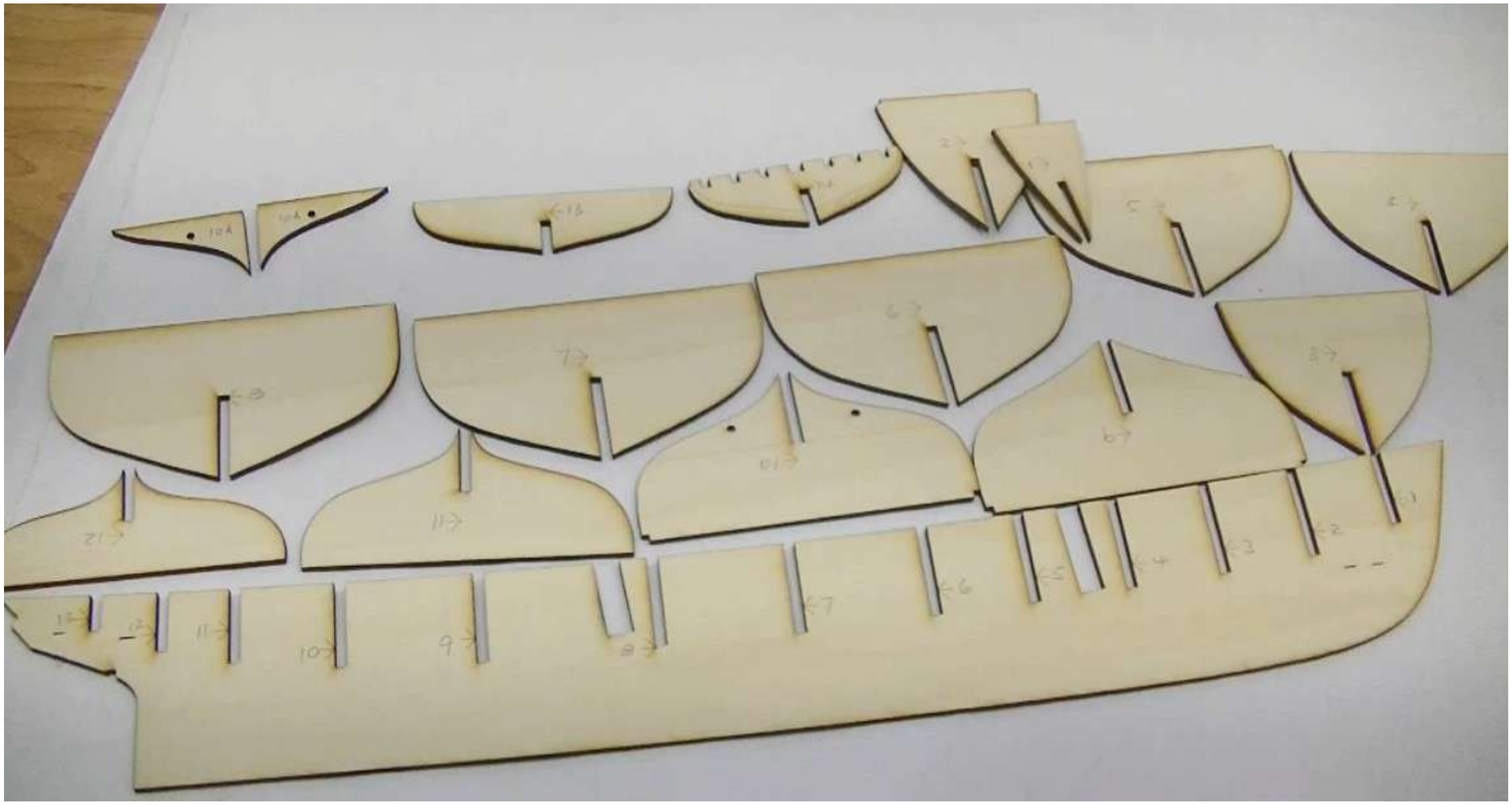


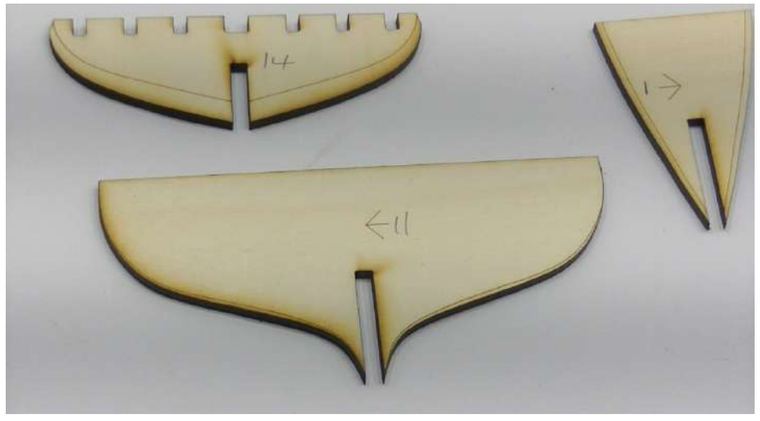
Brigantine
MATTHEW TURNER
SHEET 4

5.0 Hull Construction & Planking

5.1 False Keel & Bulkheads

Identify the false keel and bulkhead frames from the laser cut board. Notice all the bulkheads are numbered and these correspond to the numbered slot in the false keel. Notice the numbered arrows on both the false keel and the bulkheads - the bulkhead is correctly located when the bulkhead arrow and keel arrow align. Also notice that some bulkheads have a score line along the edge of the bulkhead - this a fairing line and will be used to fair the relevant bulkheads **before** gluing the bulkheads into the keel - this will be discussed further later in the instructions.

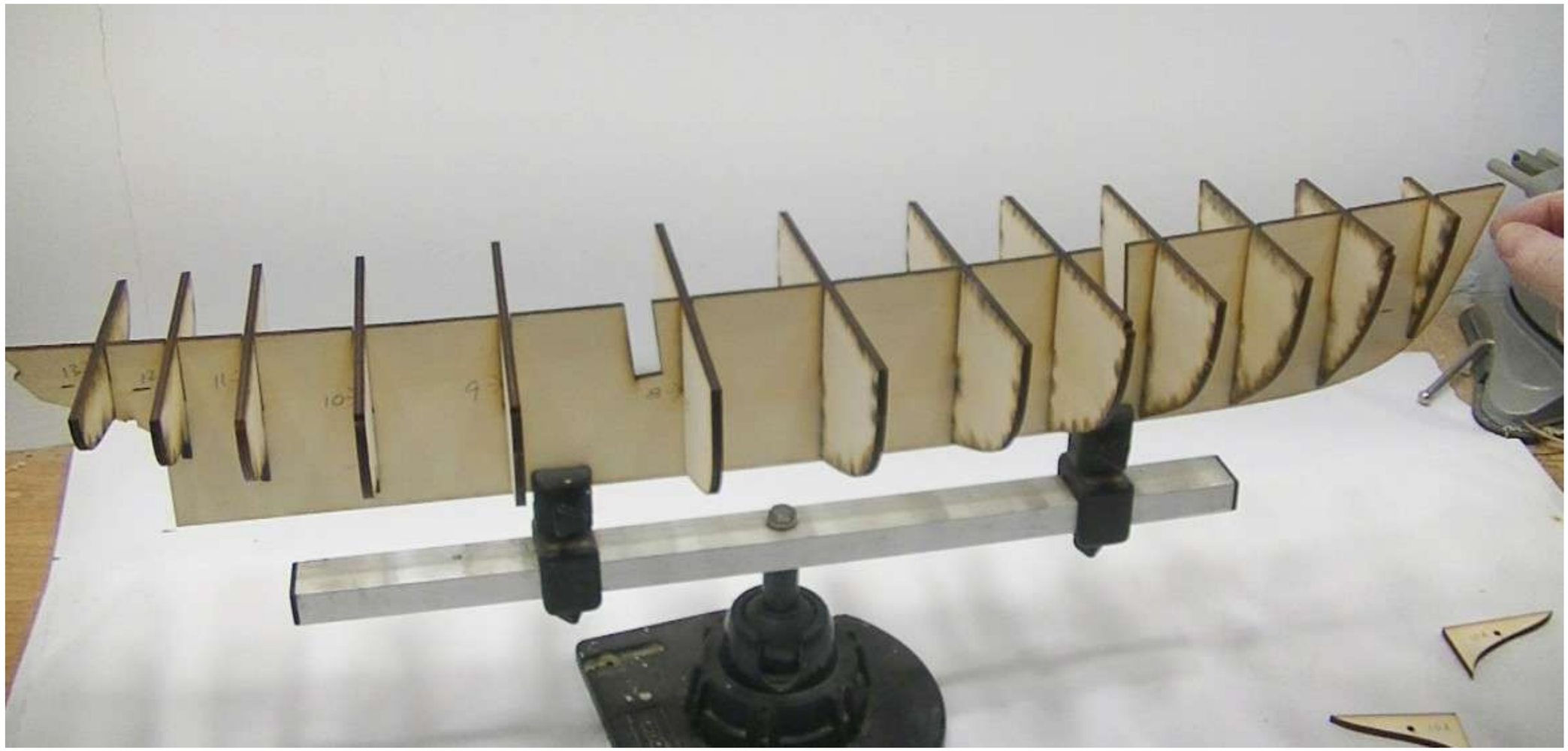


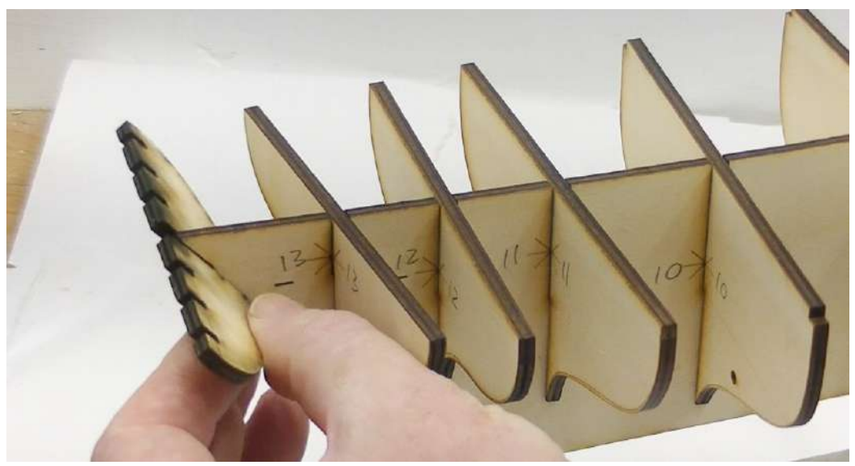


Brigantine
MATTHEW TURNER
SHEET 5

5.2 Dry Fit Bulkheads

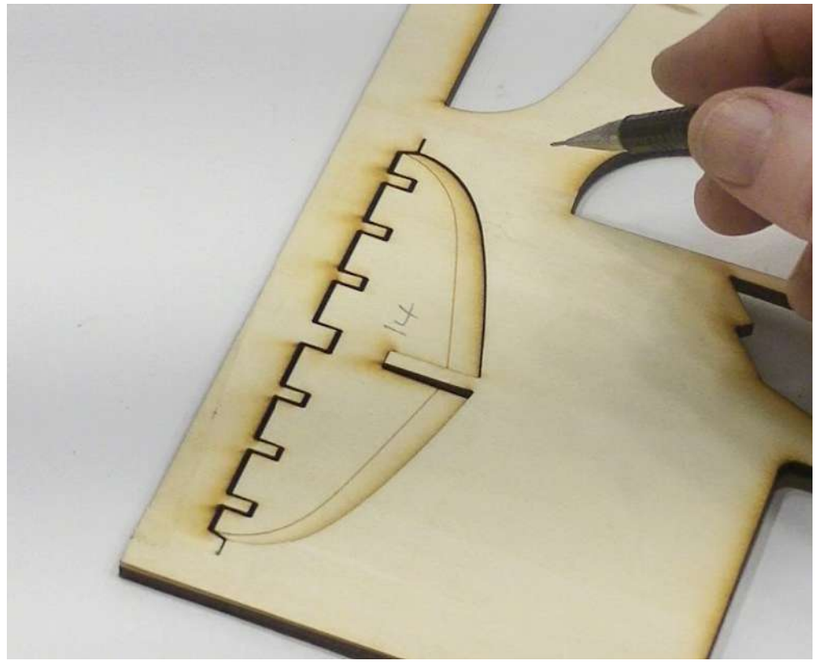
Dry fit the bulkheads into the keel - do not glue anything at this point. Make sure all bulkheads fit into their designated keel slot freely. Note the arrow for each bulkhead must align with the arrow on the keel for each respective bulkhead. Also note the front face of bulkheads 1 - 7 are facing towards the bow while bulkheads 8 - 13 are facing towards the stern. This to accommodate the score fairing lines on the relevant bulkheads - **make sure you have correctly positioned the bulkheads.** Trial fit the transom base P14 - it fits into the notch at the stern as shown. You will notice the top edge sits above the deck line. Next you will see a technique to remove the area above the deck line.

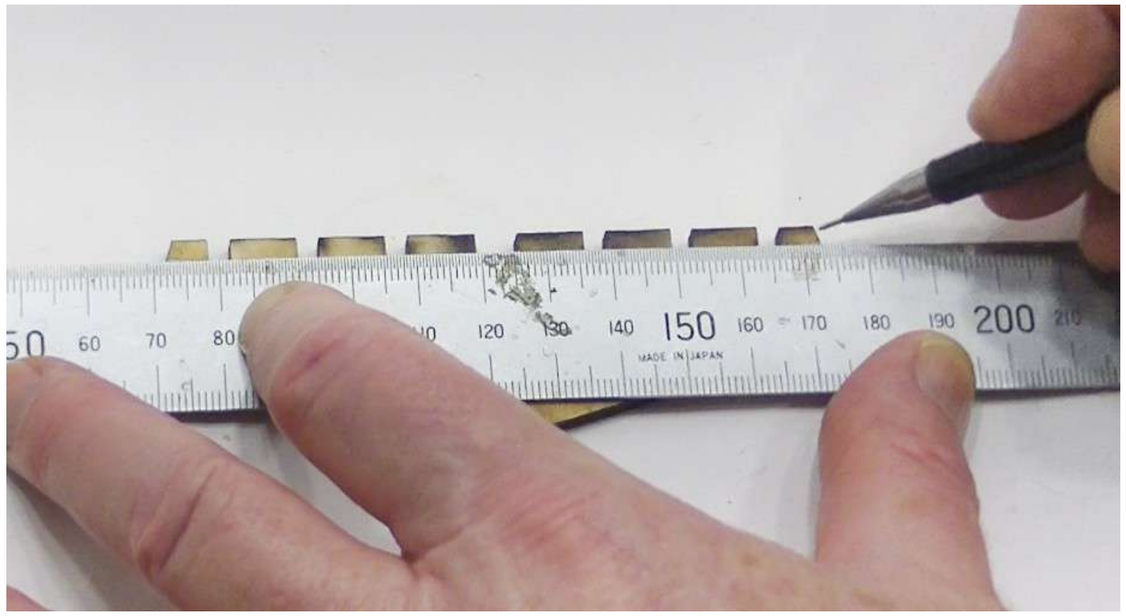




5.3 Transom Base

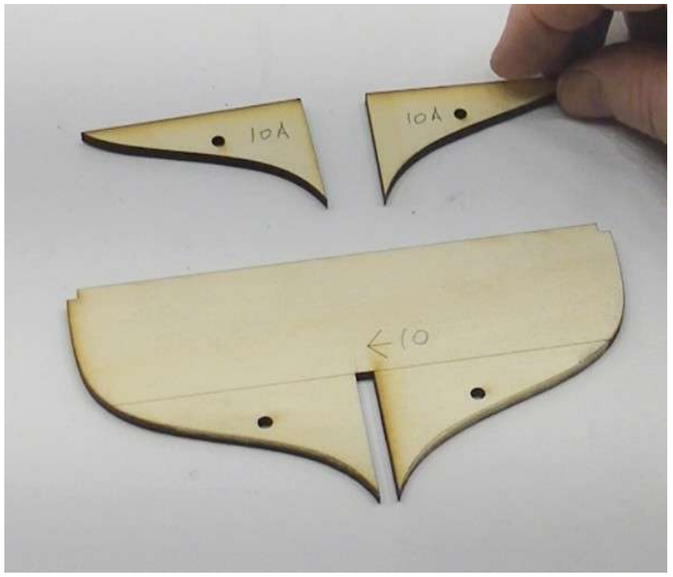
Take the transom base P14 and reinsert it into its place in the laser cut board as shown - you will notice a cut line in the board near the top on the transom base as shown. Turn the transom base over as shown and using a pencil transfer the location of the cut line onto the transom base. Use a rule and pencil to draw a line across the top of the transom base as shown - this will be a fairing line used later to ensure the top of the transom allows the deck to rest flat across all bulkheads.

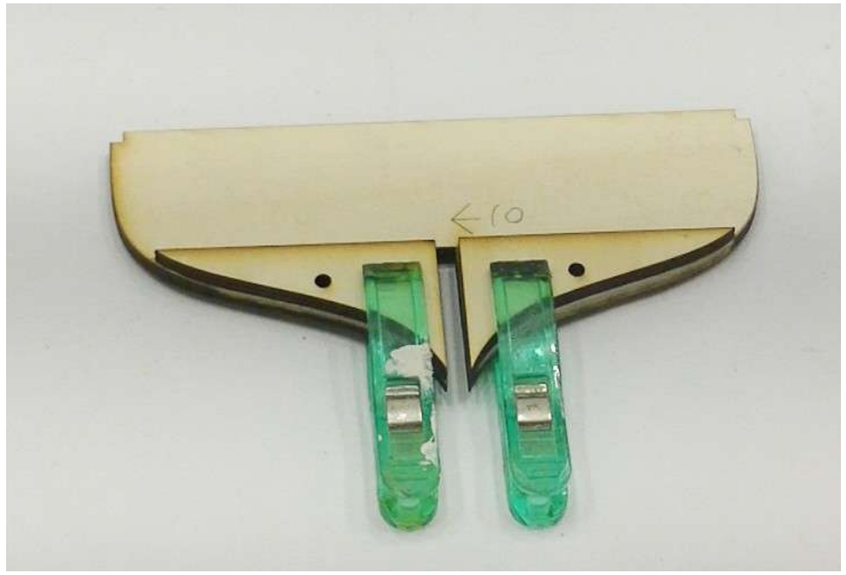




5.4 Propeller Shaft Supports

Identify bulkhead 10 and the propeller shaft supports 10A. Using the score line across the face of bulkhead 10 and the laser cut holes, align the supports in place and glue and clamp as shown. Separate bulkheads 1 - 4 and 10 - 13 and the transom base P14. These parts need to be faired. Set aside the other bulkheads.

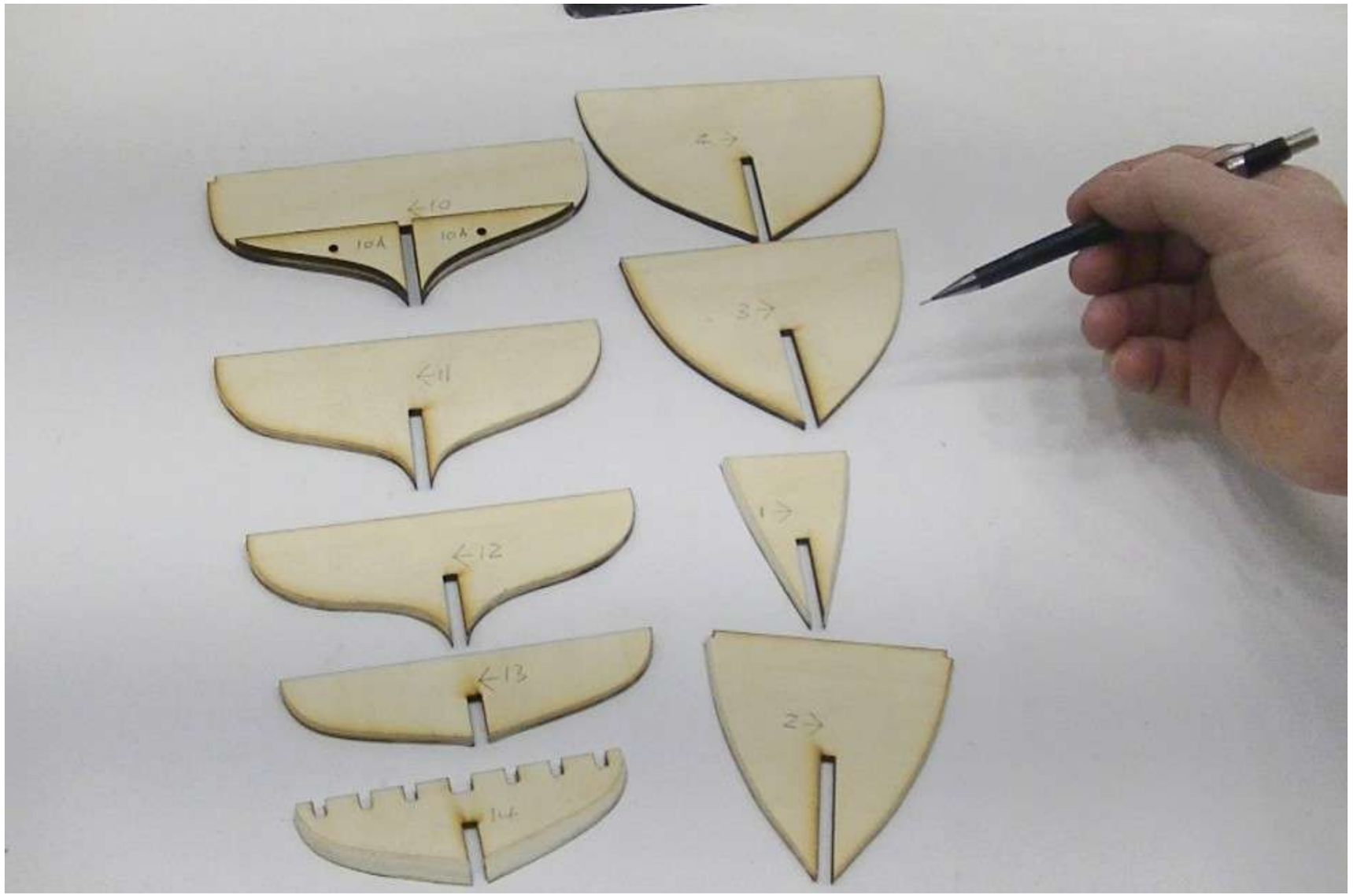


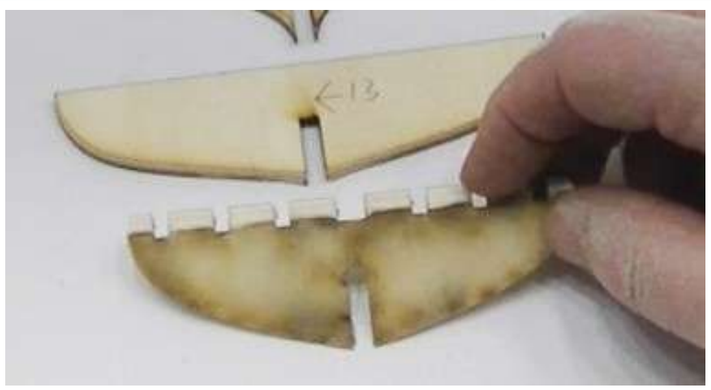


Brigantine
MATTHEW TURNER
SHEET 8

5.5 Fairing Bulkheads

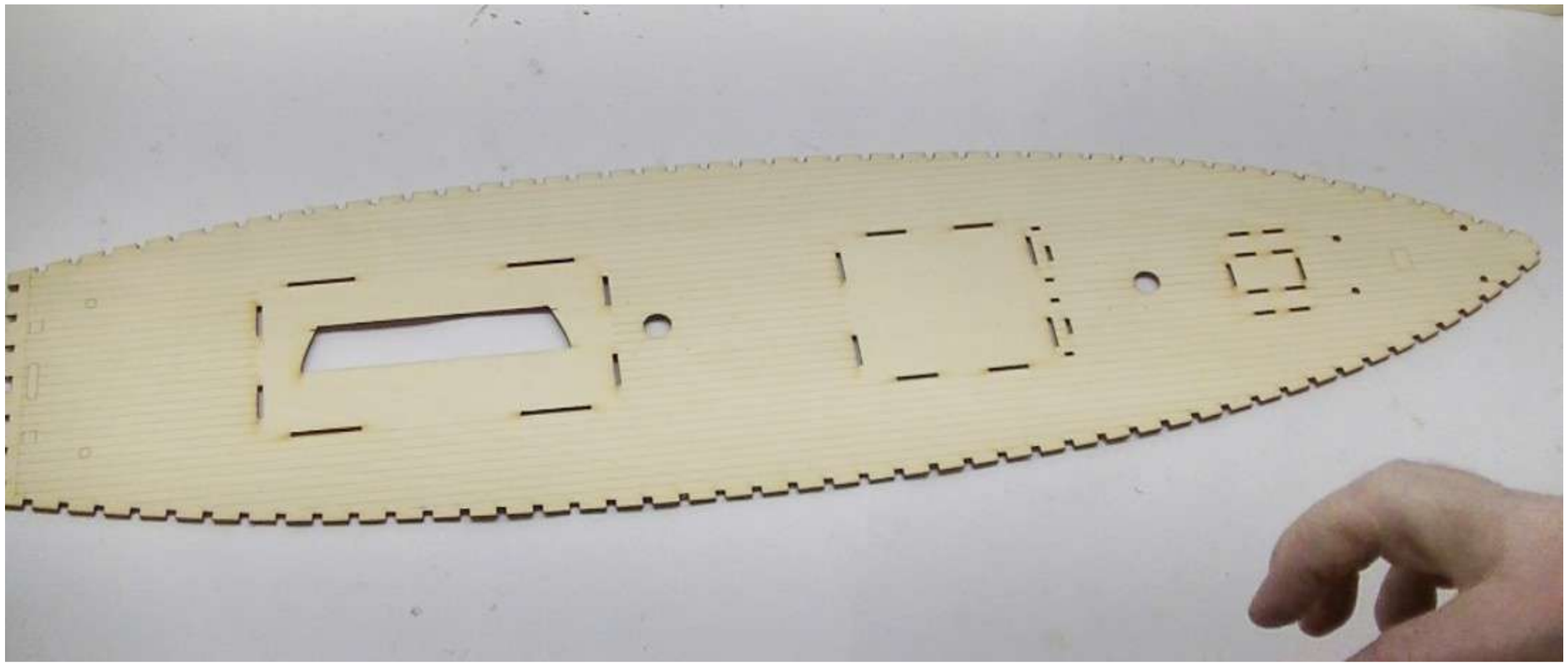
Using a flat sanding board shape each part from the score line to the opposite face to create a chamfer on the edge of the part as shown. Take your time - fractionally adjust as required. Turn the transom base over and shape the top edge as shown. This is the process of fairing the bulkheads **before** gluing the bulkheads into the keel. The process ensures the fairing of the bulkheads is accurate and symmetrical.

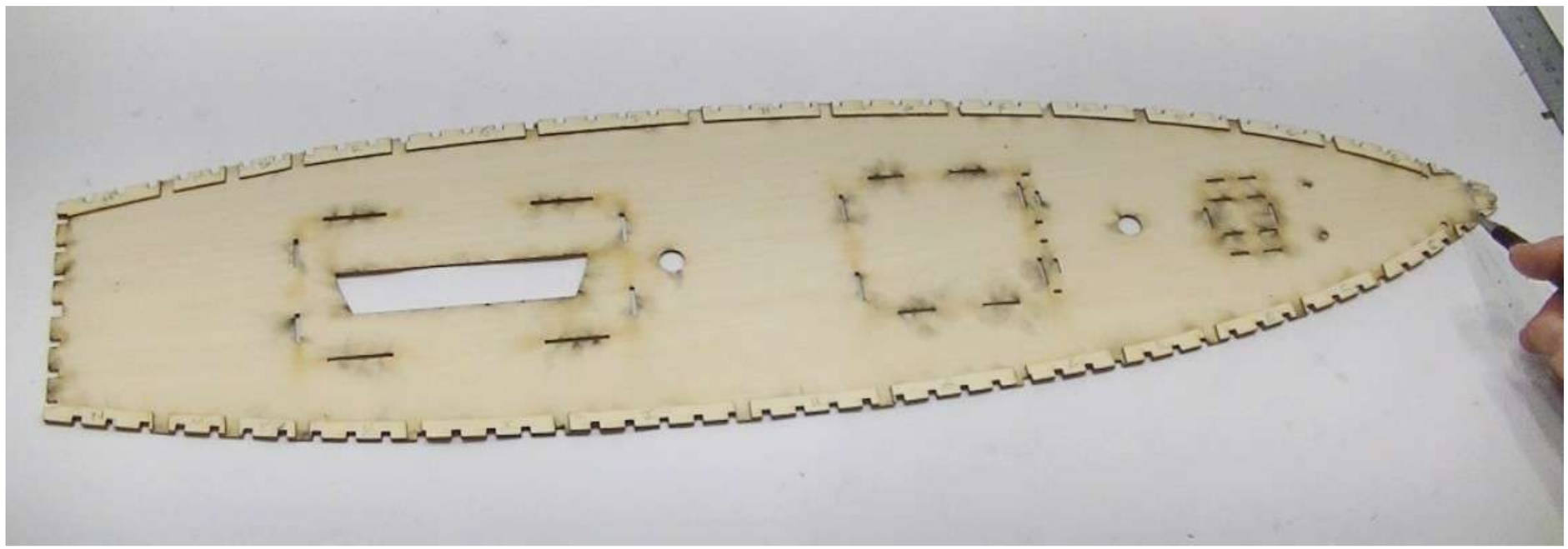




5.6 Underdeck Supports

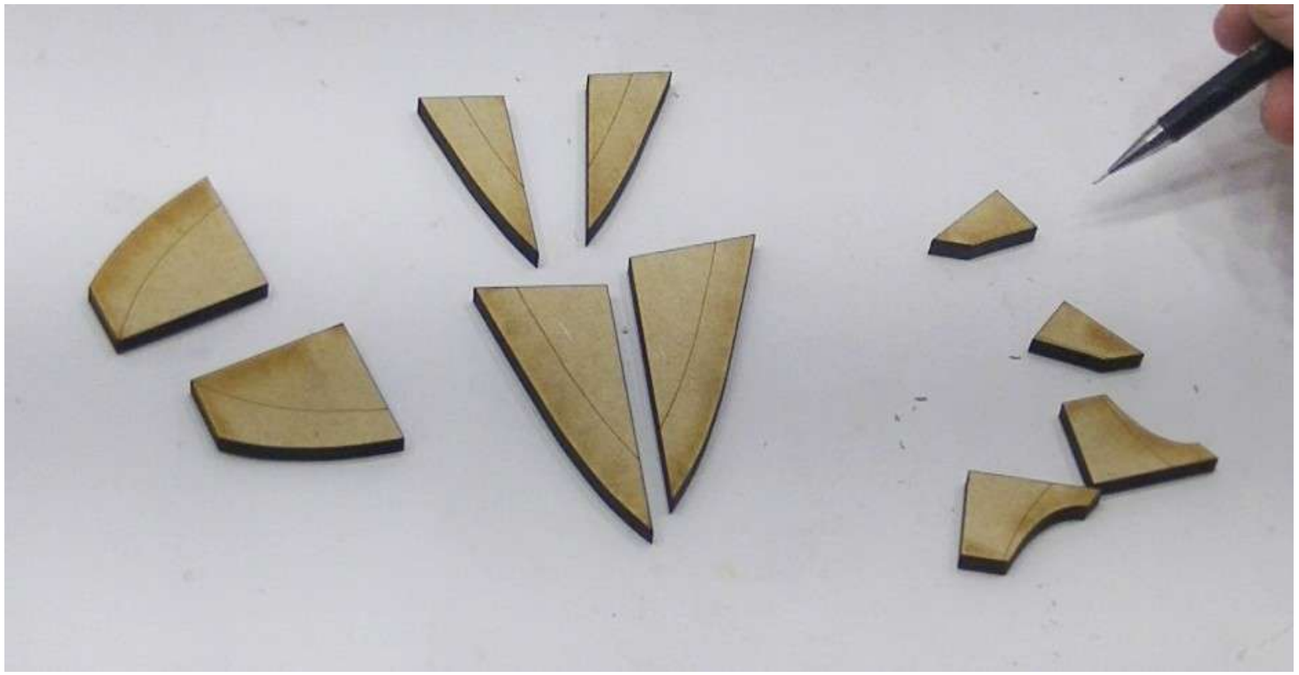
Identify the deck P19. Identify underdeck frame supports P20A-N. Turn the deck over and use white wood glue to glue the frame supports in place as shown. Start with A at the bow and progress to N on each side. Make sure each part is aligned correctly with the frame slots in the deck - note the gaps are for the bulkhead top edge to be accommodated. Set aside to allow glue to set.





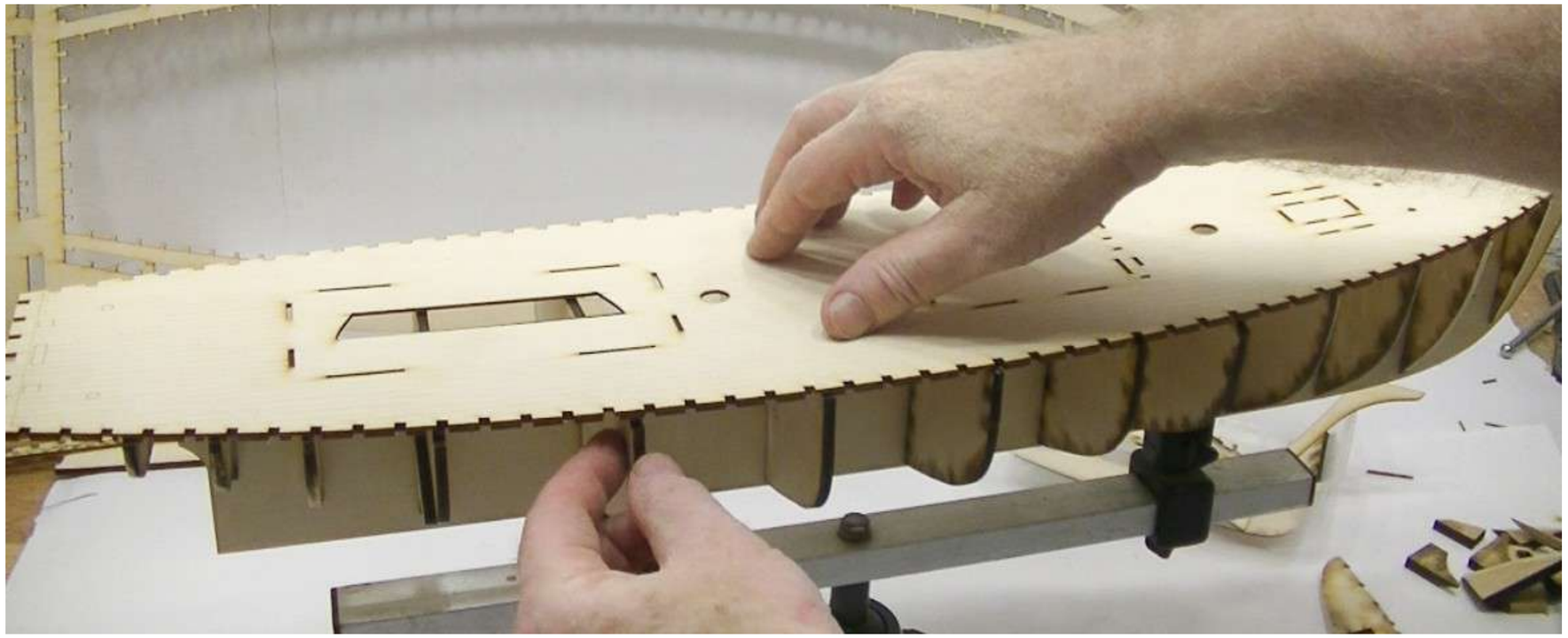
5.7 Bow & Stern Blocks

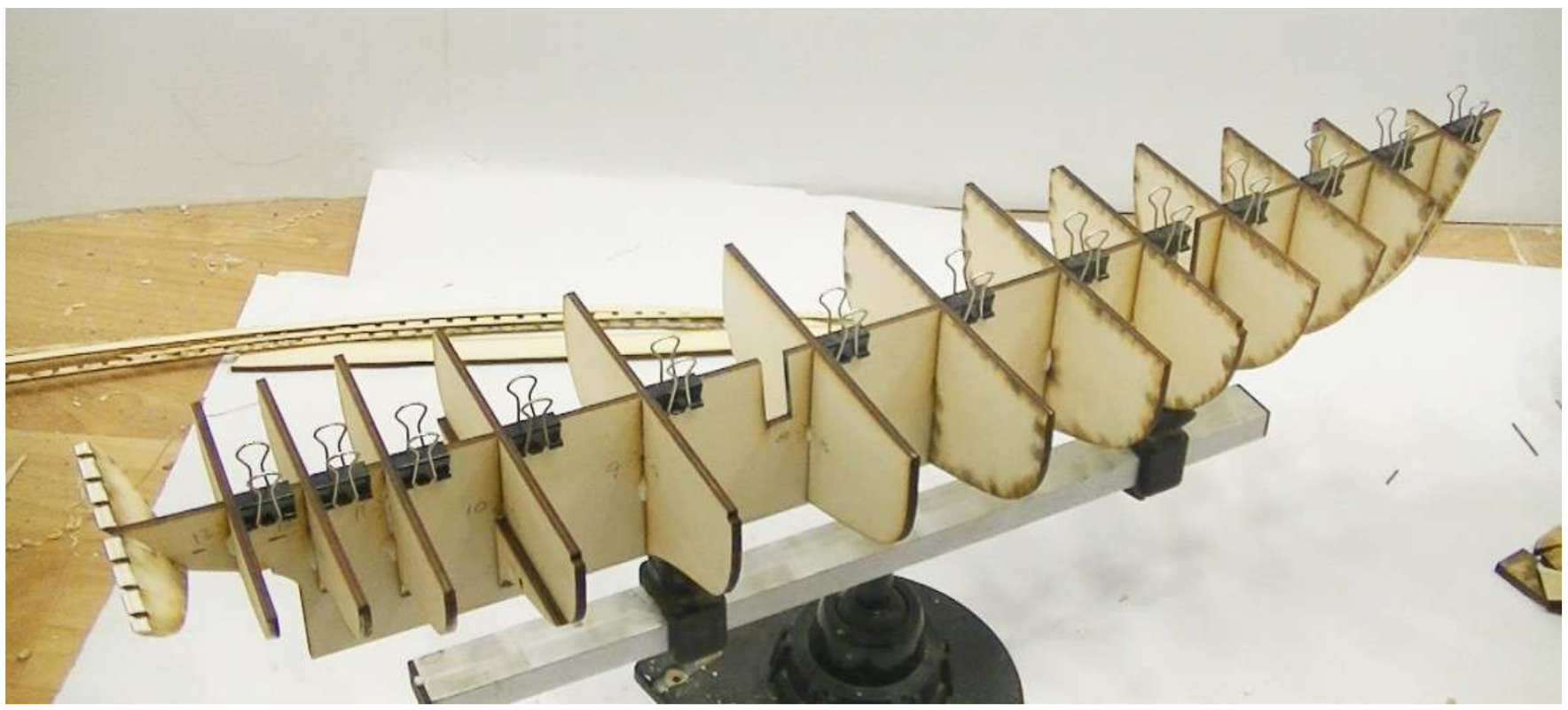
Identify the bow blocks P16A-D, the inter-bulkhead blocks P17A-B and the stern blocks P18A-D. Notice the fairing lines on each. Shape each block as shown applying the same technique as previously done for the bulkheads.



5.8 Deck Trial Fit & Glue Bulkheads

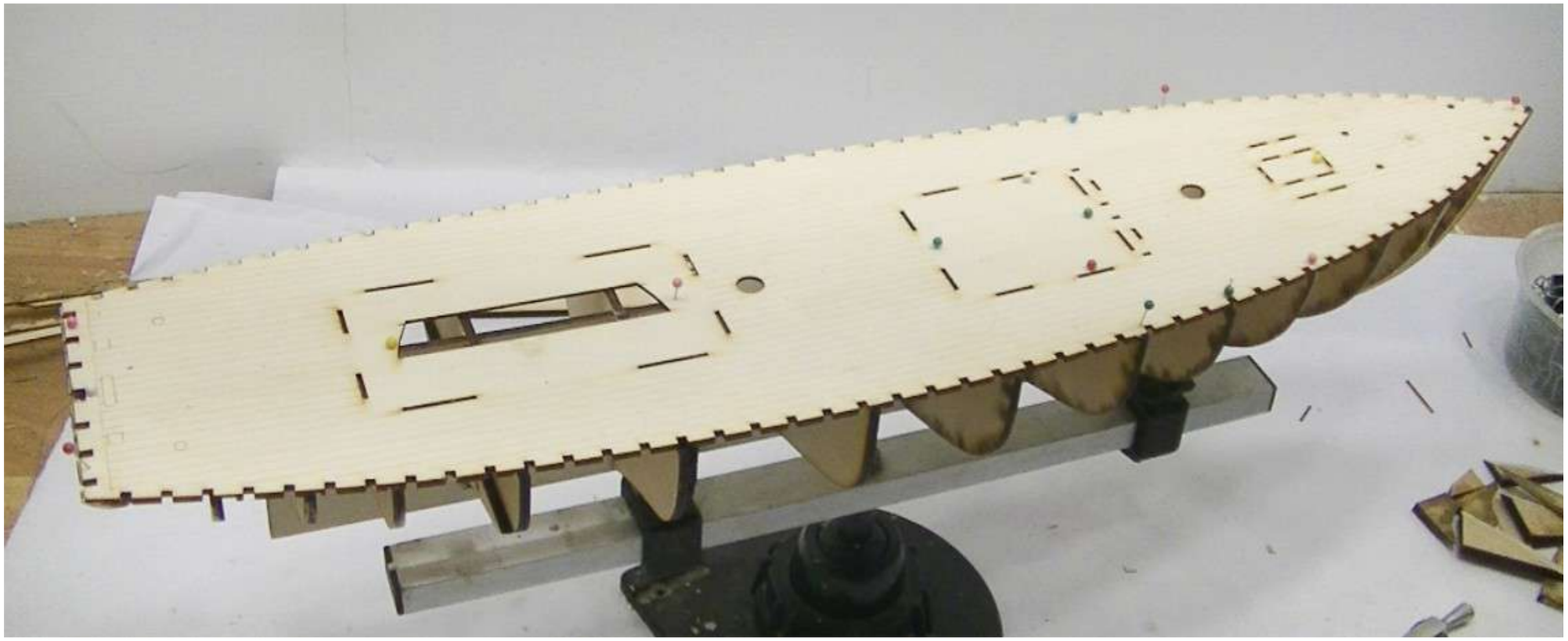
Again dry fit the now faired bulkheads and trial fit the deck - making sure to align the underdeck frame supports with the bulkheads. Once satisfied remove the deck. Glue the bulkheads in place - fit bulldog clips hard against the face of each bulkhead to ensure it is square to the keel. Set aside to allow the glue to set.





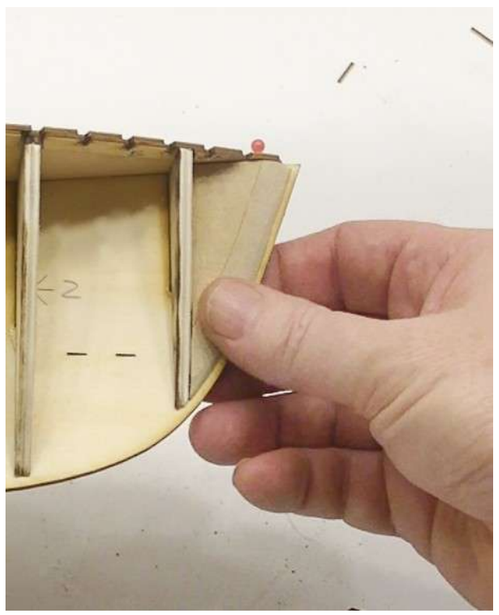
5.9 Glue Deck

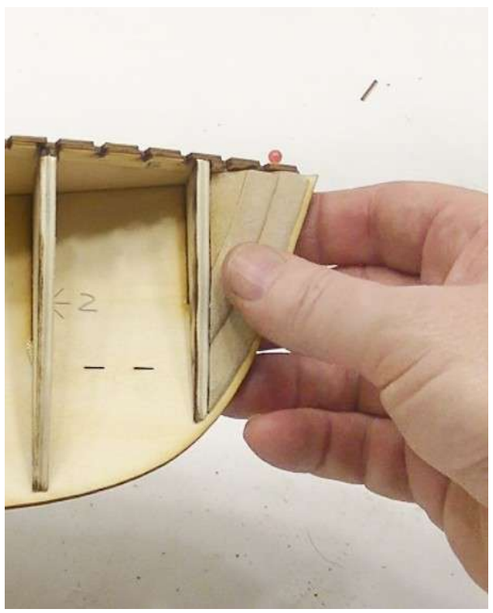
Glue and pin the deck in place - apply the glue to the top of the keel, bulkheads and transom base top. Use map pins to hold the deck in place and to accommodate the deck curvature.

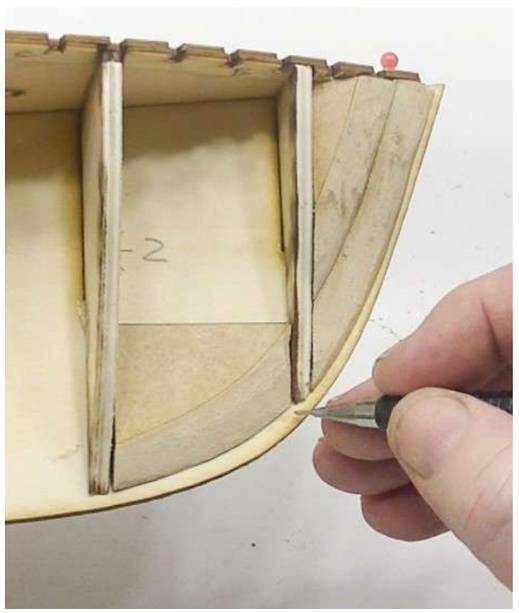


5.10 Glue Bow & Stern Blocks

Identify the bow blocks 16A & 16B - trial fit in place - glue in place as shown. Identify bow blocks 16C & 16D - trial fit in place - glue in place as shown. Identify inter-bulkhead blocks 17A & 17B - trial fit and glue in place as shown. Identify the stern blocks 18A & 18B - trial fit in place - glue in place as shown. Identify the stern blocks 18C & 18D - trial fit in place - glue in place as shown.

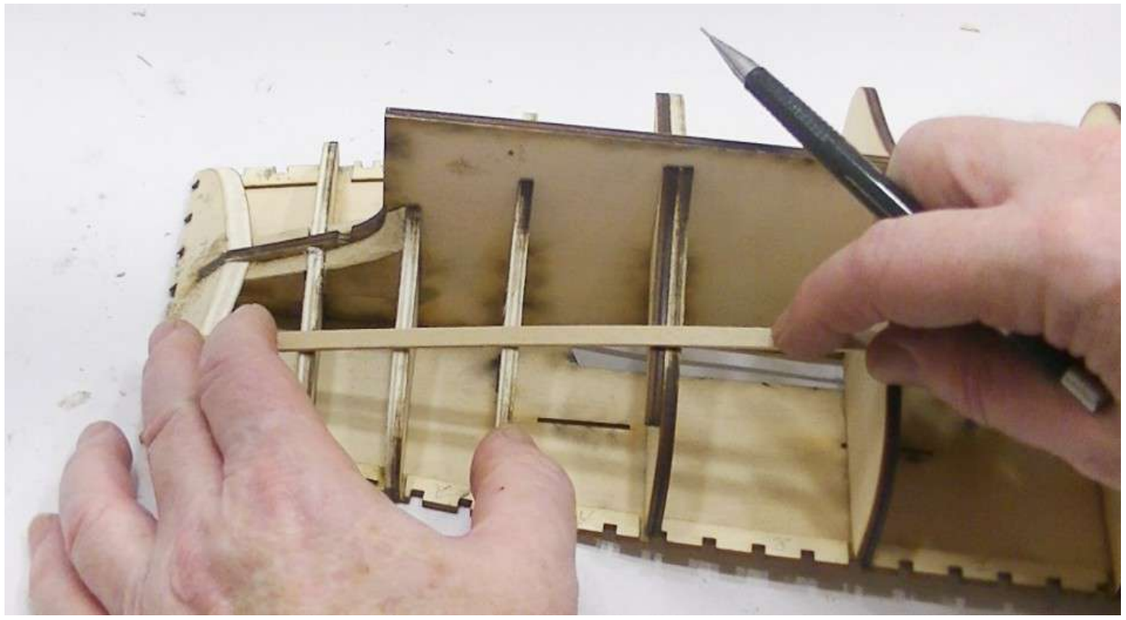


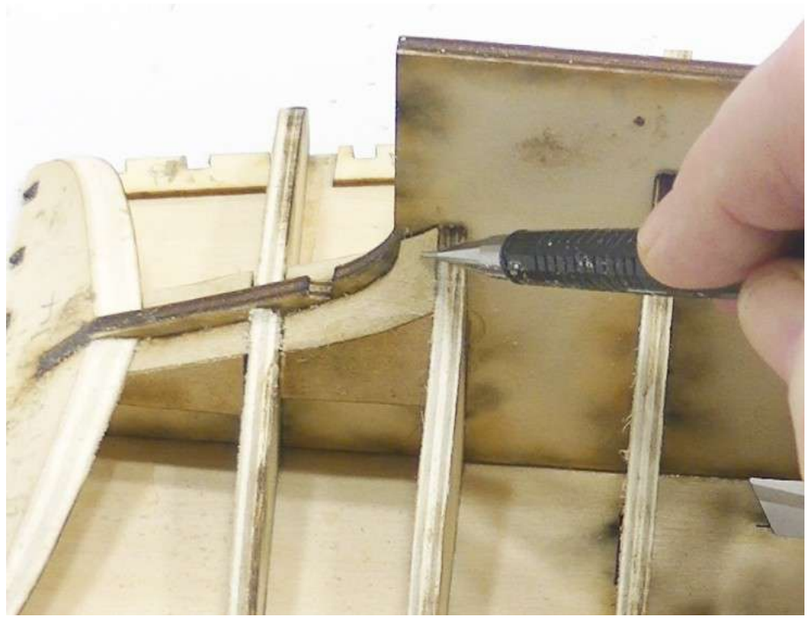


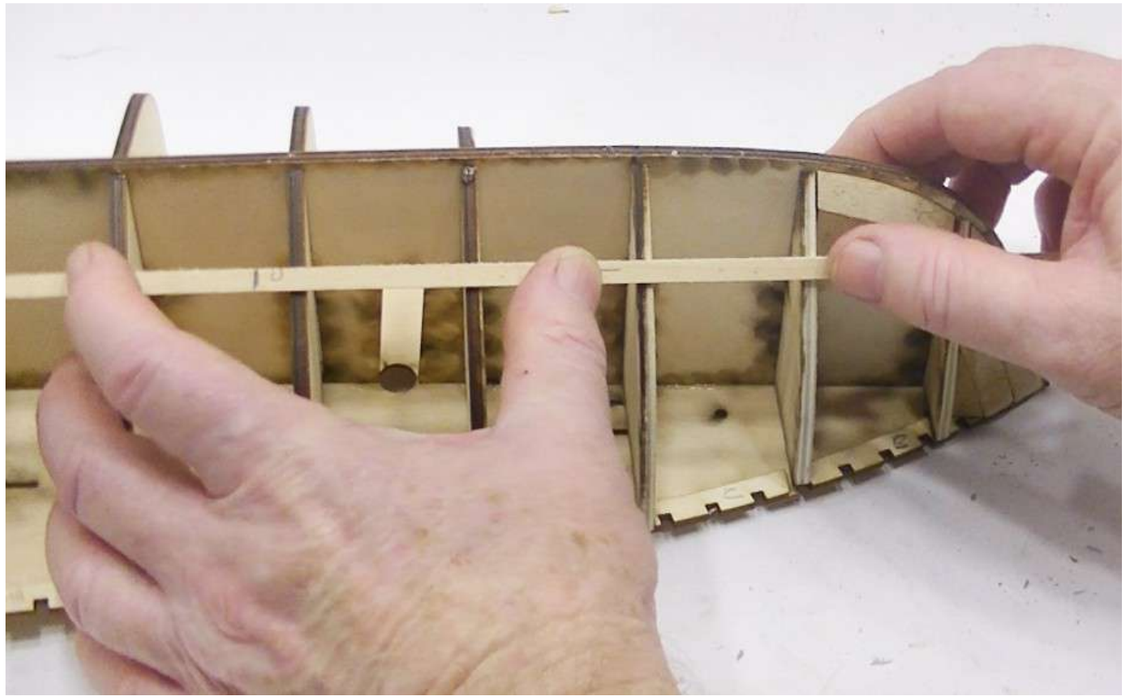


Brigantine
MATTHEW TURNER
SHEET 13

5.11 Check Fairing
Use a planking strip of timber P24 to check the fairing across the bulkheads, bow and stern blocks. Identify any high parts and fractionally adjust as required and re-check.





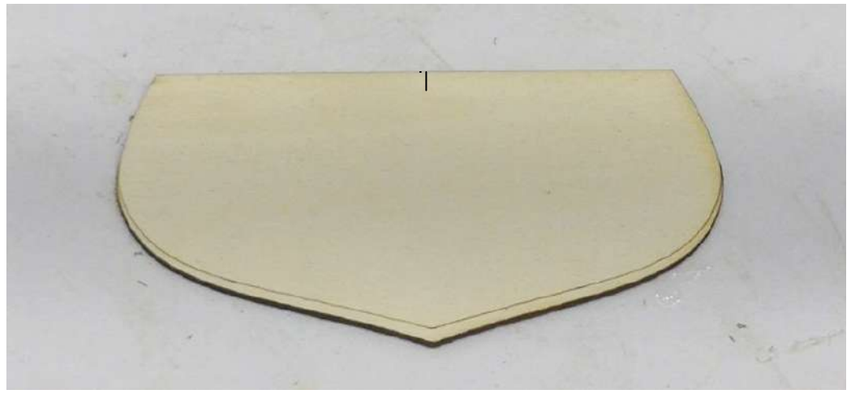


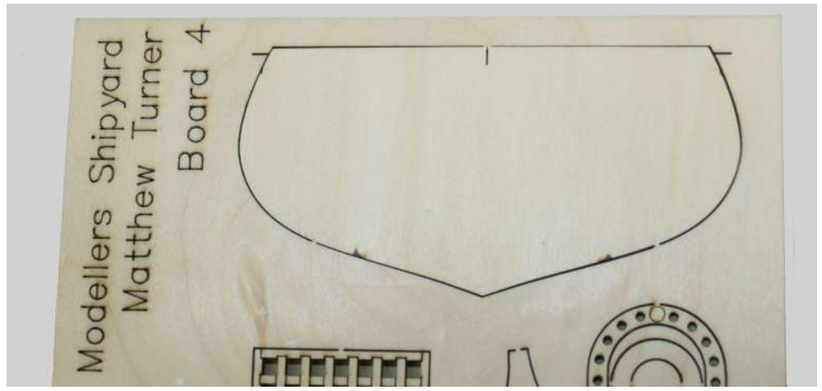
5.12 Transom

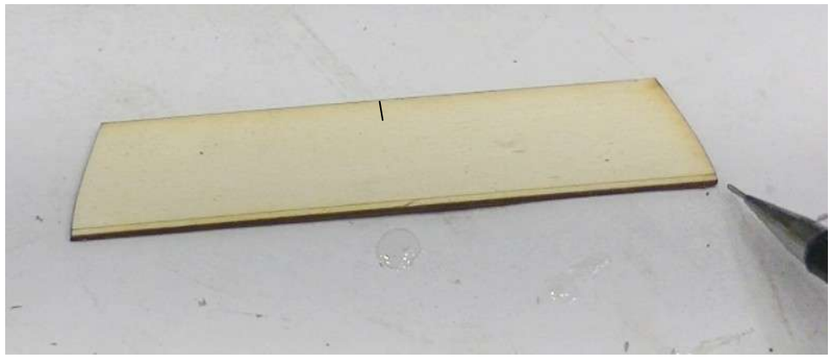
Identify the transom P22A. Notice the score line on the front face as shown - shape from this score line to the opposite edge to create a chamfer edge. Turn the transom over and reinsert it into its place in the laser cut board as shown - you will notice a cut line in the board near the top on the transom as shown. Using a pencil transfer the location of the cut line onto the transom. Use a rule and pencil to draw a line across the top of the transom as shown - shape the top of the transom from this pencil line to the opposite edge to create a chamfer.

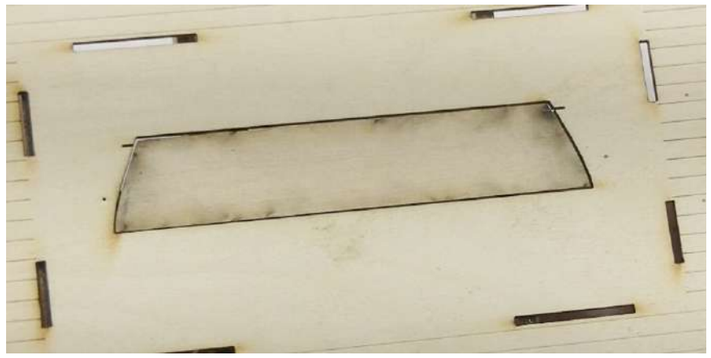
Identify the transom support P22B - notice the score line at its base - shape from this score line to the opposite edge to create a chamfer edge. Turn the transom support over and reinsert it into its place in the laser cut board as shown - you will notice a cut line in the board near the top on the transom support as shown. Using a pencil transfer the location of the cut line onto the transom support. Use a rule and pencil to draw a line across the top of the transom support as shown - shape the top of the transom support from this pencil line to the opposite edge to create a chamfer.

Lastly, glue the transom support to the transom aligning the top central cut mark on each part.



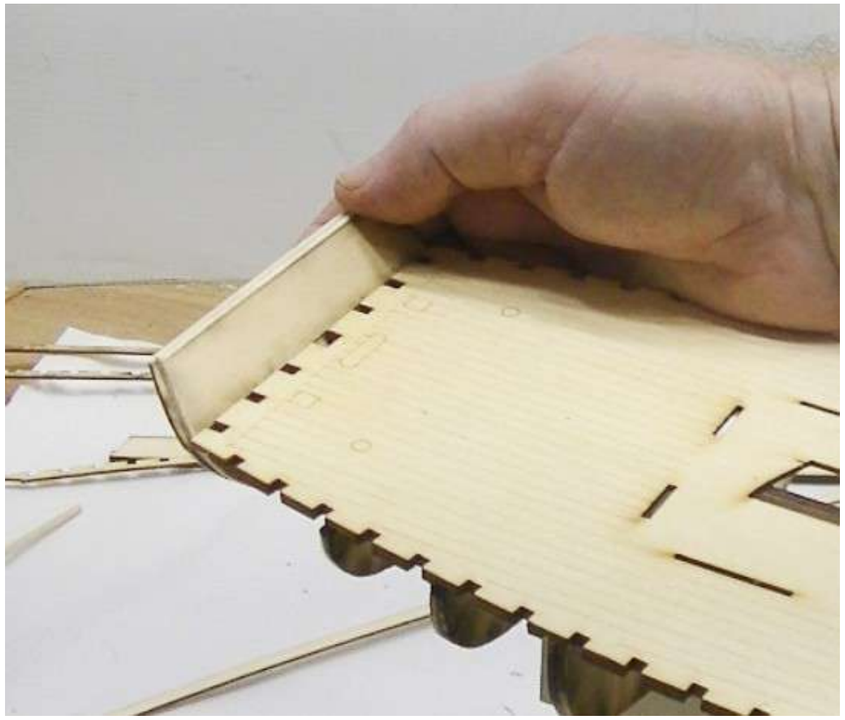


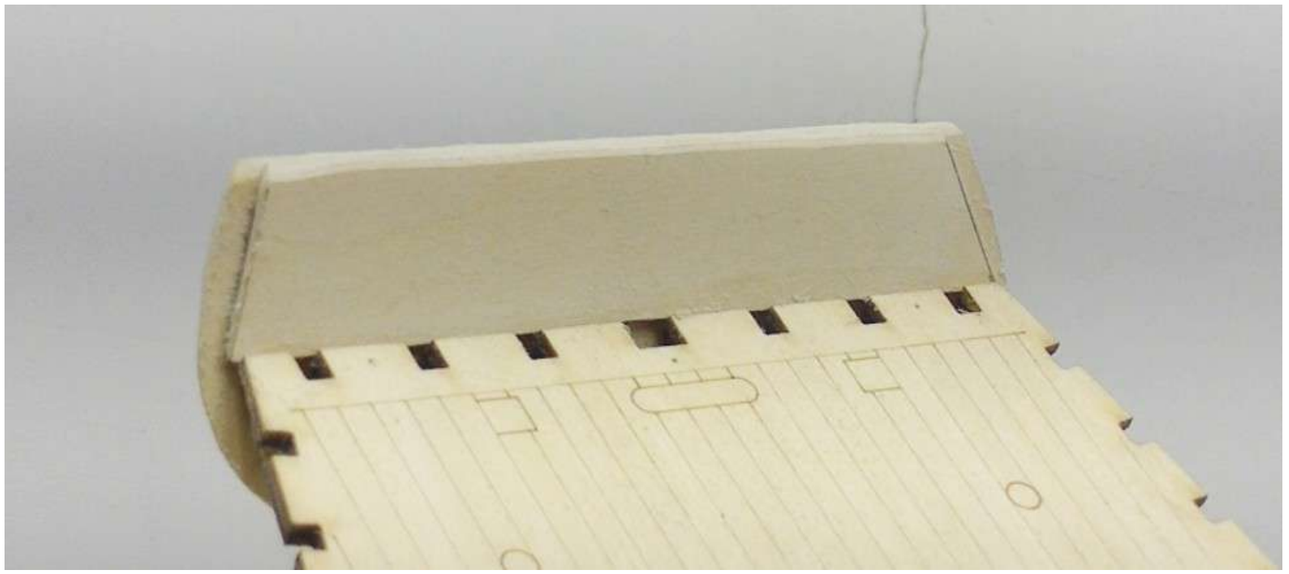




5.13 Transom Fitted

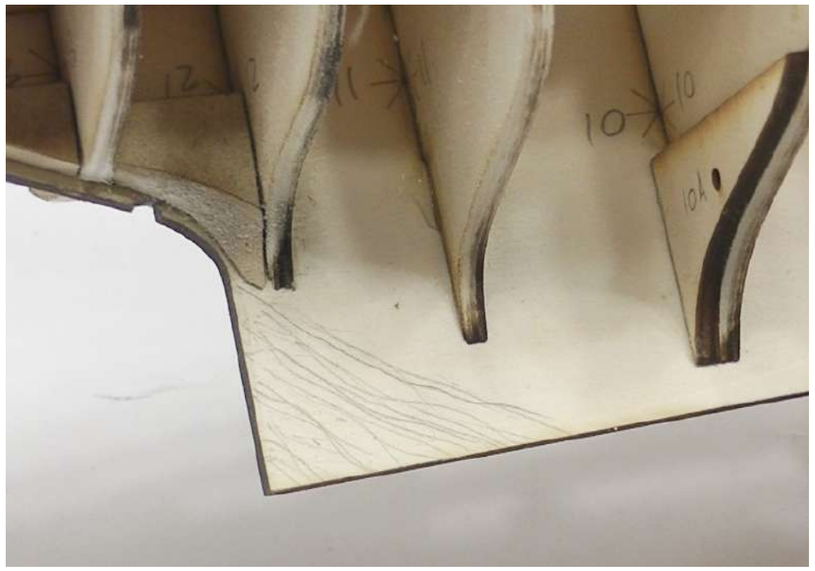
Trial fit the assembled transom in place as shown. Once satisfied glue and pin the transom in place as shown. Notice the transom is oversize to both the transom base and transom support - this ensures the end grain of the hull planks will not be seen. Any excess oversize will be sanded flush with the planking later.

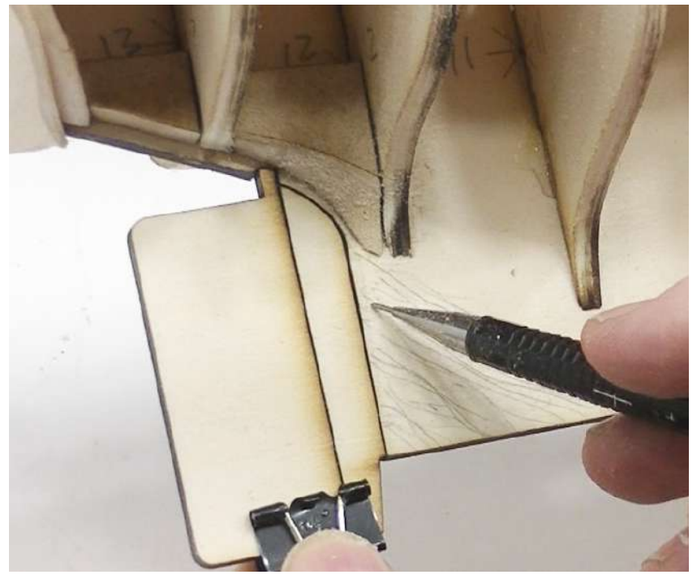




5.14 Deadwood Area

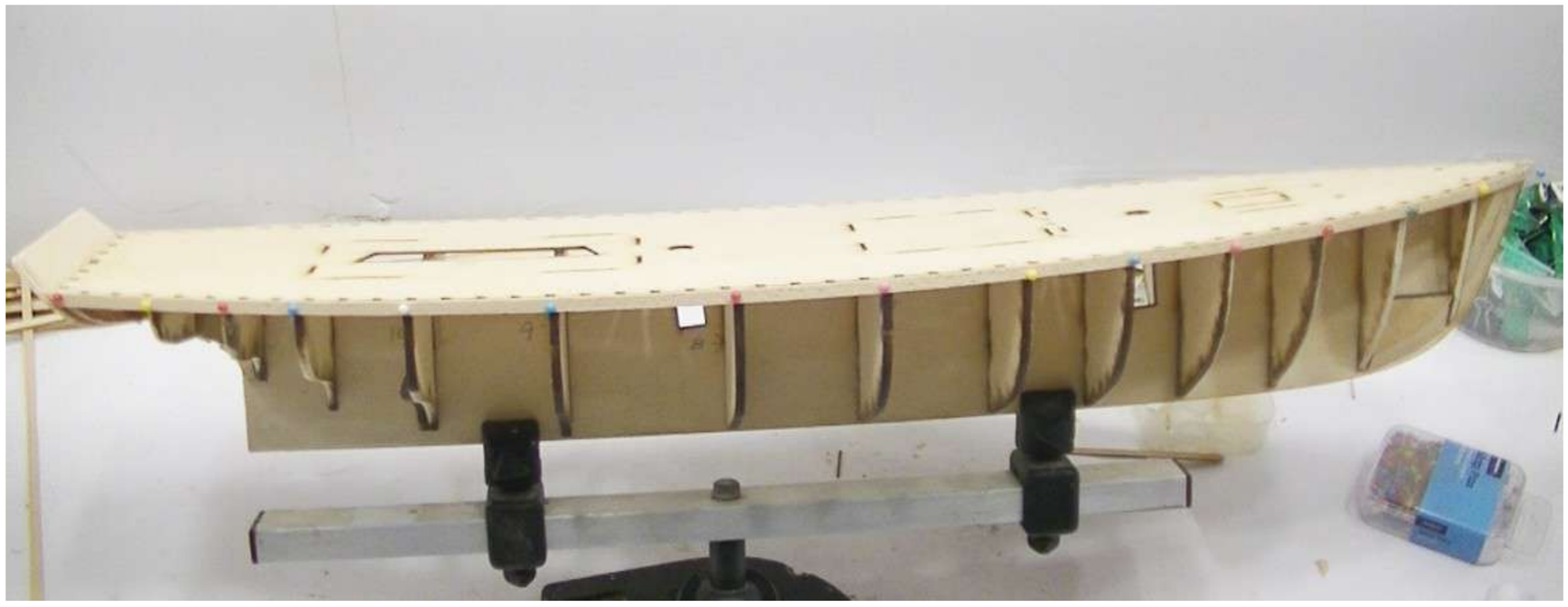
Mark the area shown with a pencil - this is called the Deadwood area. Use a sanding board and grinder to create a taper from a thickness of 4mm to 2mm - at the keel end as shown. Once the hull is planked the planks will also be reduced in thickness as well - this will ensure that when the stern post and keel are fitted there is a smooth transition from planked hull to stern post and rudder.

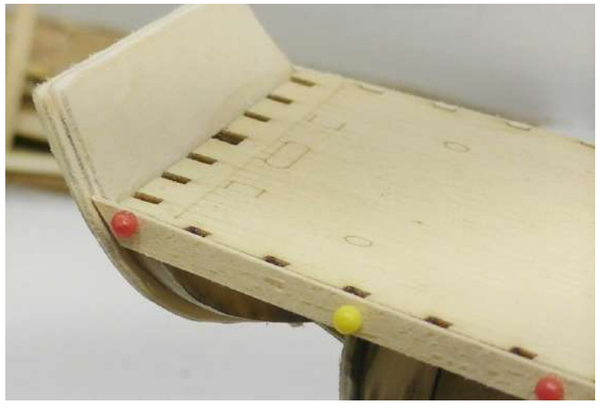




5.15 Fit Temporary Plank

Identify the hull planking strips P24. Trial fit one strip along the hull flush with the top of the deck as shown. Shape the stern end to fit snugly into the side of the transom as shown. Cut the plank length to allow approximately 5mm overhang at the bow. Once satisfied with the fit of the plank pin it in place as shown - this is a temporary plank - **do not glue this plank in place.** Repeat for the other side of the hull.

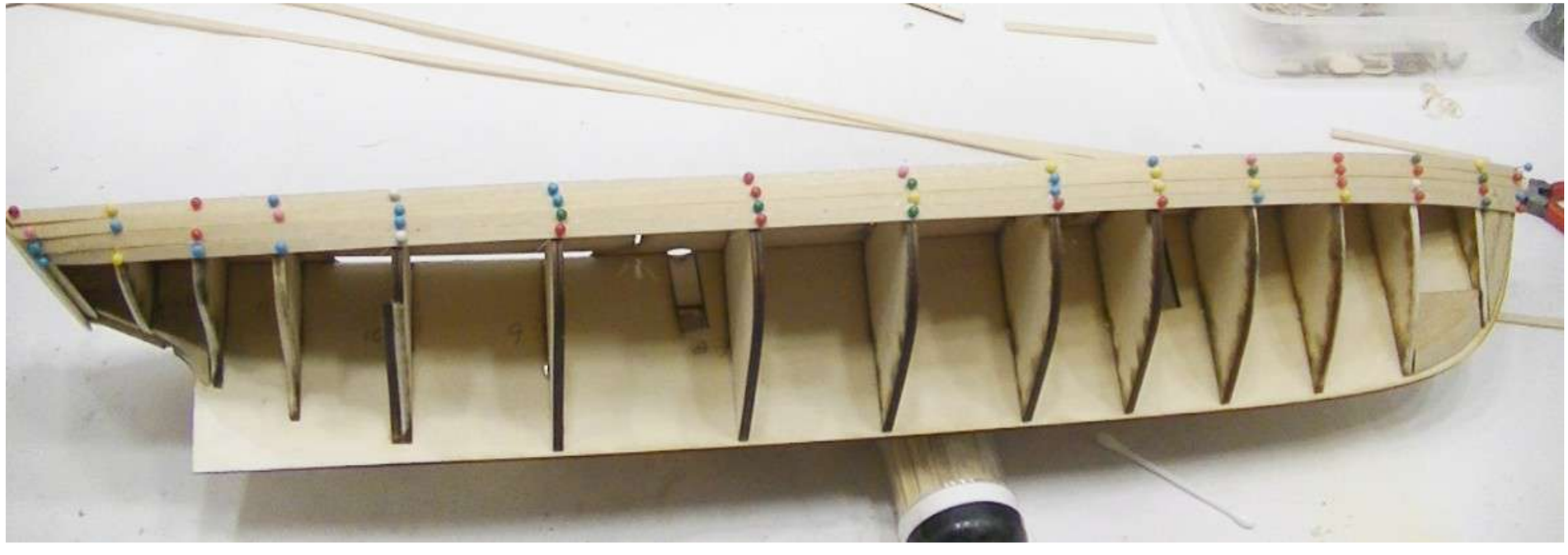




Brigantine
MATTHEW TURNER
SHEET 17

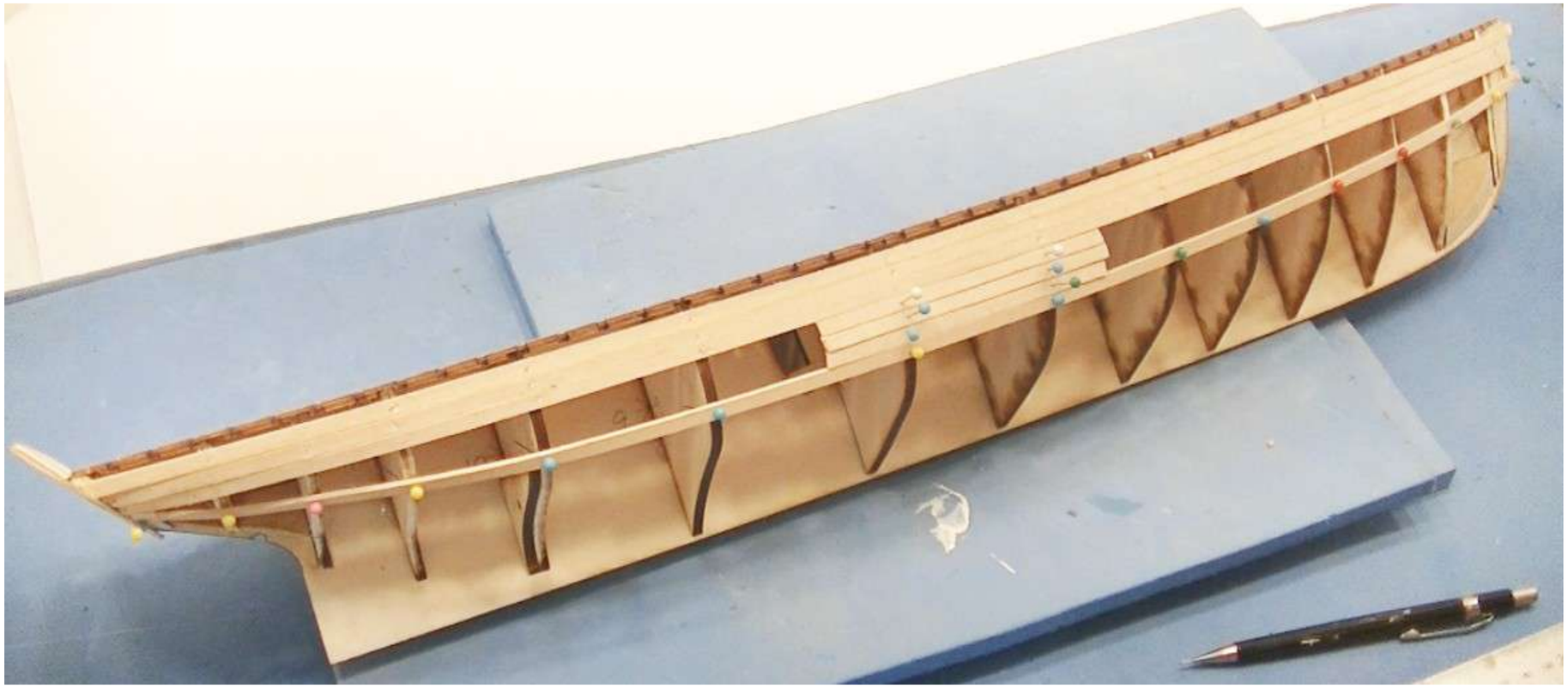
5.16 Glue & Pin First Planks

Shape and trial fit a plank immediately below the temporary plank - once satisfied apply glue to all the contact points and pin the plank in place as shown - make sure not to glue the temporary plank previously fitted. Repeat for the other side of the hull. Next, shape and trial fit two more planks, once satisfied glue and pin in place as shown. To add strength to the hull apply a bead of glue to the bottom edge length of the previously laid plank and push the new plank firmly against it and pin in place. Repeat for the other side of the hull. At the bow and stern make sure the planks are a mirror image of each other. Once this band of planks is complete remove the temporary plank that is flush with the deck.



5.17 First Planking Band

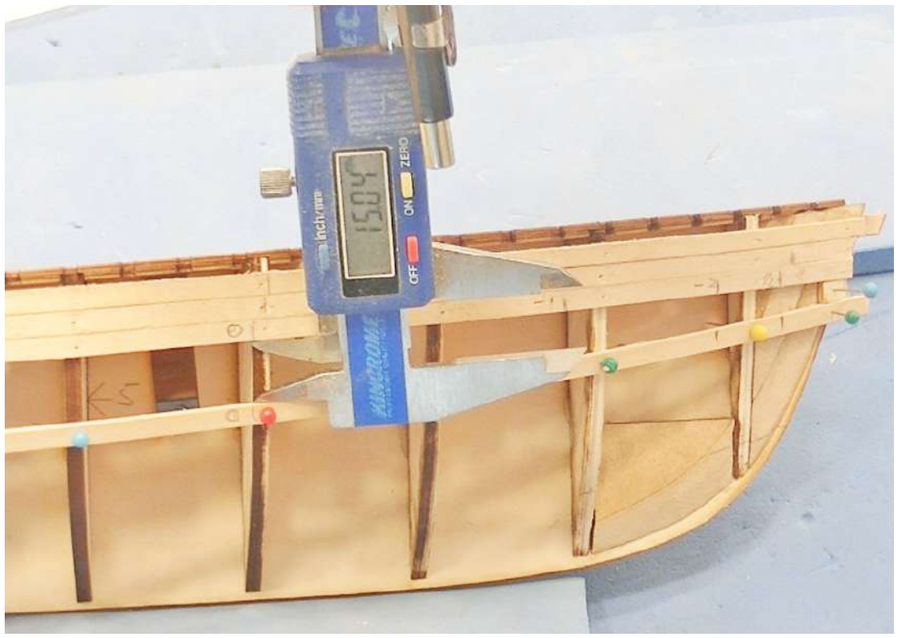
Next we will be working in bands to plank the hull. We will be applying a technique where we reduce from 3 hull planks at the mid-ship area to 2 planks at the bow and stern. Cut 3 x 100mm lengths of the hull planking as spacer planks - pin these 3 planks in place at the mid-ship area - across bulkheads 7 & 8 as shown. Cut 2 x 10mm lengths of the hull planks as spacers - pin one piece at the stern as shown and the other at the bow as shown. Taking a length of the hull planking pin it in place below the 3 x mid-ship planks as shown - allow the plank to follow its natural bend across the bulkheads to the bow and pin in place immediately below the bow spacer as shown. Next, allow the plank to follow its natural bend across the bulkheads to the stern and pin in place immediately below the stern spacer as shown. Finish pinning the plank in place as shown. This plank is a temporary plank while we plank in the band established. The nominal width of the planks is 5mm - this means the width of the band gap at the mid-ship area is 15mm - as can be seen the band gap decreases forward and aft of the mid-ship area.

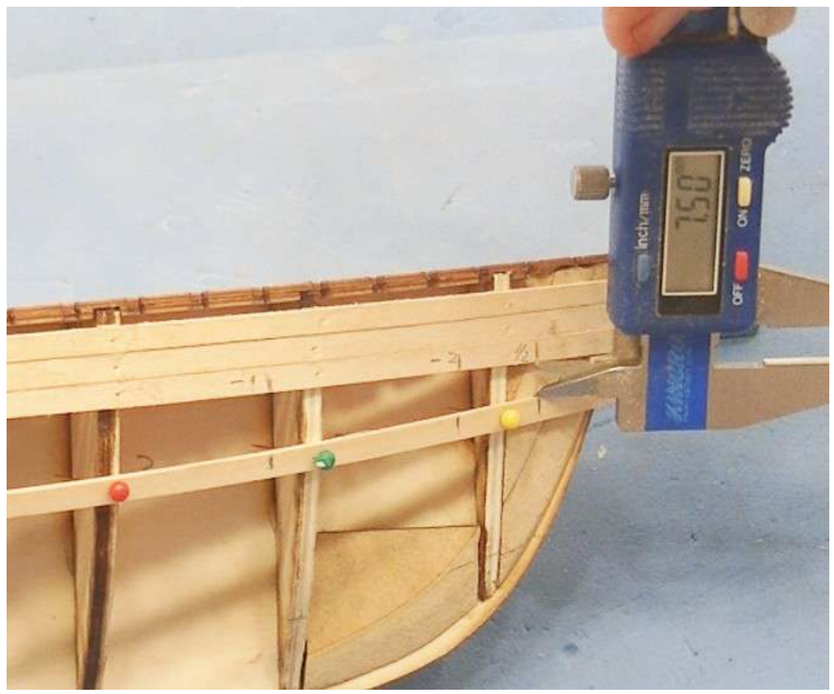


5.18 Measurements

Next determine the shape of the planks that will fit into this band. First ,mark the “0” point - this is where the gap is 15mm - after this point the gap narrows. Second, mark a point “-1” - this is where 1mm is to be taken-off each plank. Third, mark a point “-2” - this is where 2mm is to be taken-off each plank. Fourth, mark a point “1/2” - this is where the gap width is half of 15mm ie 7.5mm. Follow the steps below to identify and mark these points as shown on the plank above and the temporary plank.

1. Set vernier calipers to 15mm - move them along the gap until you notice the gap close to 15mm - mark this point on the plank above as “0”.
2. Set vernier calipers to 12mm (15mm - 3mm) - move them along the gap until you notice the gap close to 12mm - mark this point on the plank above as “-1”.
3. Set vernier calipers to 9mm (15mm - 6mm) - move them along the gap until you notice the gap close to 9mm - mark this point on the plank above as “-2”.
4. Set vernier calipers to 7.5mm (half of 15mm) - move them along the gap until you notice the gap close to 7.5mm - mark this point on the plank above as “1/2”.





Brigantine
MATTHEW TURNER
SHEET 20

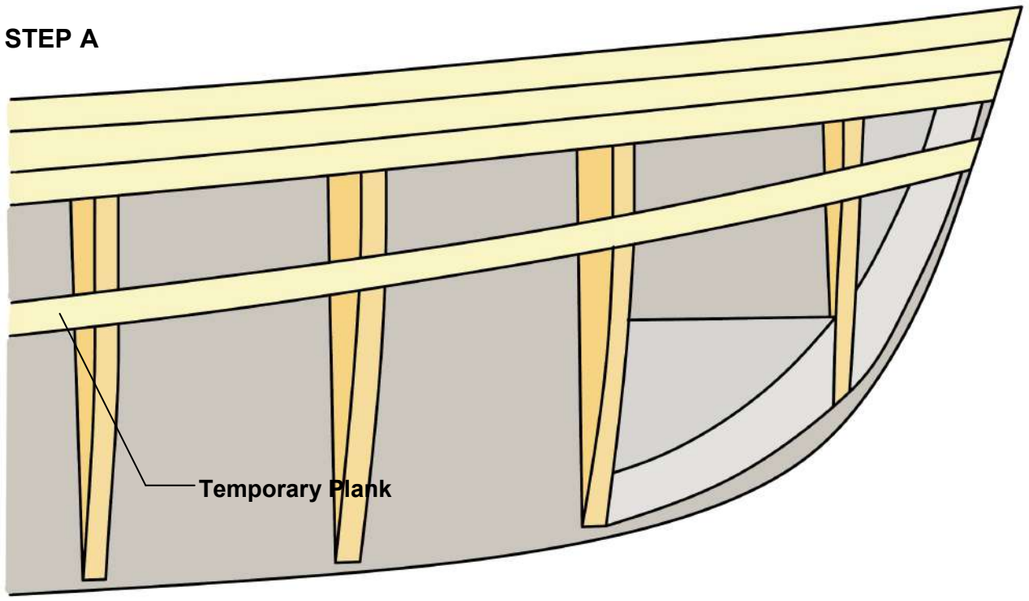
5.19 Establish Plank Markings
Follow the Steps below to establish the markings on the planks
Step A The temporary plank is pinned in place as preciously shown.

Step B The markings at the points 0, -1, -2 and 1/2 are as previously shown. Transfer the marked points onto the plank above and the temporary plank as shown.

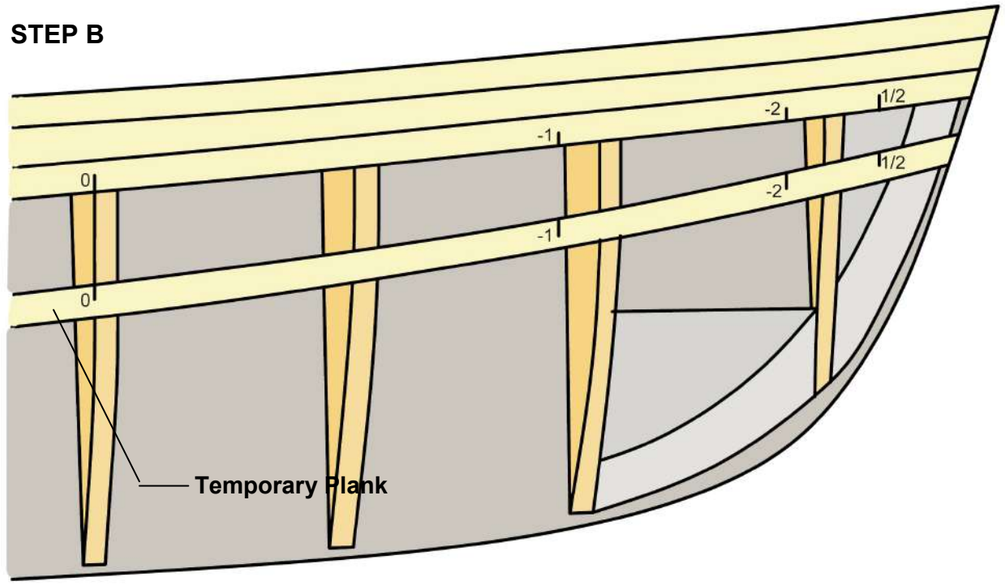
Step C Temporarily fit and pin in place Plank 1 in this band of 3 planks - label the plank as 1. Transfer and label each point previously marked on the upper plank onto this Plank 1. Repeat for the stern area. Remove this plank and set aside.

Step D Temporarily fit and pin in place Plank 3 in this band of 3 planks - label the plank as 3. Transfer and label each point previously marked on the temporary lower plank onto this Plank 3. Repeat for the stern area. Remove this plank and set aside.

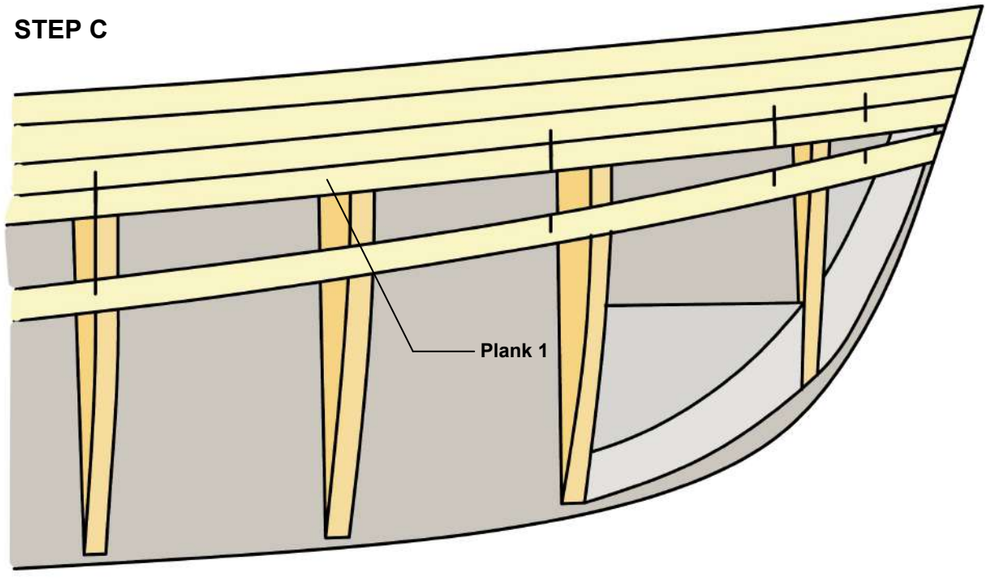
STEP A



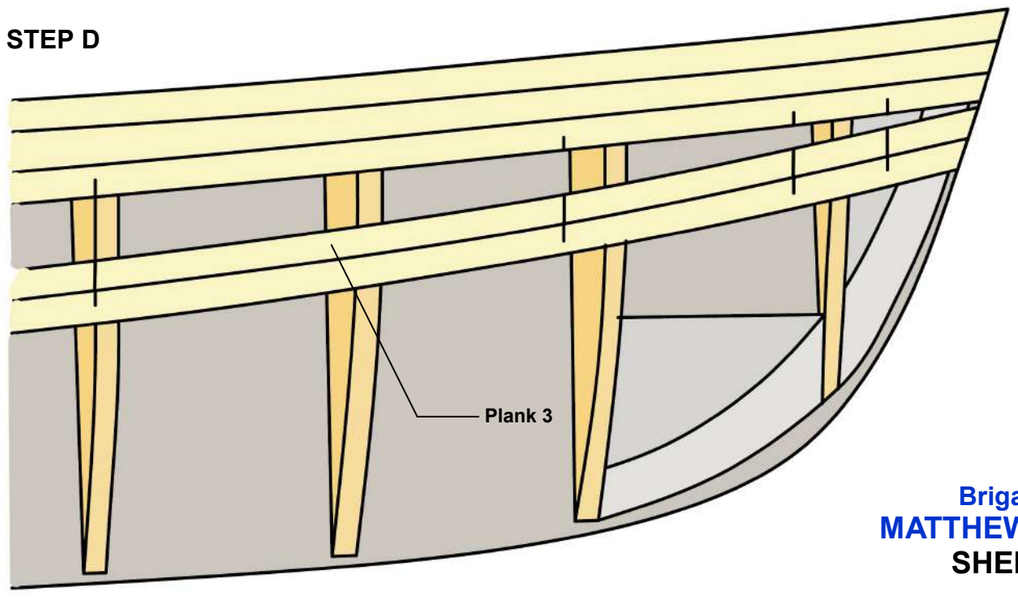
STEP B



STEP C



STEP D



Brigantine
MATTHEW TURNER
SHEET 21

5.20 Shape Plank
Follow the steps below to establish the shape of Planks 1 and 3 in this band.
Step A Take Plank 1 with the markings as shown.

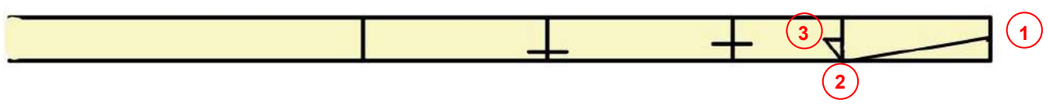
Step B Mark Point 1 is at the half plank width at the end of the plank. Mark Point 2 as shown. At the 1/2 point draw a line 3mm back along the plank from the centre point as shown. - mark as point 3 as shown. Draw a line from 1 to 2 as shown. Draw a line from 2 to 3.

Step C Mark 0 as point 4. Draw a line from 3 to 4. The shaded area is to be removed using a pointed blade knife.

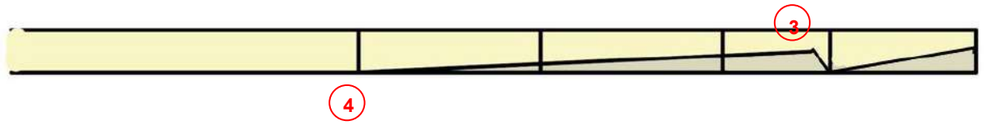
Step D The final plank 1 shape - repeat this process for the stern end of the stern end of the plank. Make a mirror image of plank 1 to be plank 3 in this band of 3 planks.

STEP A

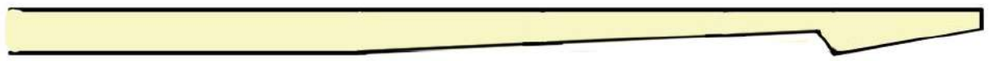
STEP B



STEP C



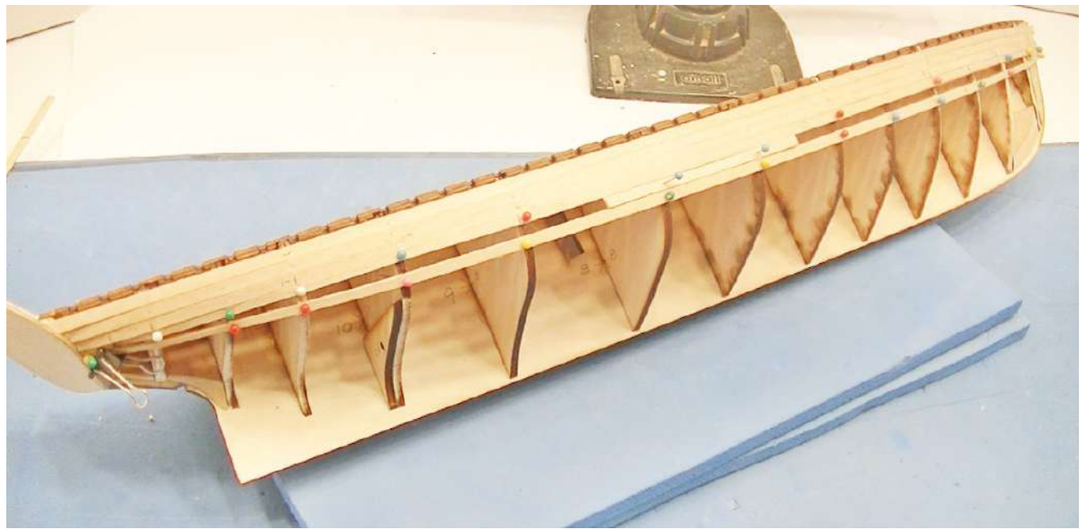
STEP D

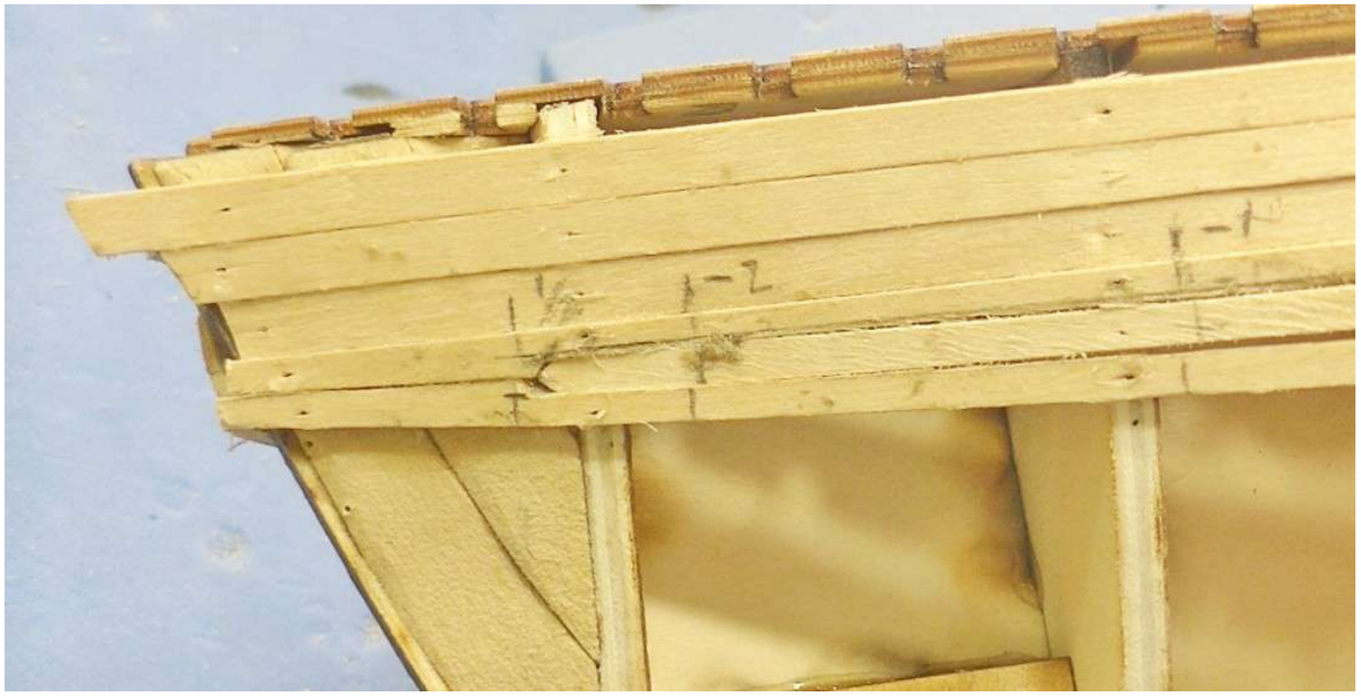


Final plank shape - note the pencil arrows pointing to the front end and the top side of the plank.

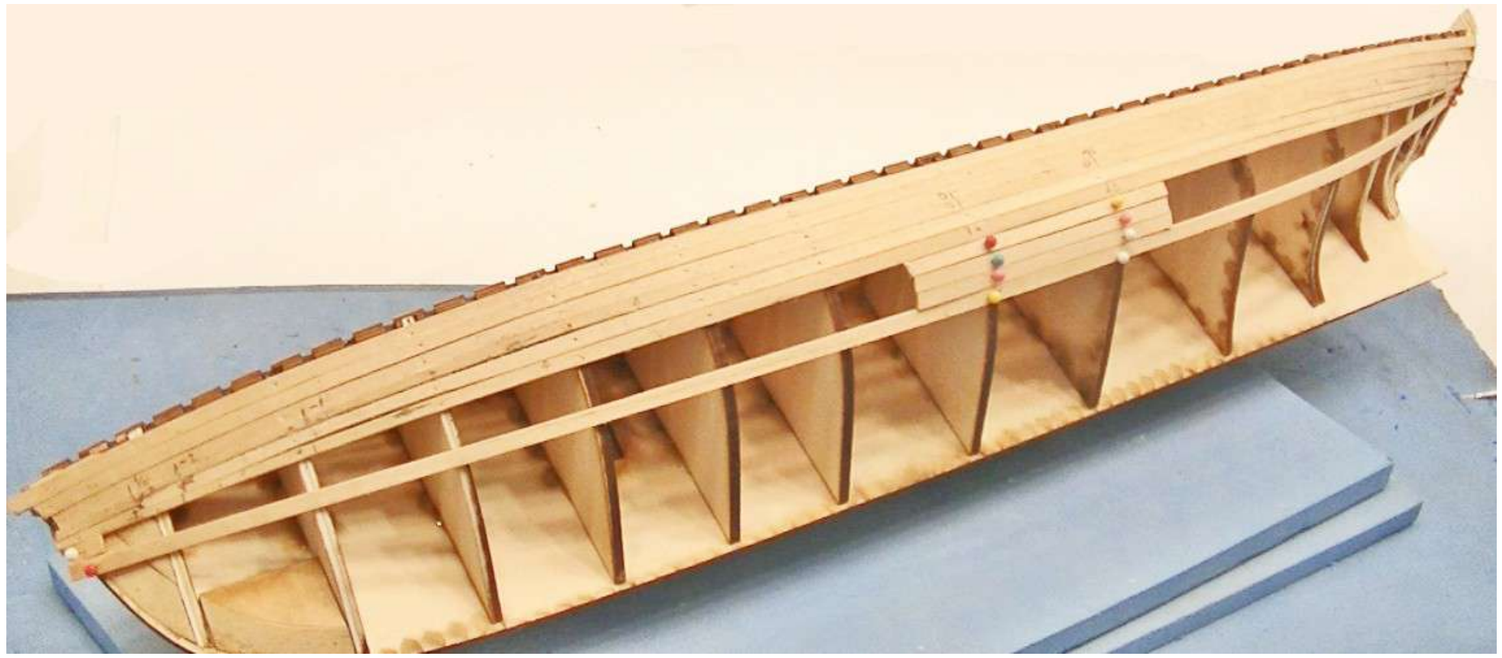
5.21 Fitting Planks

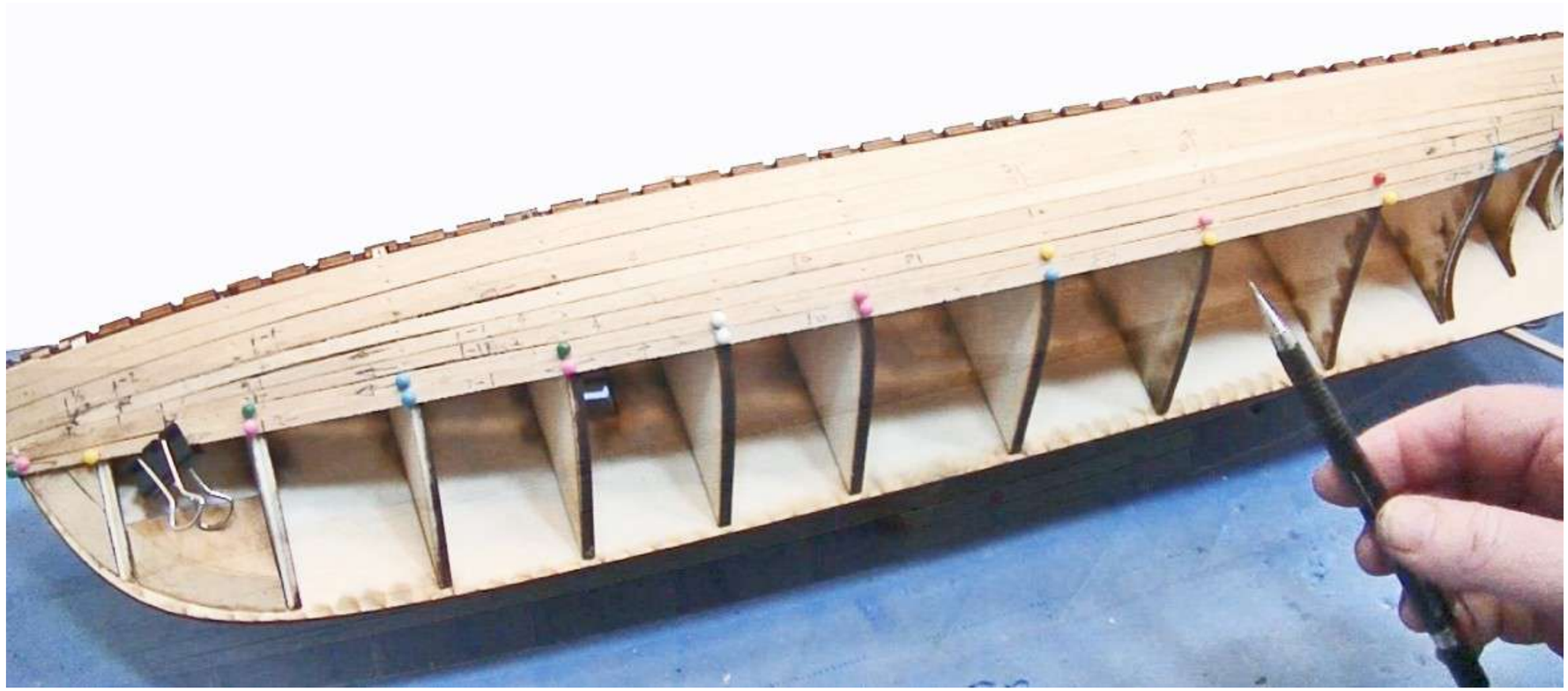
Remove the temporary plank used as a guide for this first band. Pin Plank 1 in place. Pin one spacer plank across the mid-ship bulkheads as shown. Pin Plank 3 in place as shown. Remove the spacer plank. Next, take a plank - this will be plank 2 - lay it into the gap between Plank 1 & 3. At the bow place one end of Plank 2 at the junction of Planks 1 & 3 - the V point - mark the V shape at this end of Plank 2. Repeat for the stern end cutting-off any excess length of Plank 2. Next shape the bow and stern ends of Plank 2 to the V shape at the junctions of Planks 1 & 3. Next, spile Plank 2 into the gap between Planks 1 & 3 - this means shape the Plank 2 using a file, sanding board and mini plane to shape the plank to fit snugly into the gap - fractionally adjust as required. Once satisfied glue and pin the 3 planks in place. Repeat for the other side of the hull. As you progress make sure there is a mirror image of the planks at the bow and stern.





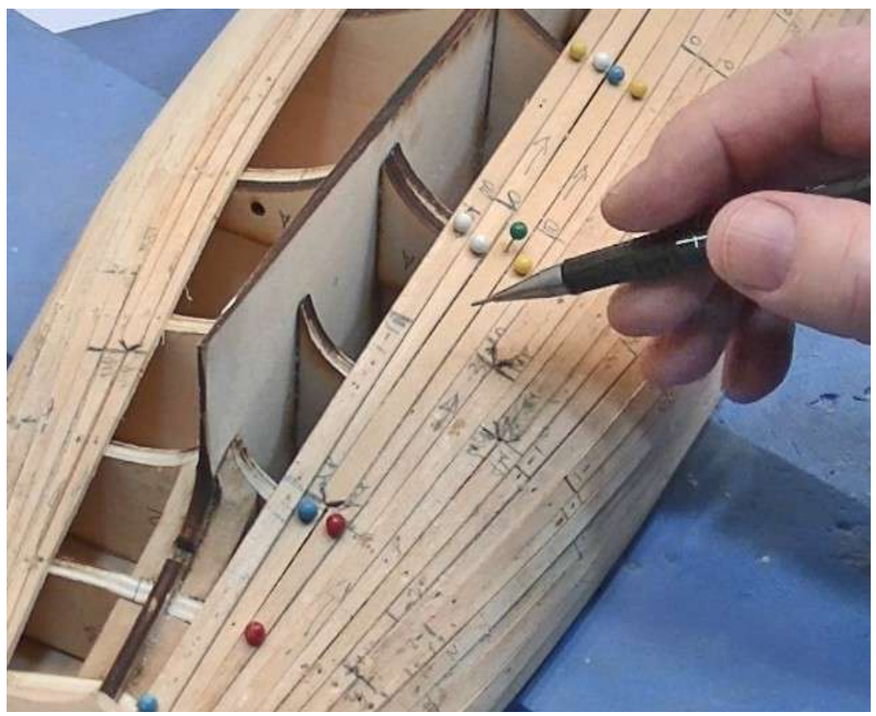
5.23 Repeat the process for another four Bands of 3 planks on each side of the hull.





5.24 Propeller Shaft Fitting

Band 6 will likely cover the propeller shafts. Identify the propeller housing P25 - cut in half. Glue in place on the forward face of bulkhead 10 a length of planking as shown. Complete the next band of 3 planks pinning them in place only. Move a plank aside and insert the propeller housing as shown - mark the location and fractionally adjust the slot so the housing is able to be inserted and re-moved easily. Once satisfied glue and pin the planks in place as shown.

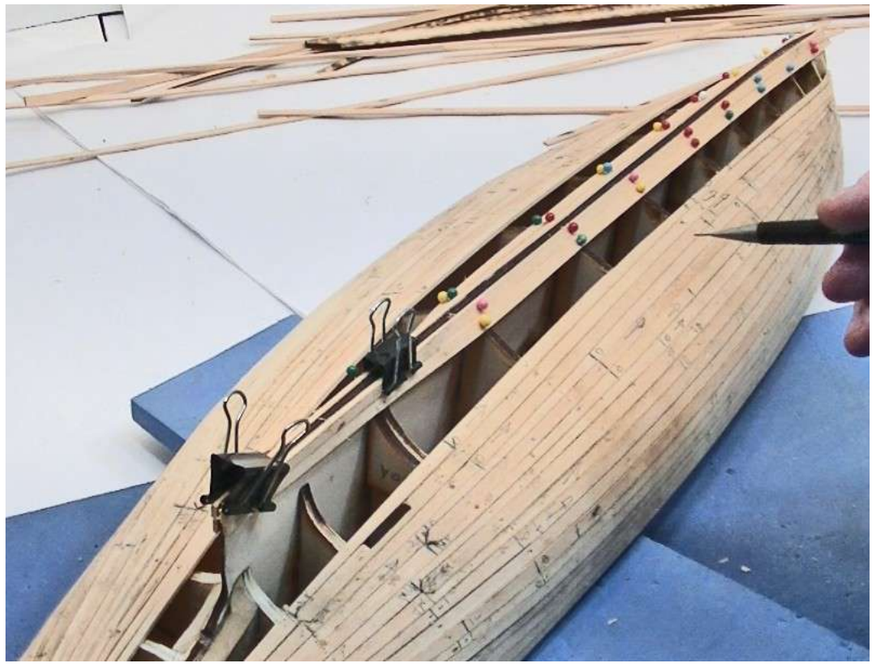


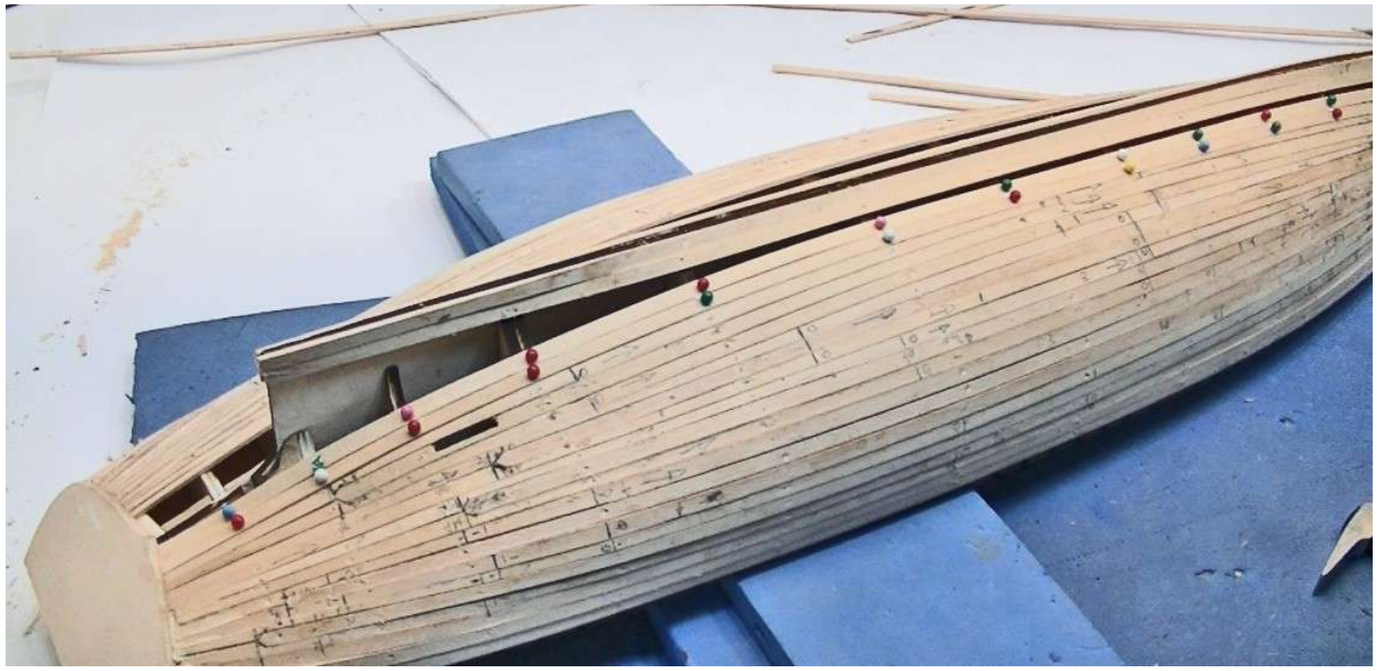
Brigantine
MATTHEW TURNER
SHEET 25

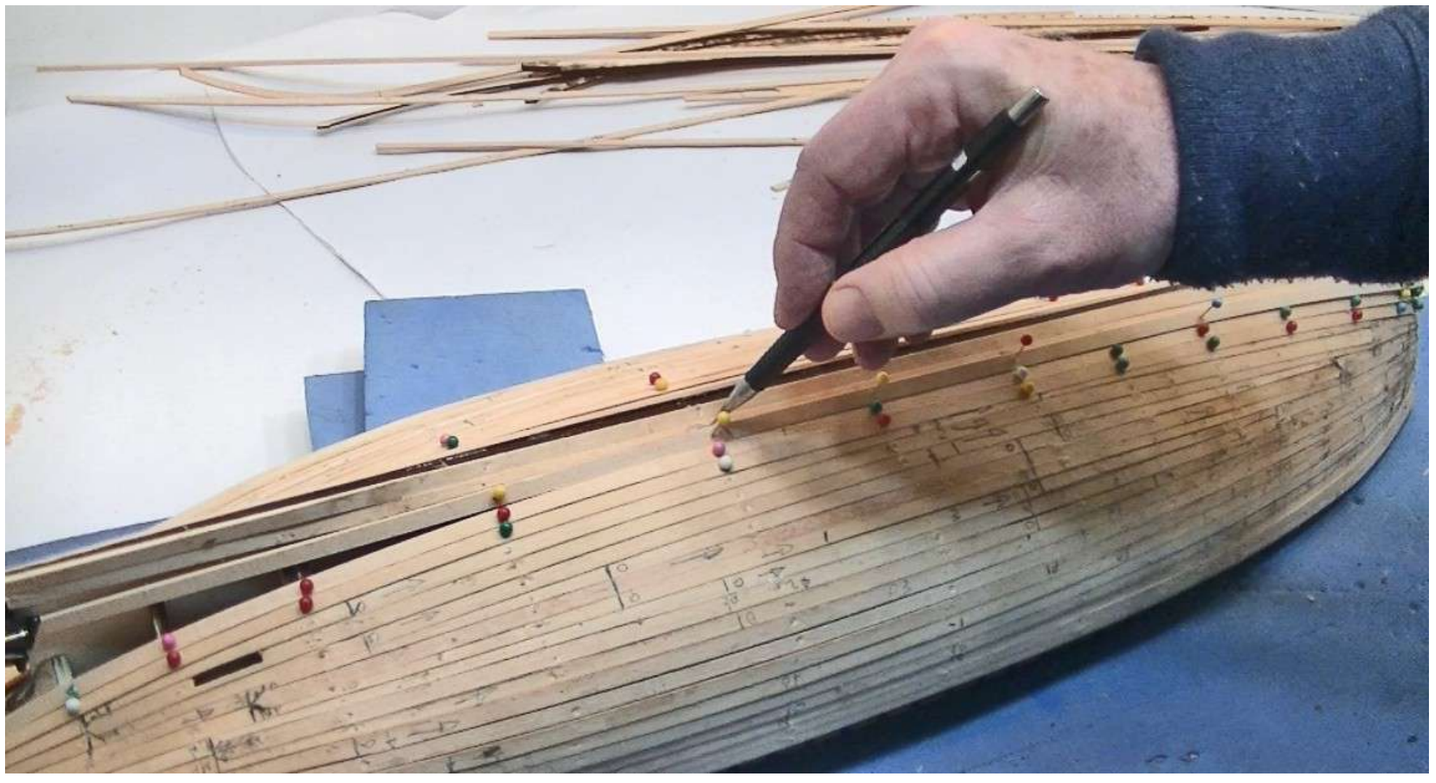
5.25 Garboard Planks & Closing Gap

Cut and trial fit a plank in place immediately adjacent to and along the keel - this is the garboard plank. Glue and pin the plank in place on both sides of the keel. Pin and glue another plank along the hull immediately adjacent to the garboard plank - you will need to twist the plank into place at the stern area as shown. Use clamps to hold the planks in place at the stern.

To close the gap between the two planks adjacent to the keel and the last band of 3 planks fitted, glue and pin in place 2 planks as shown. Next spiel a plank into the remaining gap as shown - allow the plank to run its natural direction across the deadwood area. Once satisfied glue and pin the plank in place - repeat for the other side of the hull.

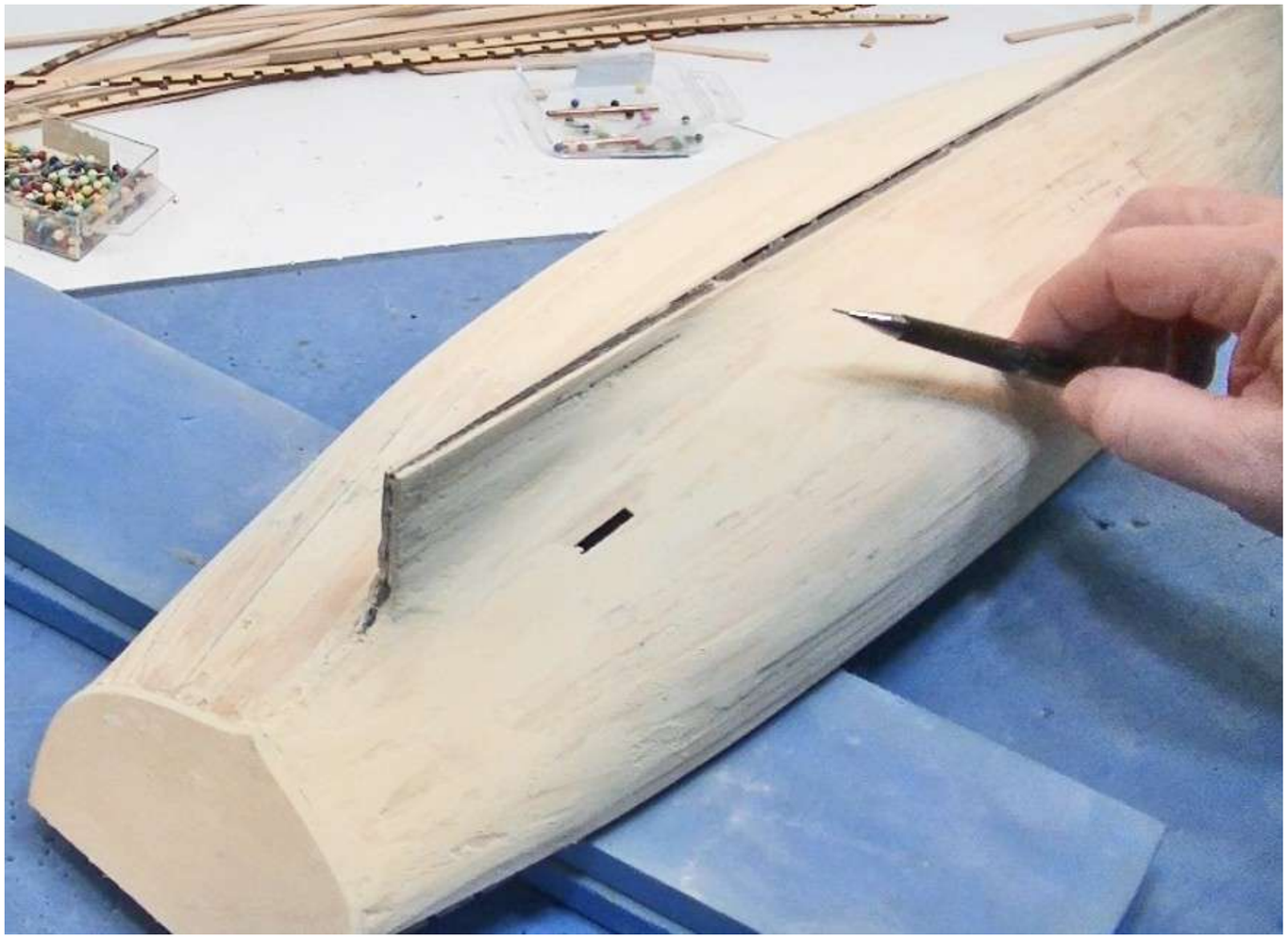






5.26 Finishing Hull Planking

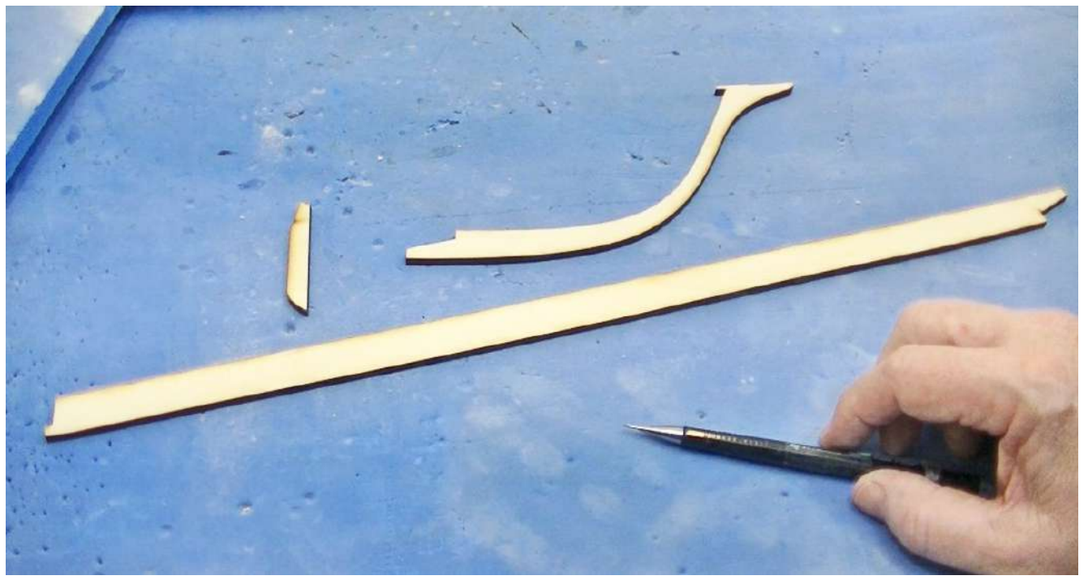
To cover the deadwood area cut stealers or wedges and glue and pin in place. Once the hull planking is complete give the complete hull a complete and thorough sanding using a range of grade sandpaper. Use wood filler to fill any gaps and sand again once dry - repeat until you are fully satisfied with the finish. Make sure to keep the propeller housing gap clear of wood filler.



Brigantine
MATTHEW TURNER
SHEET 27

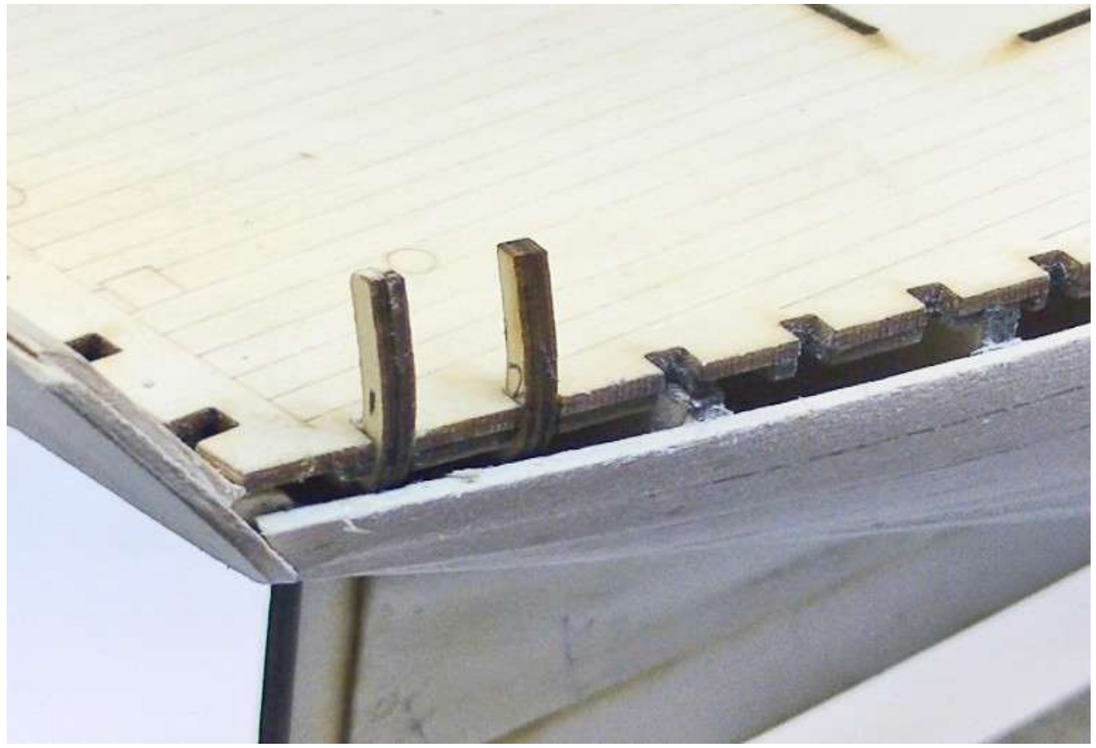
5.27 Fit Keel, Stern Post & Stem Post

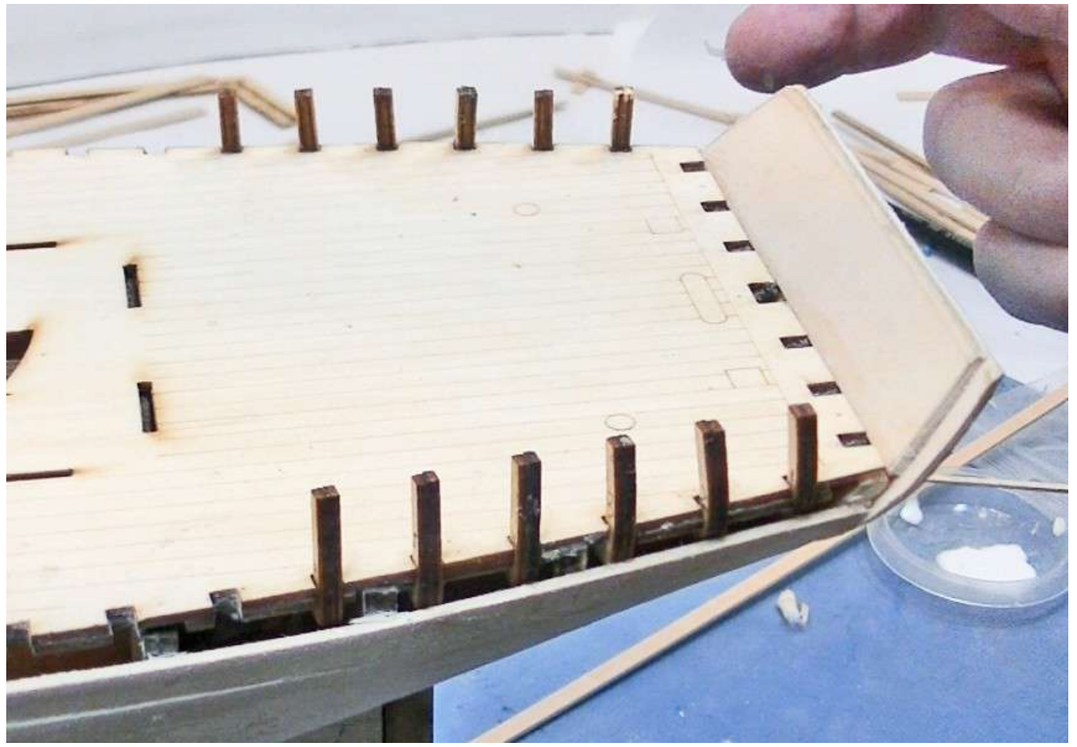
Identify the Keel P15B, Stem Post P15C and Stern Post P15D. Trial fit the stern post - clear any excess wood filler - once satisfied glue and clamp in position as shown. Trial fit the keel in place - once satisfied fix in place using a two-part epoxy glue. Trial fit the stem post - once satisfied glue in place as shown. Fill any gaps with wood filler.



5.28 Stern False Frames

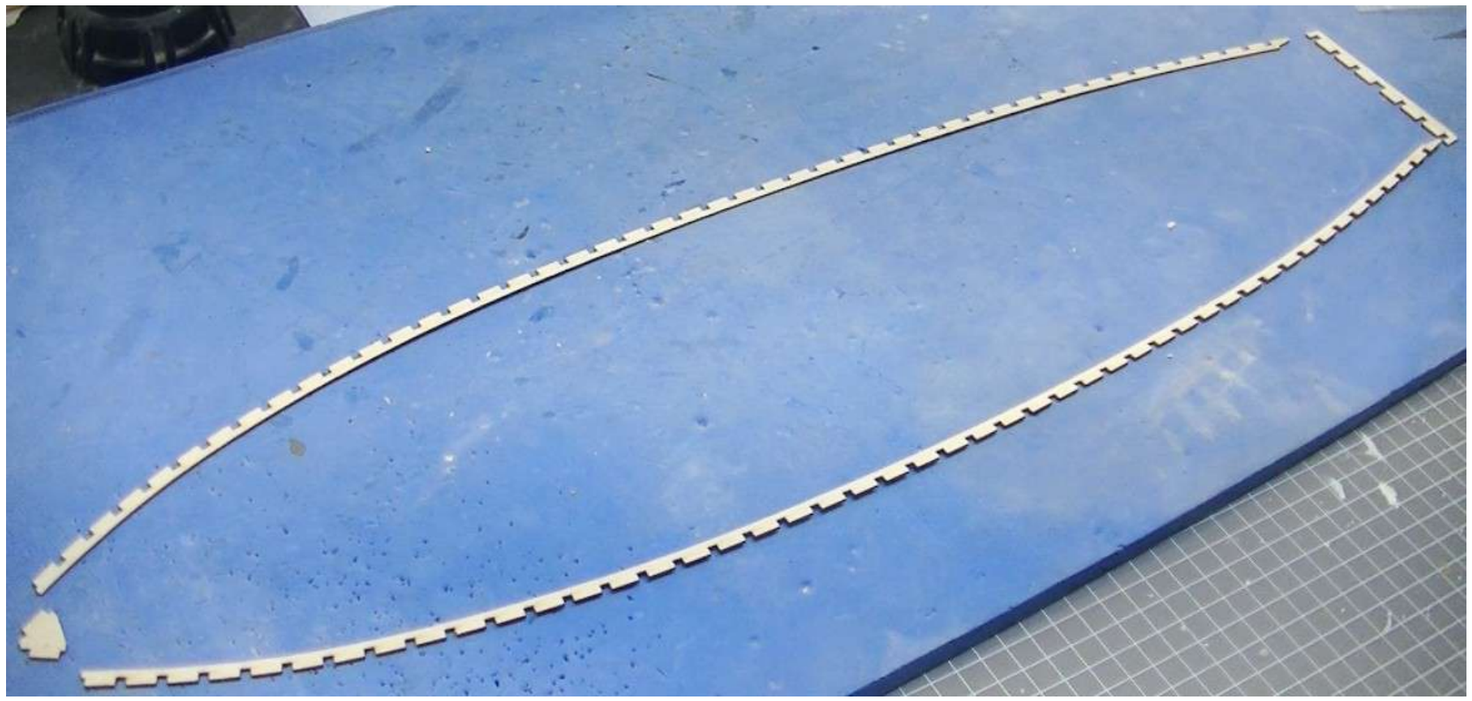
Identify the False Frames P23A-F - they are numbered 1 to 6. Glue together to create 12 sets of false frames as shown. Starting at the stern end trial fit set No 1 - once satisfied glue in place as shown. Continue process for the remaining sets 2 to 6 on one side of the hull - repeat process for the other side of hull.

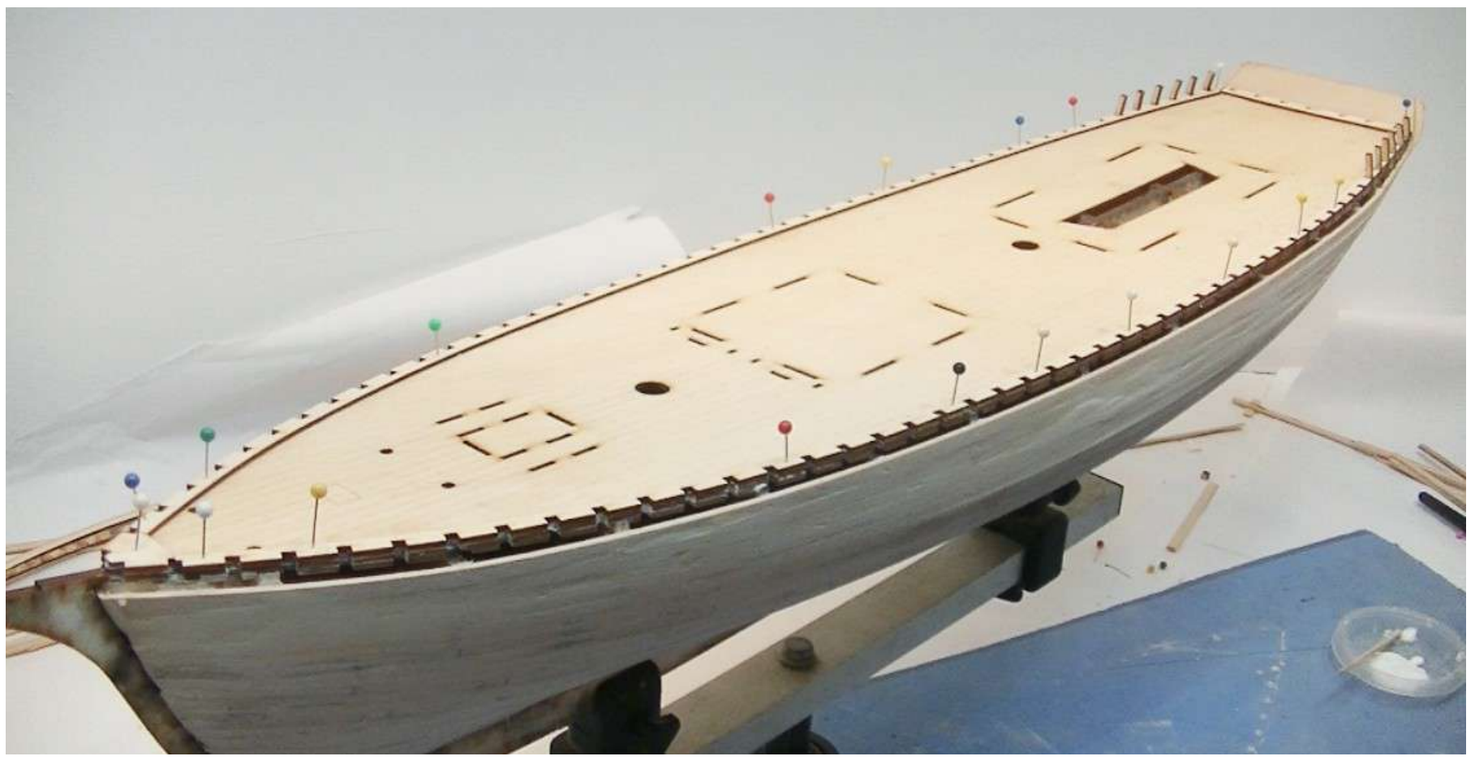




5.29 Deck Trim

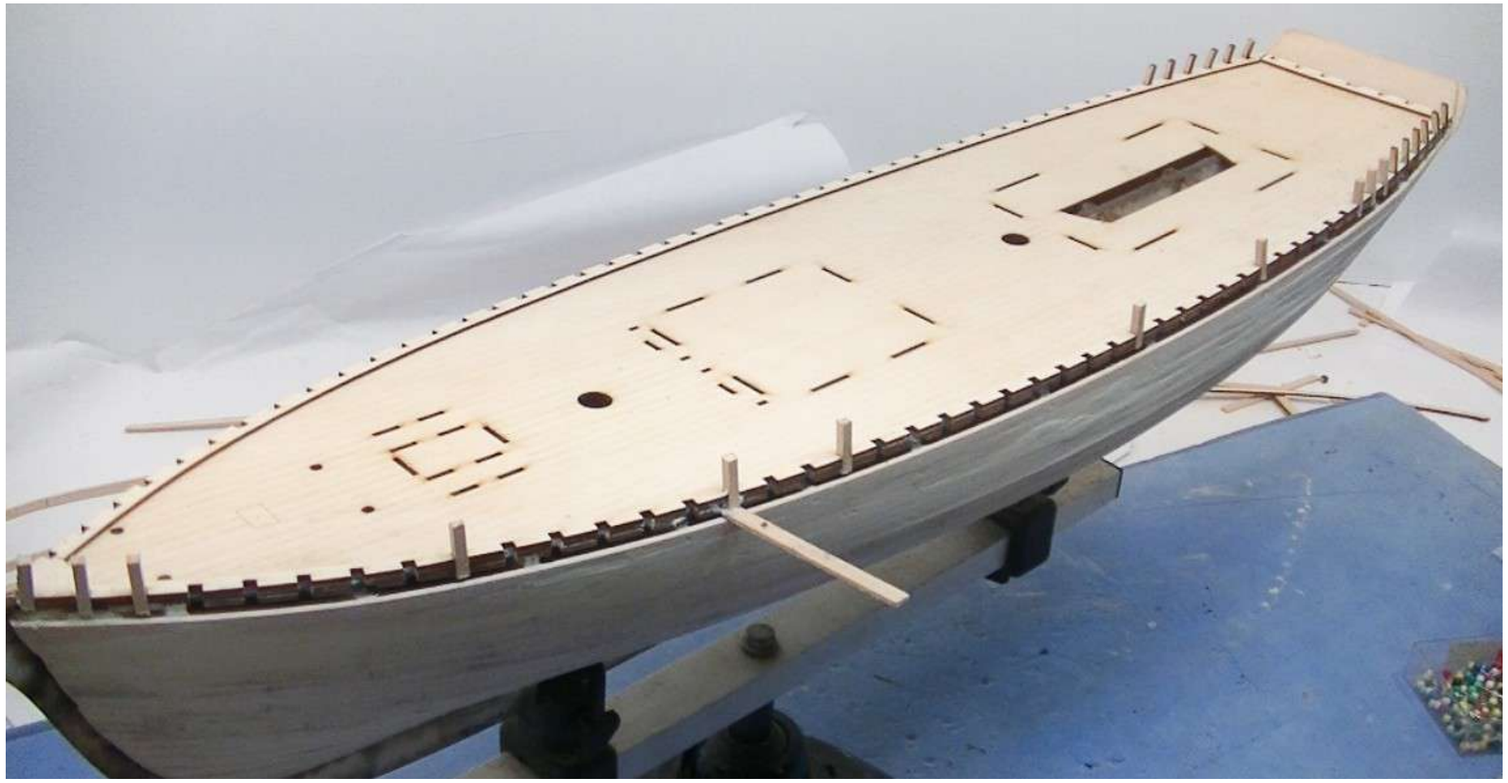
Identify the deck trims 21A, 21B & 21C - trial fit in place. Lightly sand the inner edges to remove laser burn mark. Once satisfied glue and pin in place as shown. Be sure to remove any excess glue with a damp cotton bud.

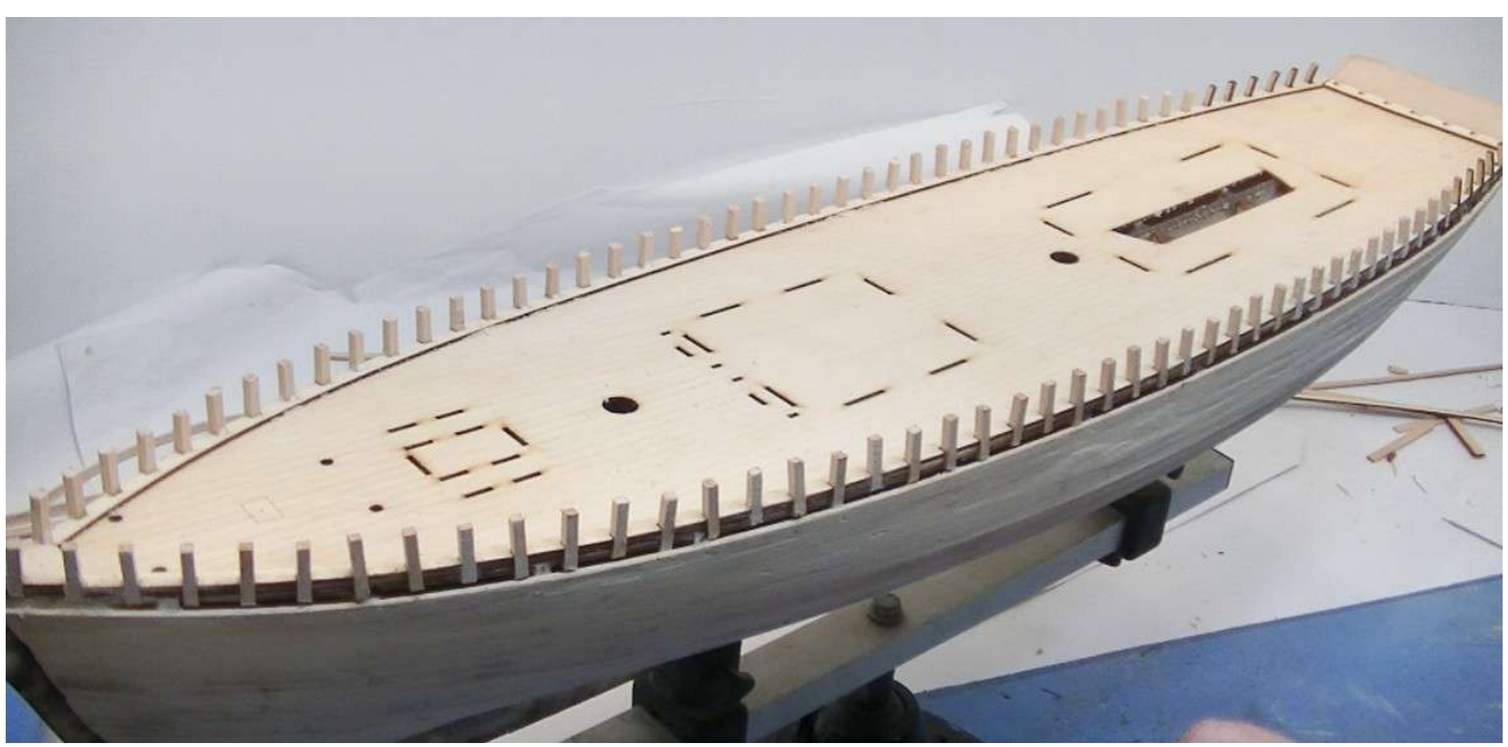




5.30 False Frames

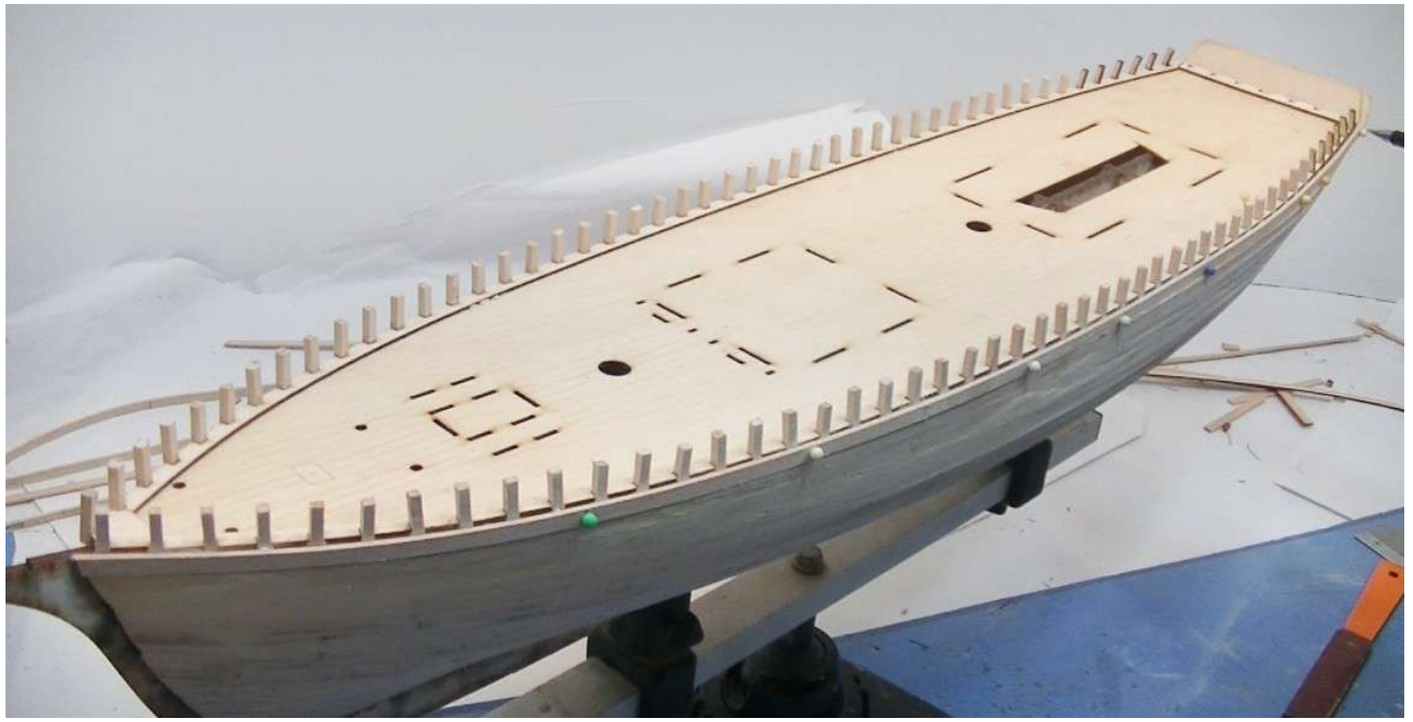
Identify the 3x3mm limewood P26. Cut 15mm lengths as the false frames. Apply glue to 3 sides of a false frame - place a length of planking in place as shown - this will ensure the false frame is flush with the bottom edge of the underdeck supports. Adjust false frame to ensure it is perpendicular. Remove planking piece and allow glue to set. Continue unitl all false frames are fitted as shown. Use a sanding board to fair the false frames and to remove any excess beyond the deck edge.

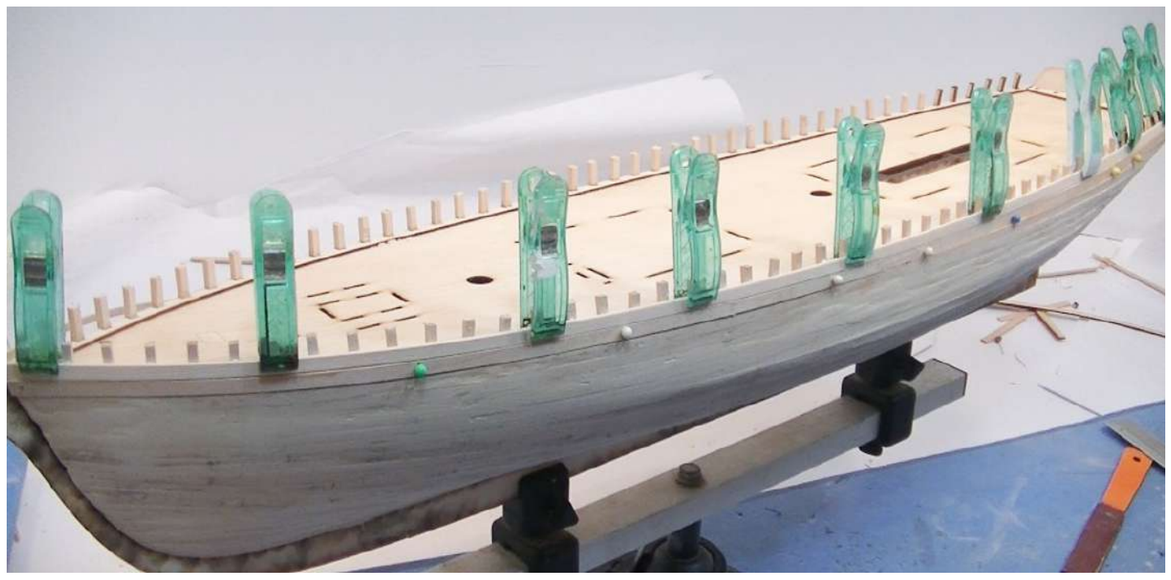


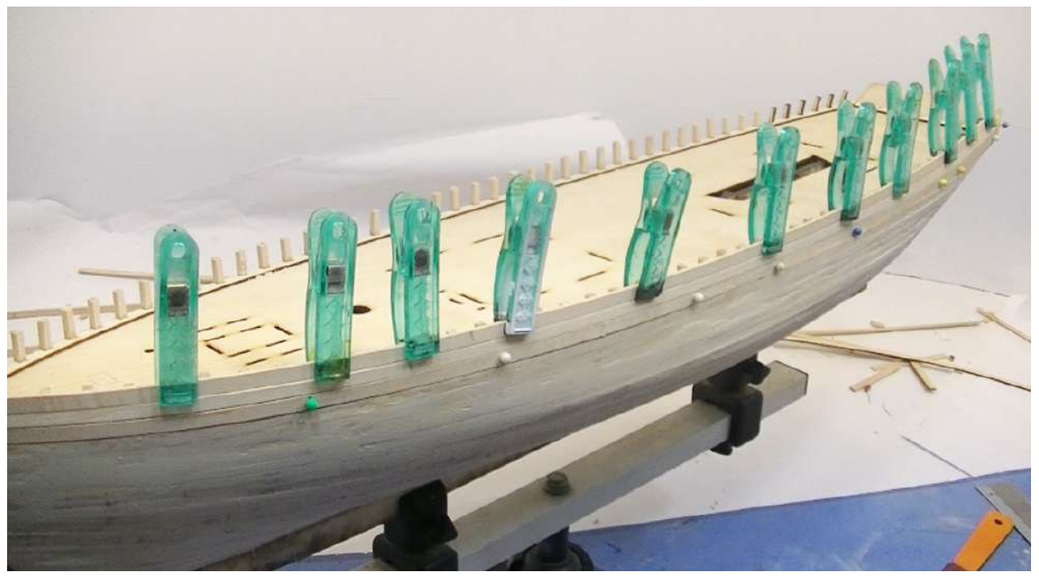


5.31 Bulwark Plankling

Glue and pin a hull plank P24 in place immediately above the main hull plank as shown - this will cover the edge of the deck. For the bulwark glue and clamp a hull plank immediately above the plank. Repeat for a second plank. Repeat for the other side of the hull.

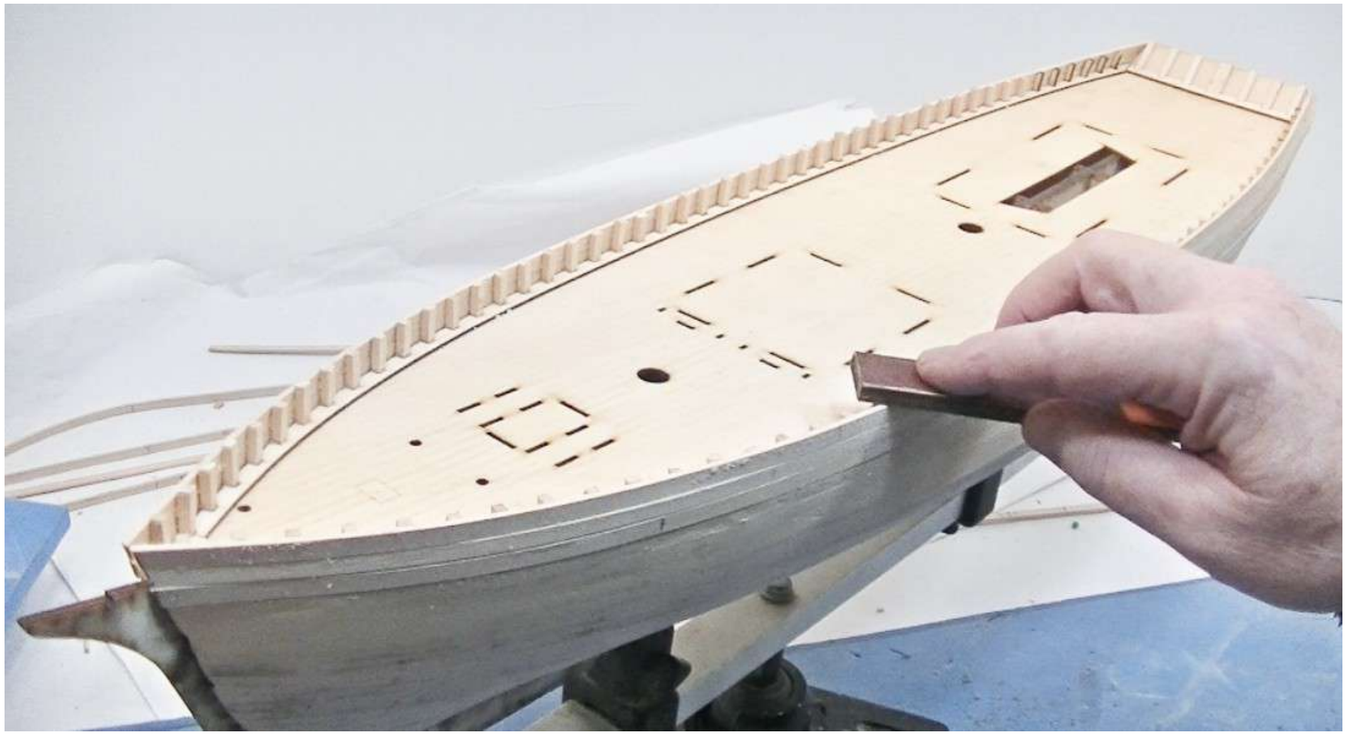


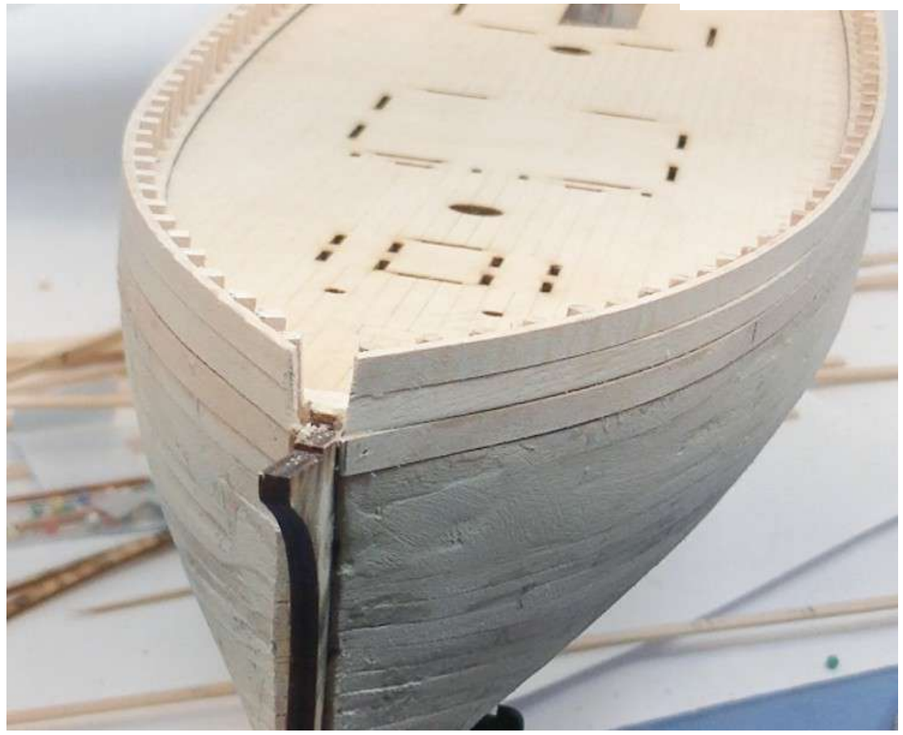


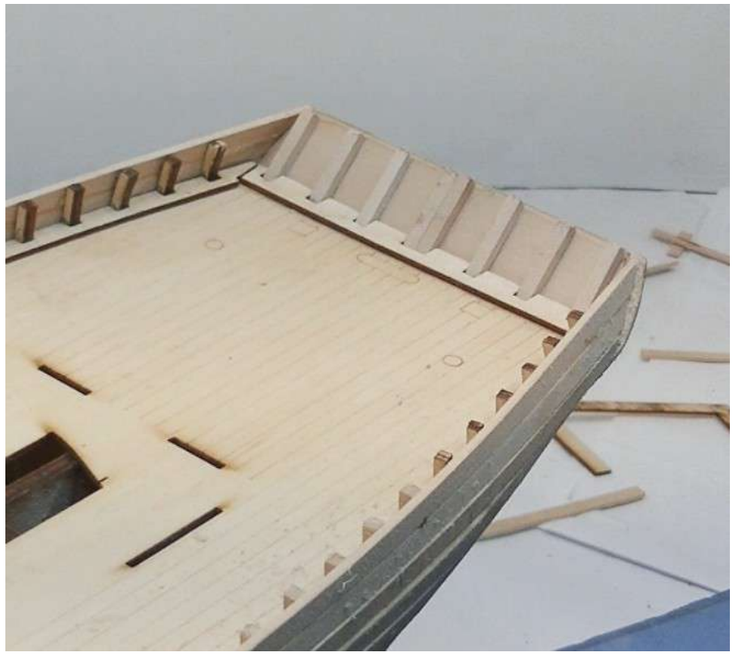


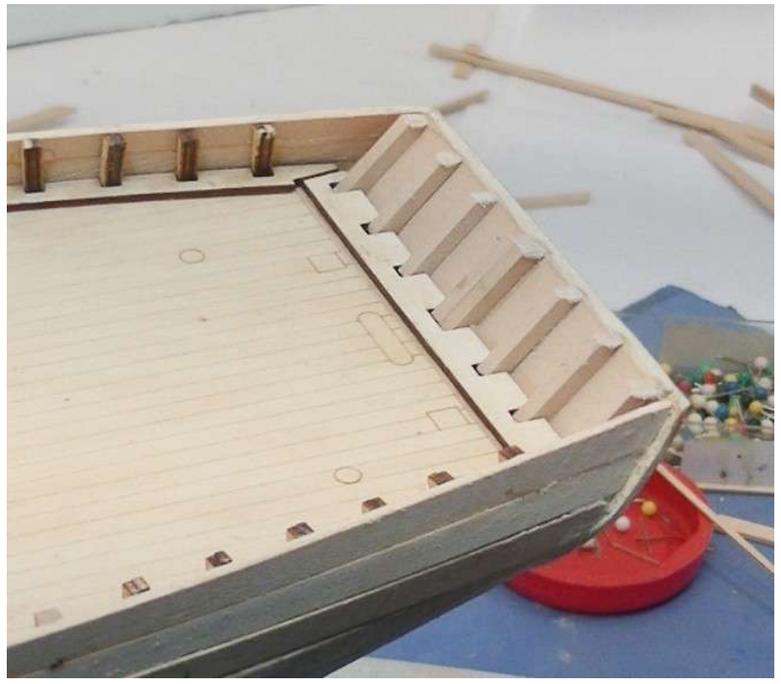
5.32 Bulwark Finishing

Use a sanding board to remove any excess length of false frames. At the bow open the gap above the stem post to 7mm - this will allow bowsprit to be fitted later. You may need to shape the false frames either side of the gap. On the inside of the transom fit and glue in place false frames as shown - note there are tow frames glued together in the middle slot. Sand the top of these frames to be flush with the transom top edge. Notice the overhang of the transom where the bulwark planks finish - sand this excess away to make the transom flush with the bulwark planks.





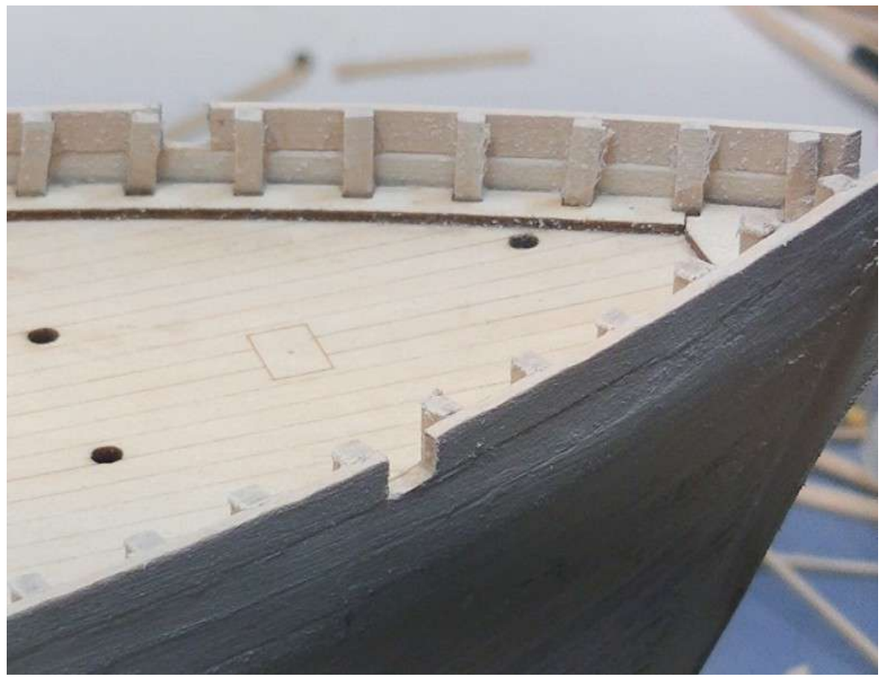


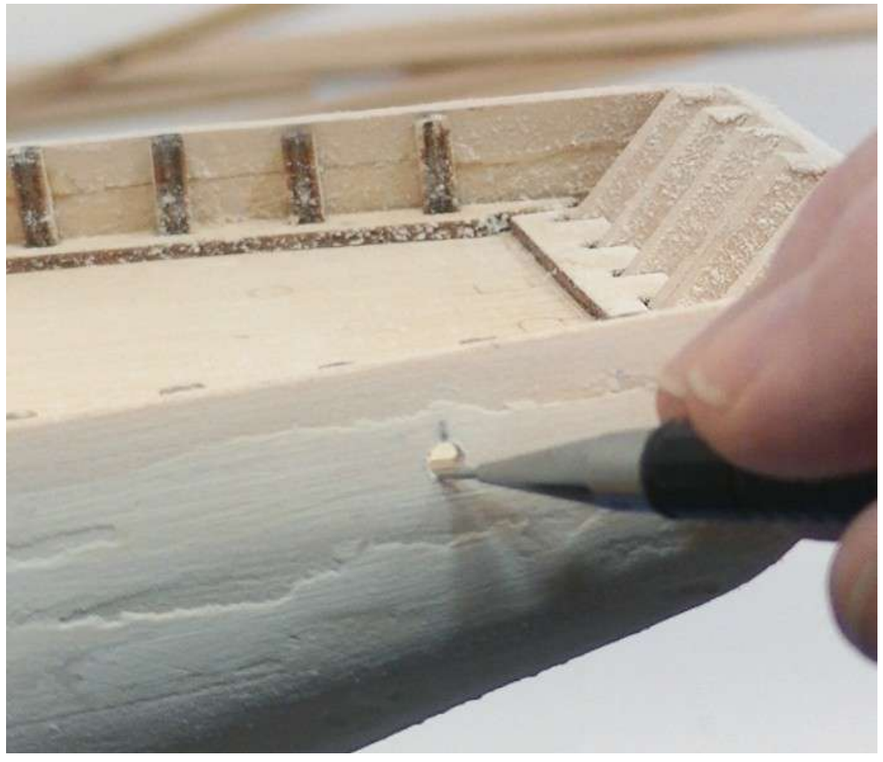


Brigantine
MATTHEW TURNER
SHEET 33

5.33 Cathead Slots & Hawse Holes

Adjacent to the 7th false frame from the bow cut a 5mm slot to a depth of one plank - this is the slot for the catheads. Repeat for the other side of the hull. Next mark a point between false frames 9 & 10 - 6mm down from the top plank - drill a 3mm hole. Mark a point between false frames 27 & 28 - 6mm down from the top plank - drill a 3mm hole. Lastly, mark a point between the 2nd and 3rd false frames from the stern end - 8mm down from the top plank - drill a 3mm hole as shown.

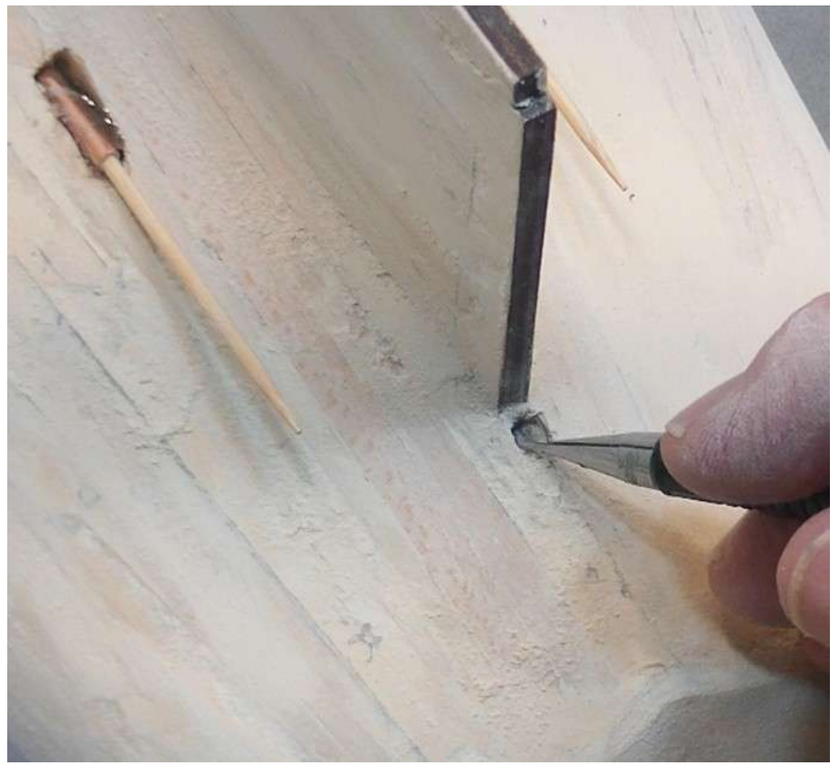




5.34 Propeller Shaft Fitted

Identify the copper tube P25. Cut two lengths to 40mm. Fit a tooth pick into the tube as shown - trial fit in place. Once satisfied use a two part epoxy glue to fix the tube in place as shown. Once glue has set use wood filler to fill any gap to ensure slot is flush with hull. Next remove any excess wood filler to ensure indent exposed to accept the top of the rudder.

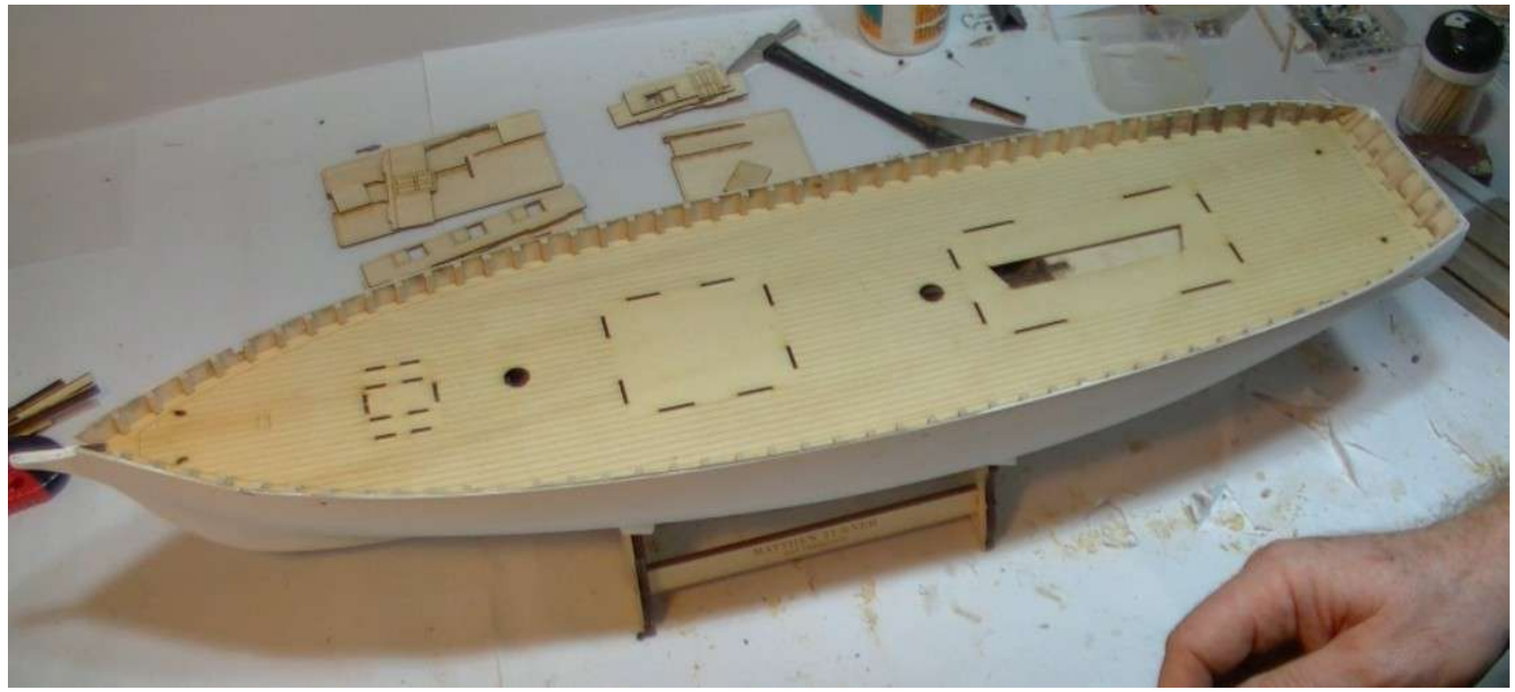
Sand the hull again and use wood filler as required.



5.35 Apply Sealing Paint to Hull

Apply a wood sealing paint to the hull. Fit tooth picks into the propeller shaft tubes. Look over the hull again to check for any blemishes. Use wood filler and sand as needed. Finally, to finish the hull apply two or three coats of a flat white indoor paint to achieve a good finish.

5.36 Assemble Cradle
Identify the cradle parts P26A-D. Trial fit parts together - once satisfied glue parts together. Fit foam pieces as shown to protect the hull.

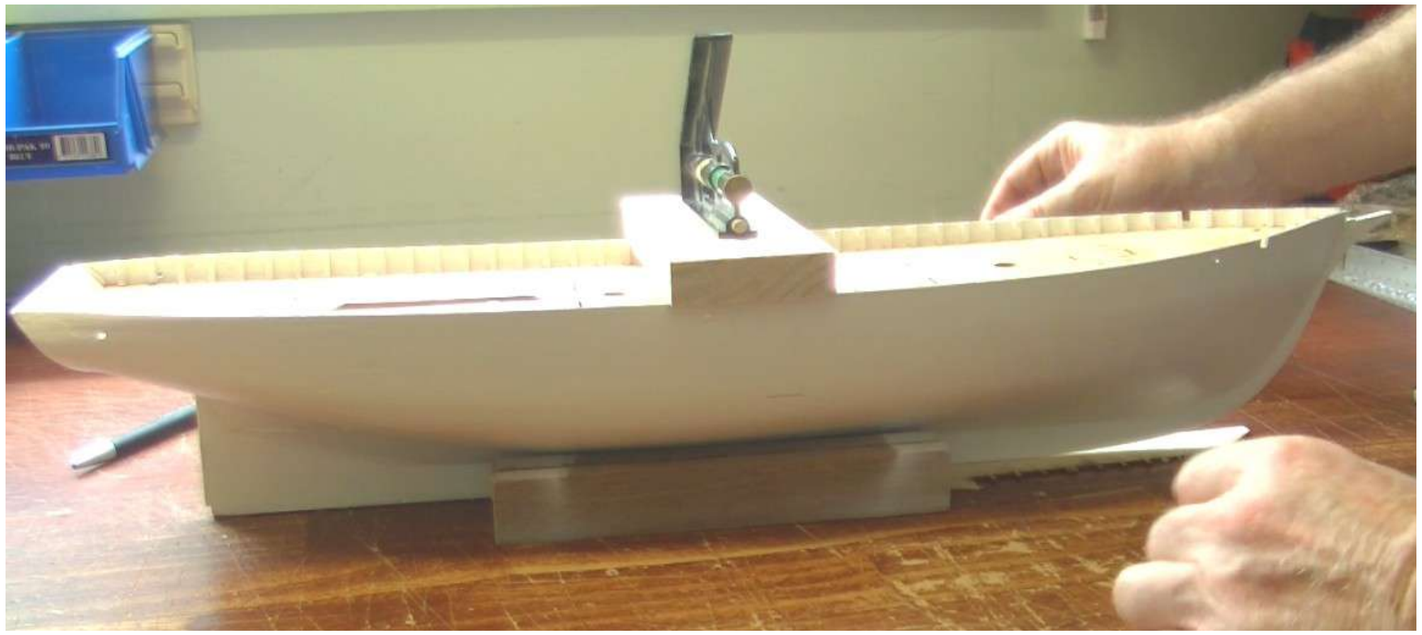


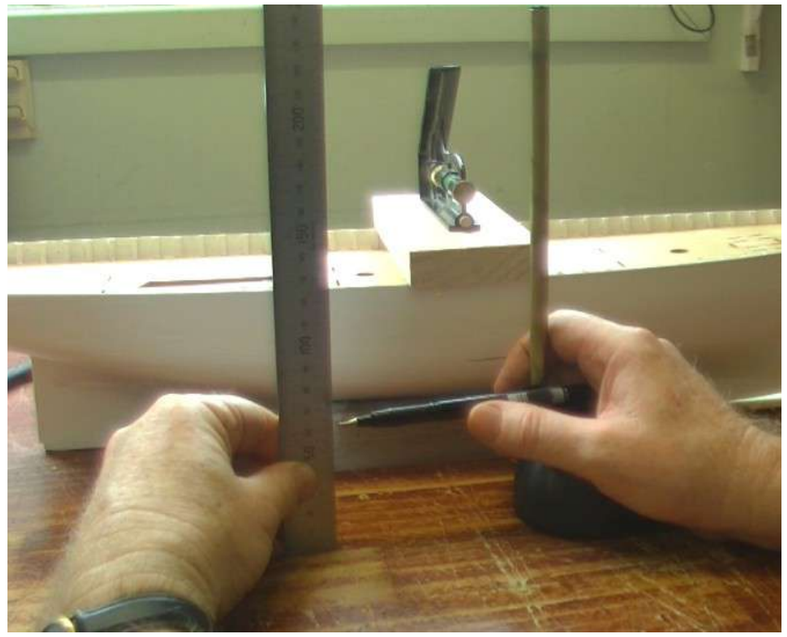
5.37 Paint Inside of Bulwark & False Frames
Next paint the inside of the bulwark and false frames with a flat white indoor paint. Take care not to allow paint onto the deck - have a water dampened cotton bud close by to immediately remove any over paint.

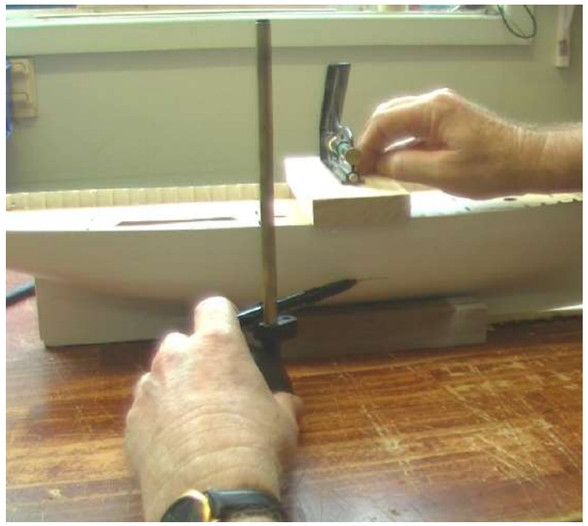
Brigantine
MATTHEW TURNER
SHEET 37

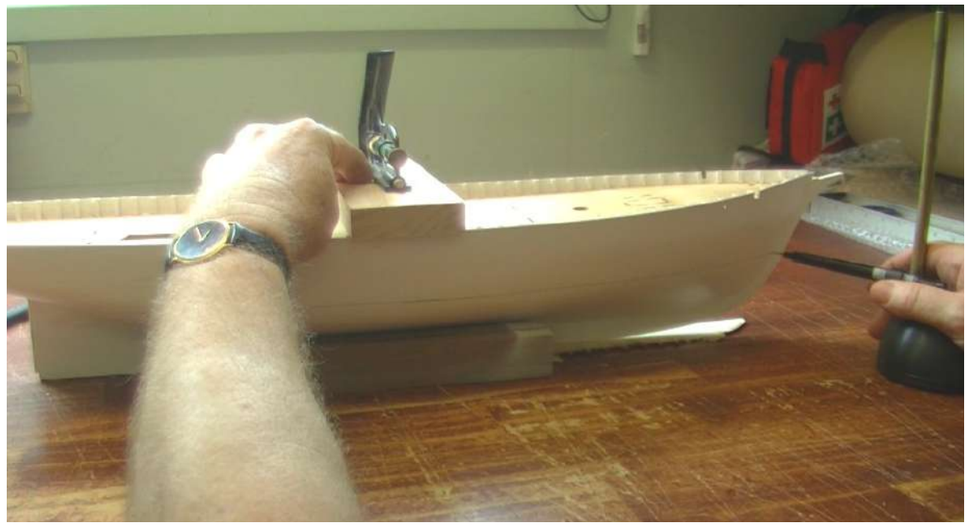
5.38 Waterline

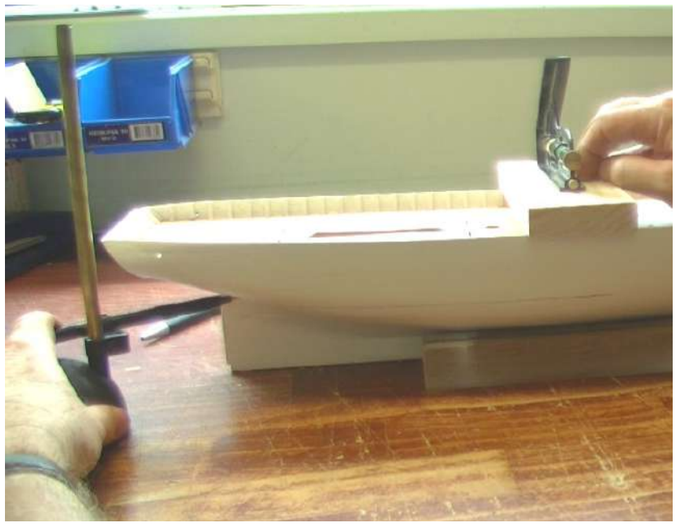
Place your hull on a flat level surface - check that the surface is level in the X & Y planes. The keel has a slight upward lift at the front - using an off-cut piece of the 1.5mm plywood place it under the keel as shown. Place wooden blocks as shown to hold the hull steady. Place a spirit level at the mid-ship area across the hull as shown - adjust the wooden blocks to ensure the hull is level in this plane. At the mid-ship area the waterline is 63mm above the keel - using a waterline marker or similar tool, set the height of the marking pen at 63mm above the bench as shown. While holding the hull firmly on the bench move the waterline marker so the pen is against the hull - then move the waterline marker along the bench so as to draw the line along the hull as shown. Take care in the stern area. Repeat for the other side of the hull.







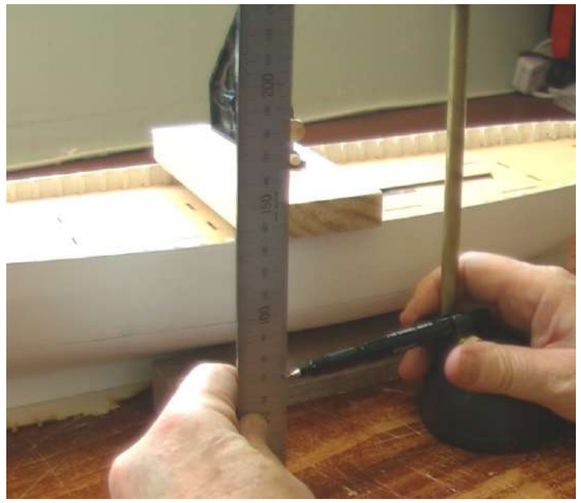


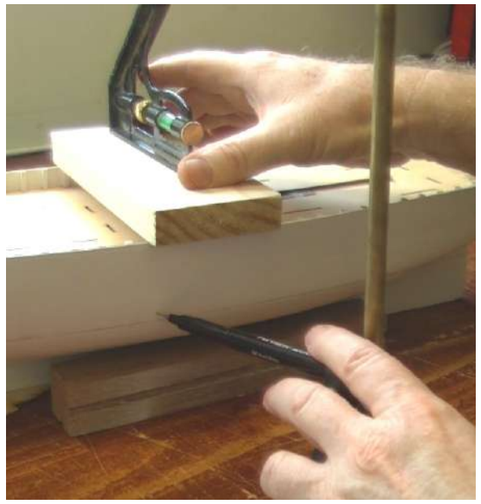


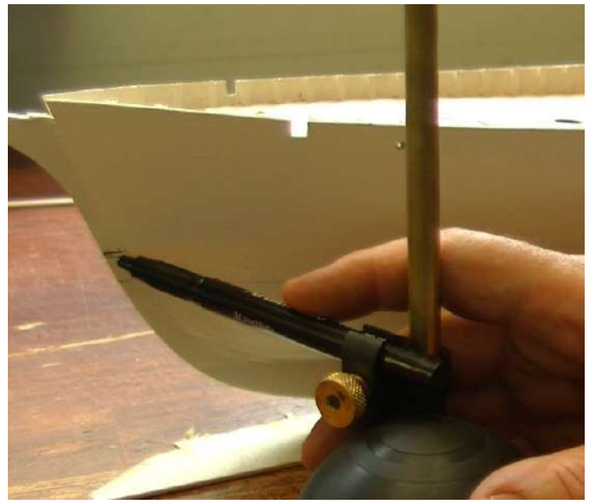
Brigantine
MATTHEW TURNER
SHEET 38

5.39 Pinstripe Line

Make sure the hull is level again. Set the waterline line marker pen at 67mm above the bench as shown - draw a line from the mid-ship area along the hull and around and under the stern as shown. Set the waterline marker pen height to 73mm above the bench - mark this height at the stem post as shown. Identify the batten P27 - pin the batten in place at the mid-ship mark and allow it to run its course to the stem post mark as shown - pin the batten in place. Using the batten as a guide draw a line on the underside of the batten from the mid-ship point to the stem post as shown. Repeat for the other side of the hull.





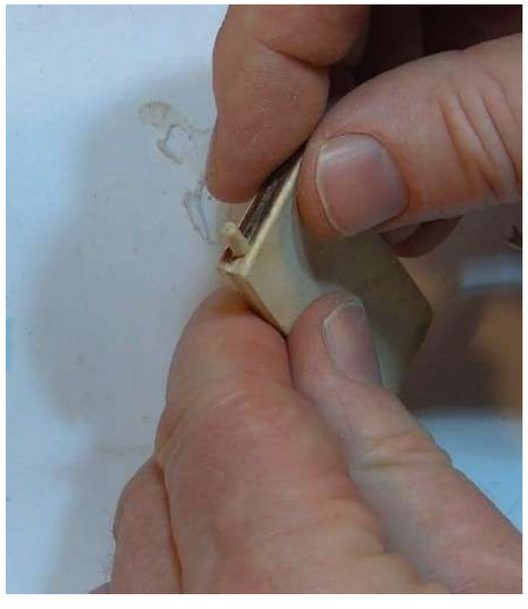


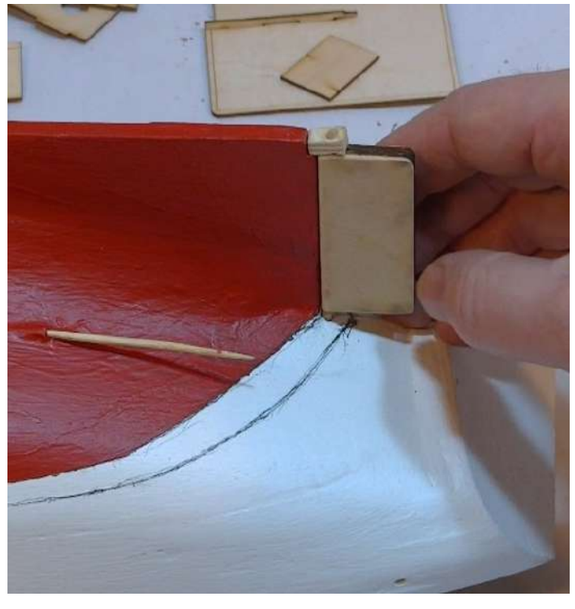
5.40 Paint Lower Hull

Place a length of pinstripe tape along the waterline on both sides of the hull. Apply a flat red indoor paint below the waterline. Apply a number of coats of paint to achieve a satisfactory finish. Make sure to keep the propeller shaft tube free of paint.

5.41 Rudder

Identify the rudder P28, heel bearing P29 and the 3mm dowel P30 - cut a 12mm length of the dowel. Use a sanding block or file to take the sharp edge off the rudder sides. Also slightly round the rudder post at the top of the rudder as shown. At the base of the rudder measure 4mm in from the straight edge and drill centrally a 3mm hole to a depth of approximately 4mm. Glue the length of 3mm dowel into this hole as shown. Glue a map pin into the end of the heel bearing and cut the pin head off as shown. Glue the heel bearing onto the dowel as shown. Assemble the rudder parts as shown and trial fit in place - note where the rudder post touches the hull - drill a 3mm hole into the hull at this point. Also drill a 0.7mm hole into the keel where the heel bearing pin touches the keel. Trial fit again. Once satisfied remove the assembled rudder and paint red. Set aside for fitting later.

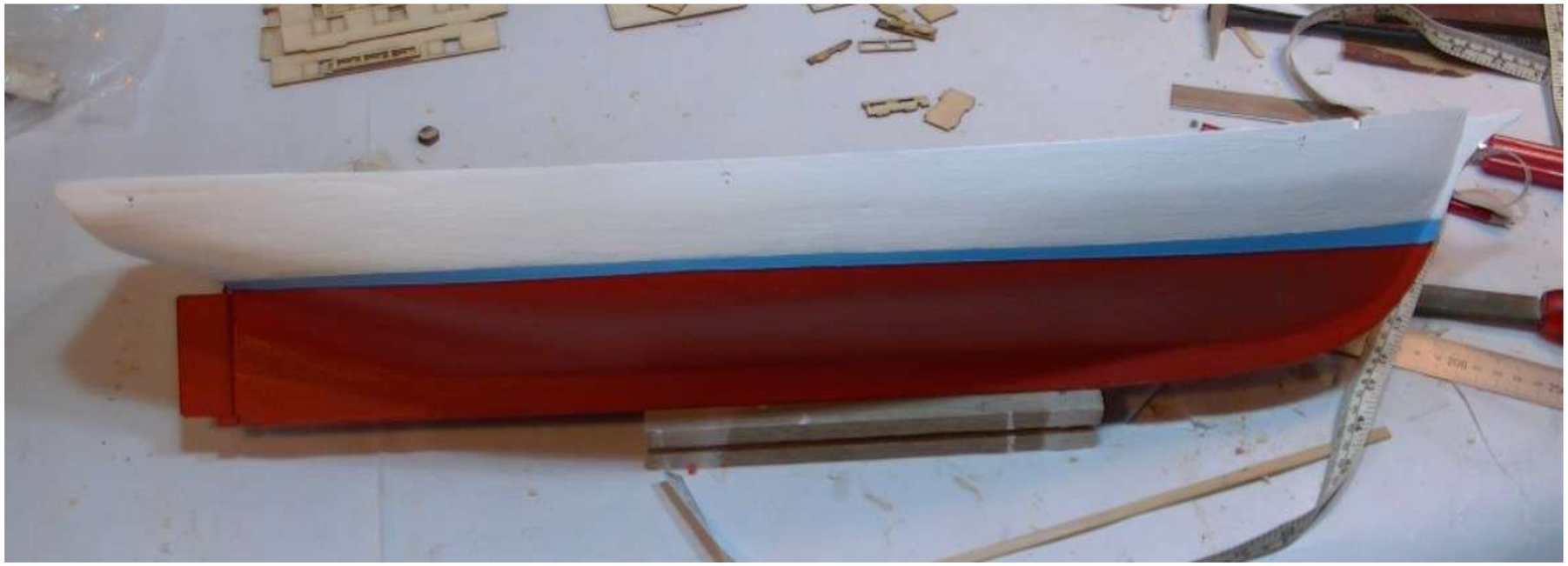




Brigantine
MATTHEW TURNER
SHEET 40

5.42 Hull Pinstripe

Place lengths of masking pinstripe tape below the waterline and then above the second line marked on the hull - paint the area blue between the masking tapes on both sides of the hull. Apply a number of coats of paint to achieve a satisfactory finish. Repeat for the other side of the hull. Once paint is dry remove masking tape. Fix the assembled rudder to the hull.



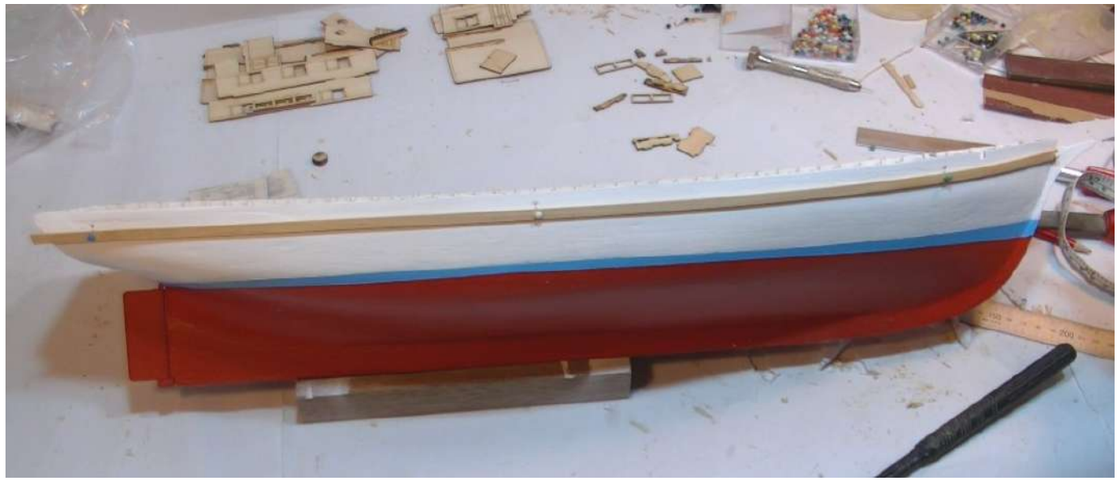
5.43 Bulwark Pinstripe

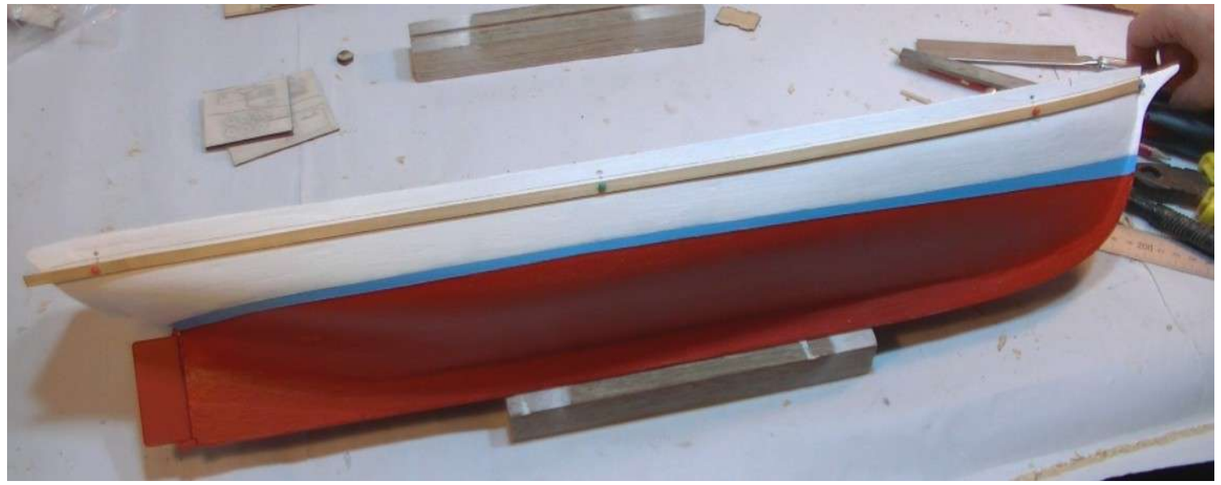
Mark 4 points along the hull as shown.

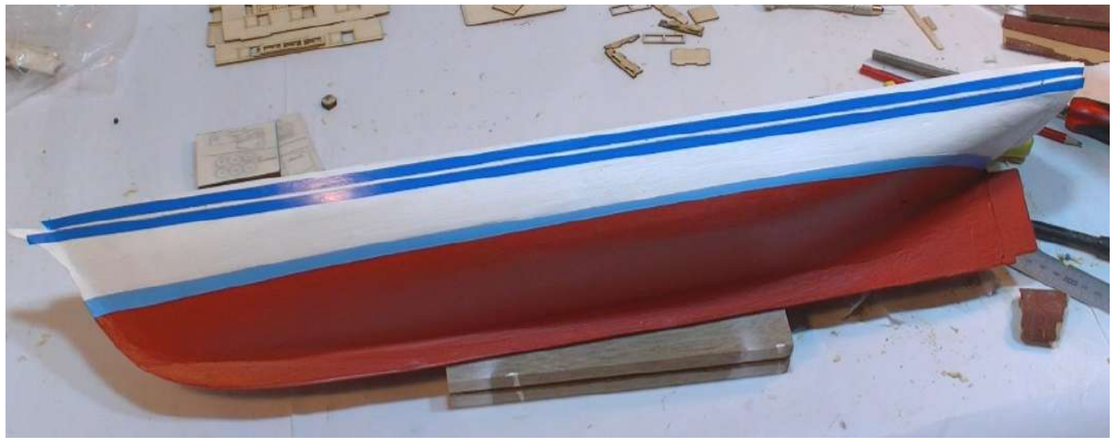
Point 1: Intersection of stem post and keel.
Point 2: At hawse hole - 10mm below bulwark top.
Point 3: At hawse hole - 10mm below bulwark top.
Point 4: At hawse hole - 12mm below top of bulwark

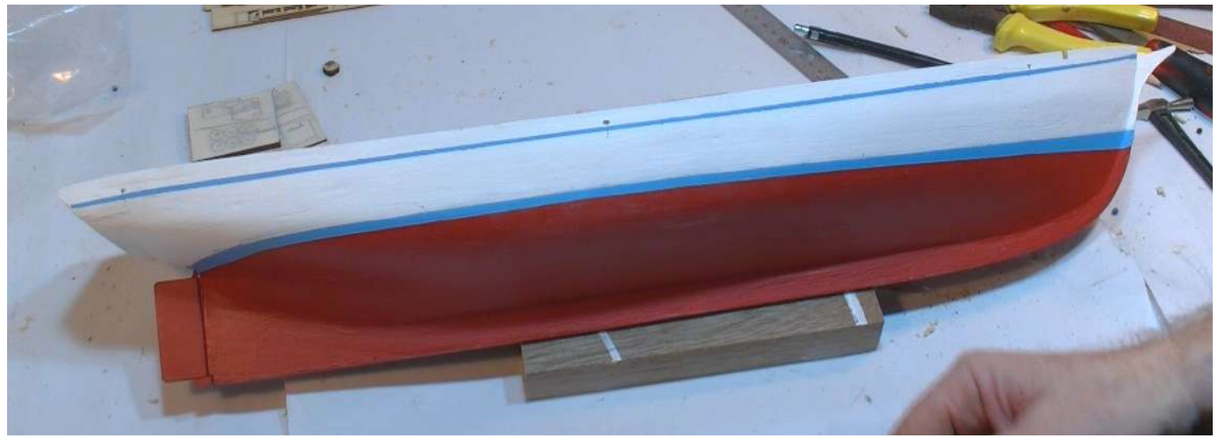
5.43 Bulwark Pinstripe - continued

Pin a batten P27 along the hull below these 4 points and then draw a line using the top of the batten as a guide. Remove the batten. Next, measure and mark points 2mm below the previous points marked. Pin the batten along these 4 points and then draw a line using the top of the batten as a guide. Remove the batten. Place lengths of masking tape above the top line and below the lower line. Paint the area blue between the masking tapes. Repeat for the other side of the hull. Once paint is dry remove masking tapes.





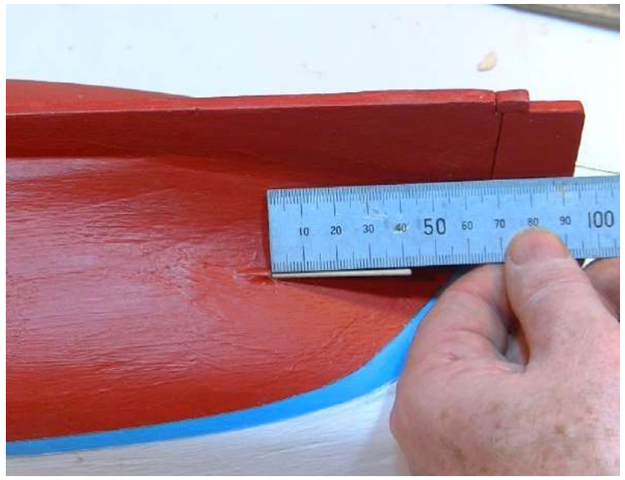


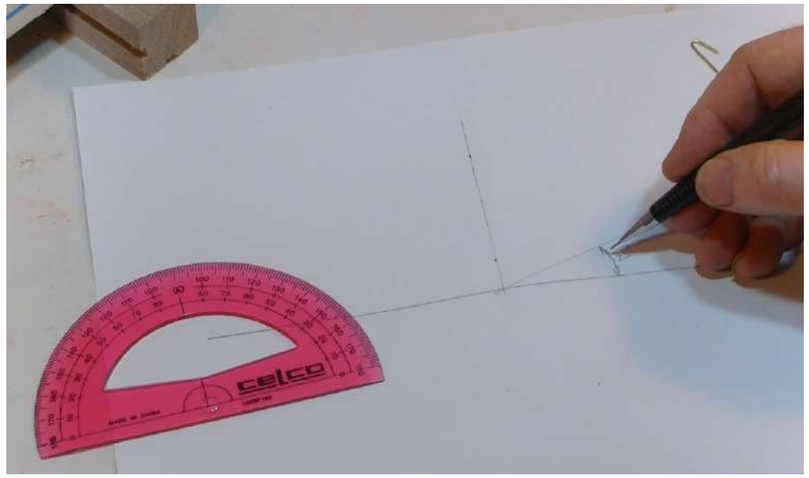


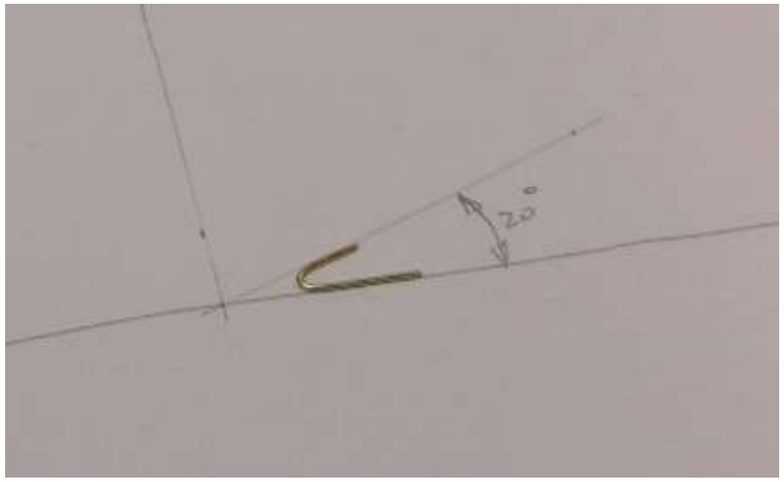
Brigantine
MATTHEW TURNER
SHEET 42

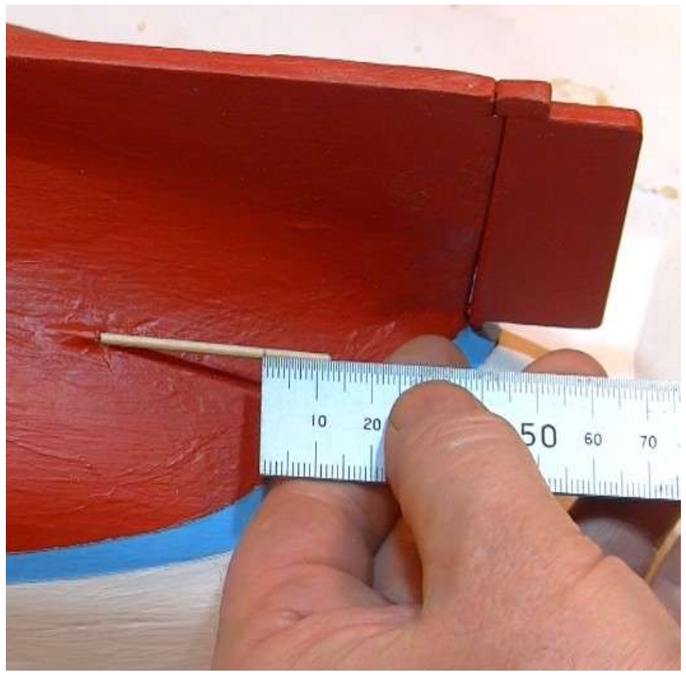
5.44 Propeller Shafts & Supports

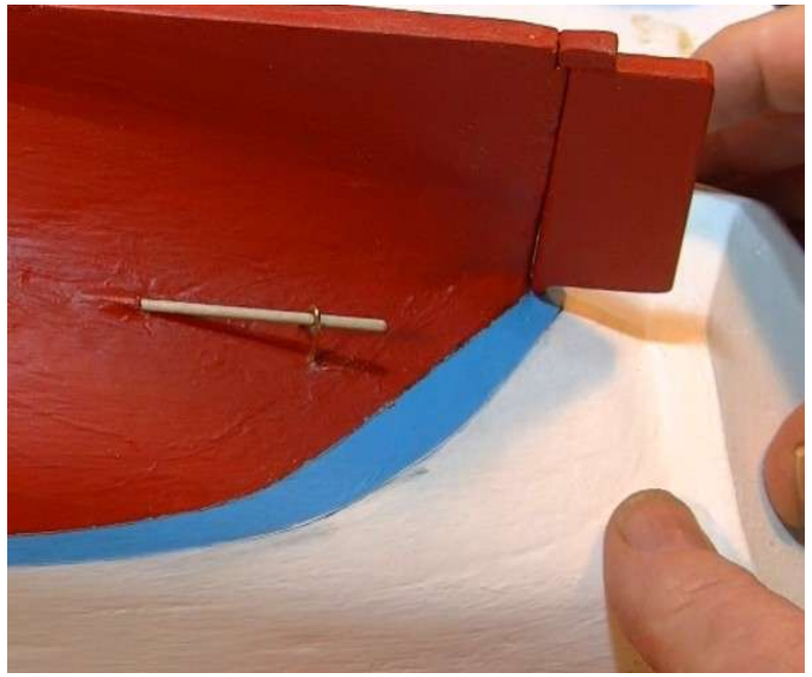
Identify the 2mm dowel P31 - cut lengths to fit fully into the brass tube previously fitted and with an extension beyond the tube end of 42mm as shown. Repeat for the other side of the hull. Identify the 1mm brass wire P32. Cut two 30mm lengths. Use a protractor to draw an angle of 20 degrees as shown. Bend the brass wire as shown. Mark a point 12mm back from the end of the propeller shaft as shown. Take one of the brass supports - with the longer end on the outside place it on the shaft at the marked point - align the longer end to be vertical - mark on the hull the support's contact point. Drill a 1mm hole at this point. Fit this end of the support into this hole. Mark the other end of the support's contact point on the hull - drill a 1mm hole at this point. Trial fit the support in place. Once satisfied glue the support in place. Repeat for the other shaft.





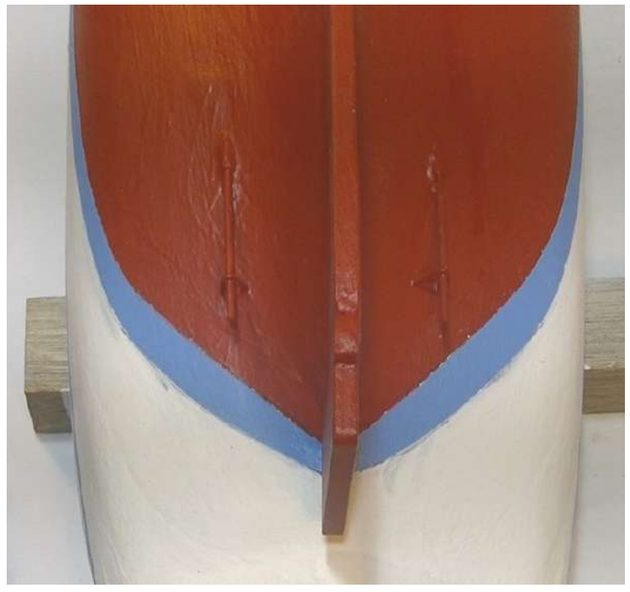






5.45 Propellers

Identify the propellers P33. Paint the propellers gold to represent brass. Set aside to dry. Pain the propeller shafts red as shown. When paints are dry glue the propellers in place as shown.



5.46 Hawse Pipes

Identify the anchor hawse pipes P34. Notice the hawse pipes pre-cut into the deck. Taking this hole as a reference onto the top of the bulwark measure down 23mm from the bulwark top and mark the point. Repeat for the other side of the hull. Drill a 5mm hole at these points and glue in place the large hawse pipes P34 as shown. Identify the small hawse pipes P35 - glue 3 on each side of the hull into the previously drilled holes in the bulwark as shown.

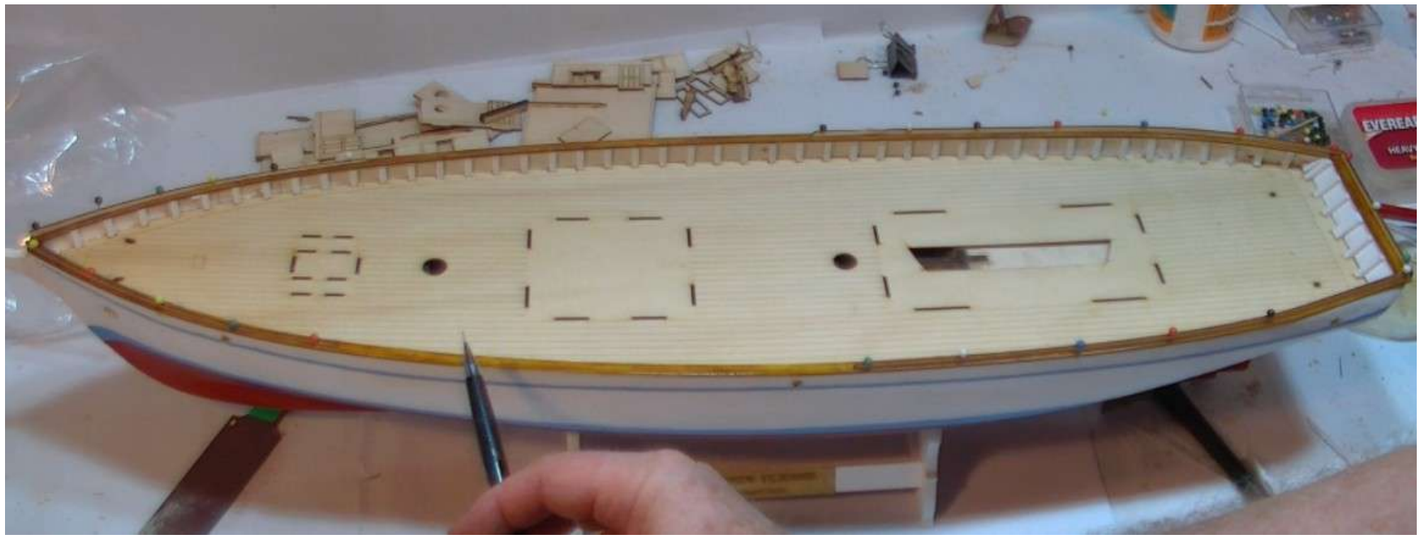
Brigantine
MATTHEW TURNER
SHEET 44

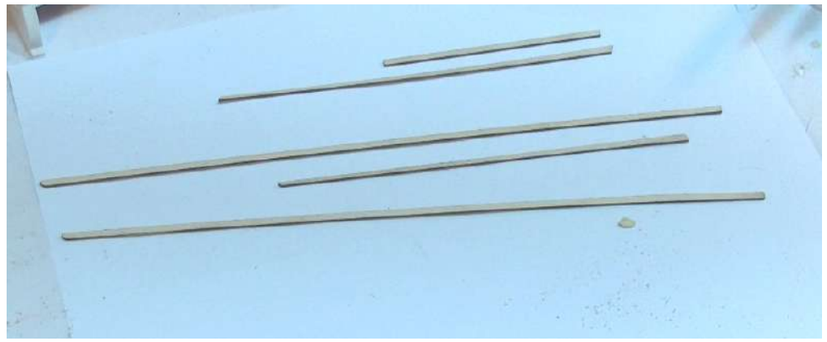
5.47 Cap Rail

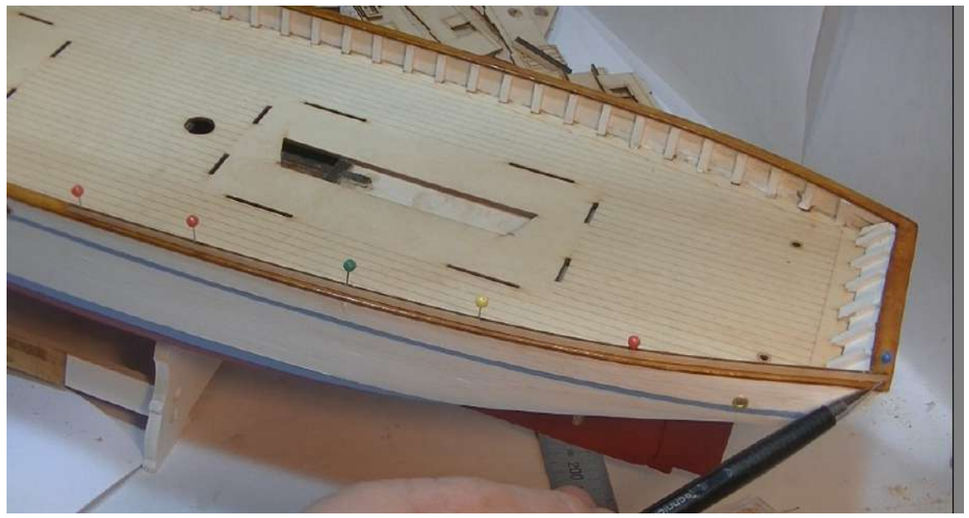
Identify the cap rail P36 - the rail is in two parts. The cap rail fits across the top of the bulwark and transom. Trial fit it in place - drill 0.7mm holes in the cap rail and temporarily pin in place. There is some flexibility in the cap rail as there may be a need to adjust its shape at the side stern areas. Once satisfied with the fit glue and pin the cap rail in position - remove pins when glue has set. Paint the cradle a flat white. Identify the cradle name plate P40 - apply shellac finish and glue in position as shown. Glue lengths of felt onto the cradle-hull contact points as shown.

5.48 Cap Rail, Railings and Name Plates

Identify the bow railing P37 - drill 0.7mm holes in a few points along its length - trial fit in place. Once satisfied glue and pin in place. Identify the side railing P38 - drill 0.7mm holes in a few points along its length - trial fit in place. Once satisfied glue and pin in place. Identify the stern rail P39 - drill 0.7mm holes in a few points along its length - trial fit in place. Once satisfied glue and pin in place. Once glue has set remove all pins and apply shellac finish to the cap rail and railings - apply a number of coats to achieve a golden honey finish. Identify the bow name plates P41A - apply shellac finish - apply repeat coats to achieve desired finish. Glue each in place at the bow as shown. Identify the transom name plate P41B - apply shellac finish - apply repeat coats to achieve desired finish. Glue centrally in place on the transom as shown.



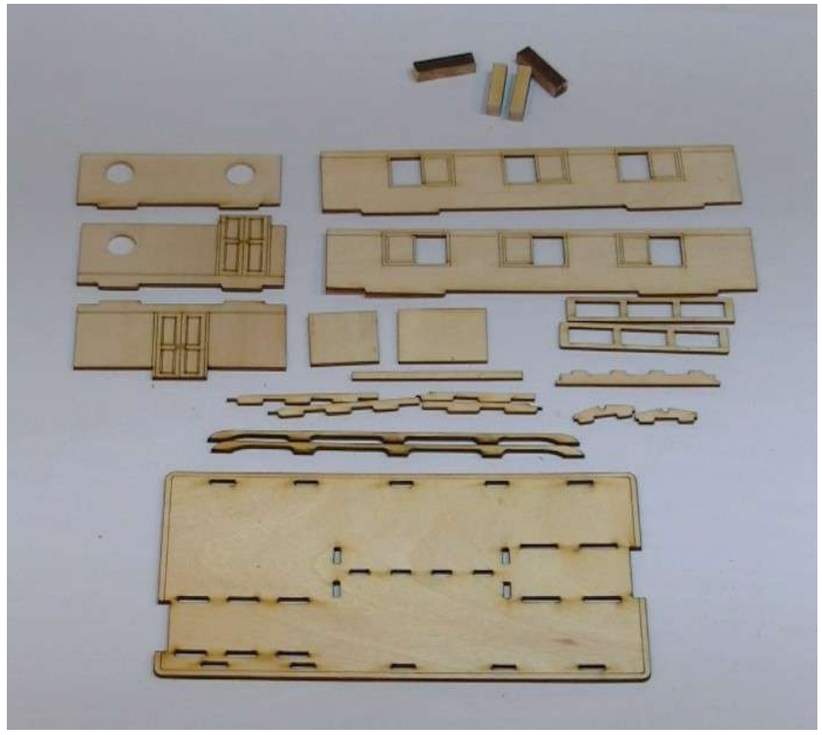


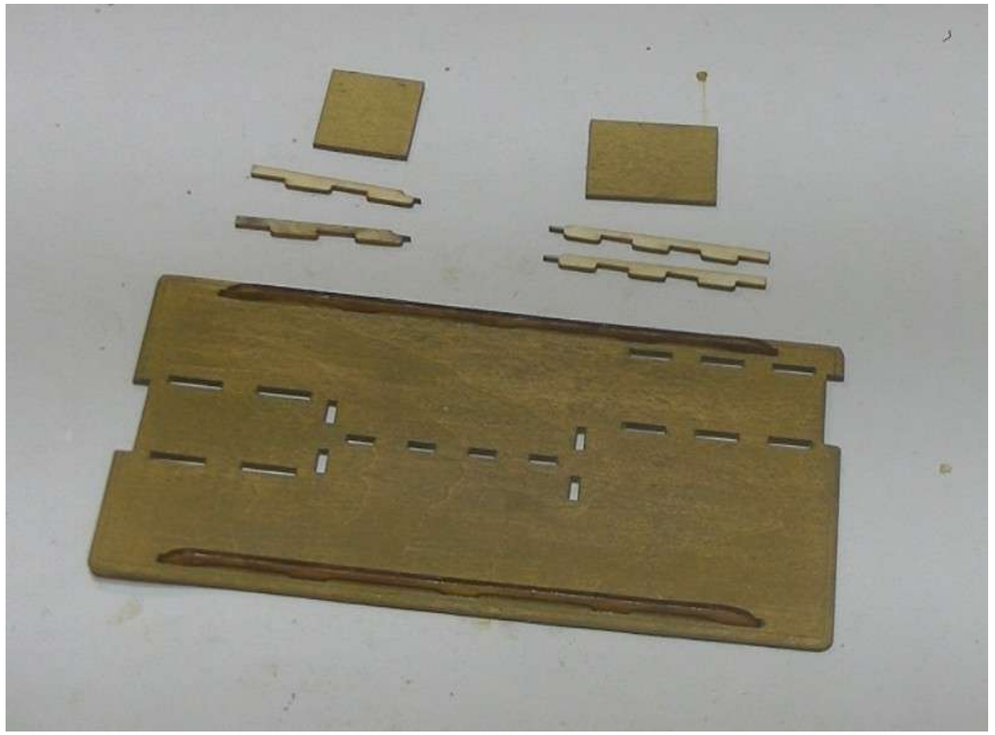


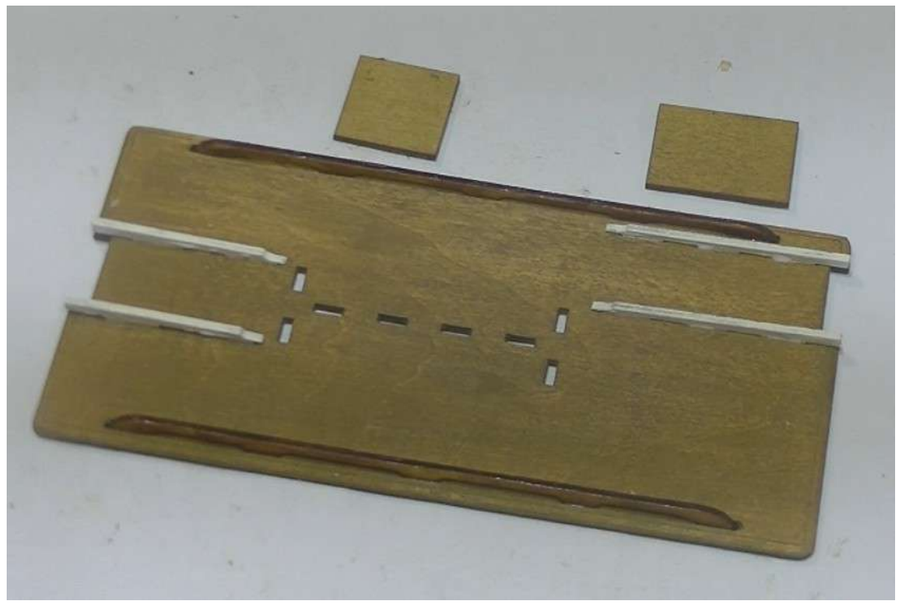
6.0 Deck Cabins, Furniture & Fittings

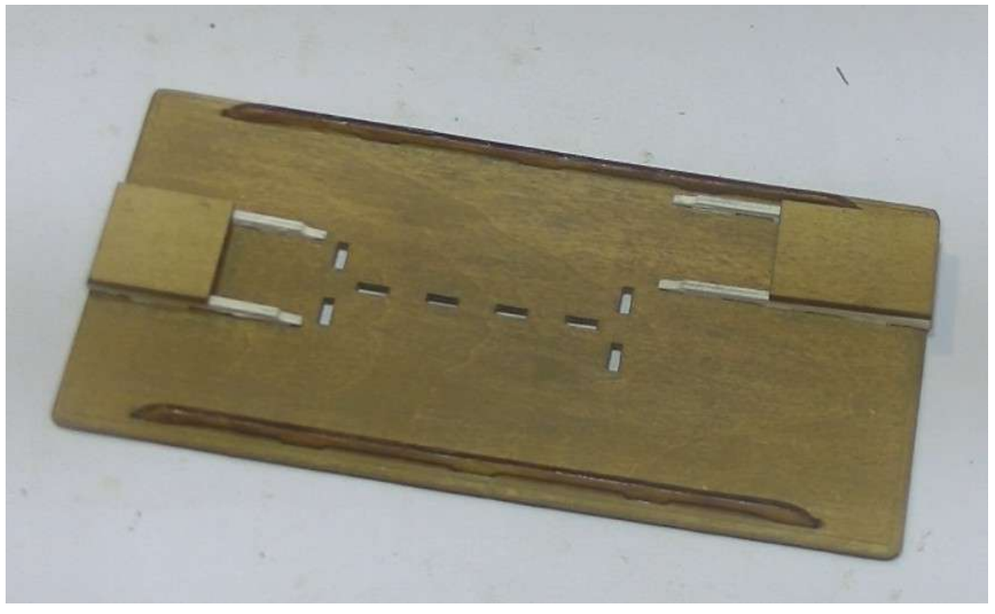
6.1 Chart House

Identify the parts for the chart house as shown. Stain the roof P42 and hatches P43 & P44 with a Baltic Pine. Identify the hatch runners P45 and P46 - paint white. Identify the racks P47 - stain with shellac. When the runners and racks are dry glue in position as shown. Glue in position the hatches as shown.





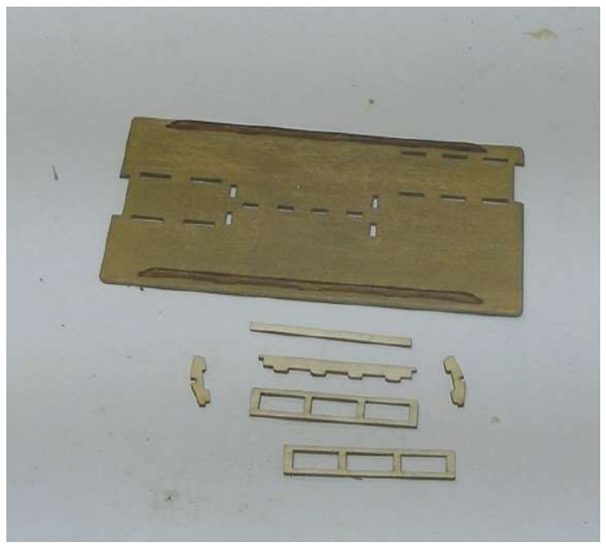


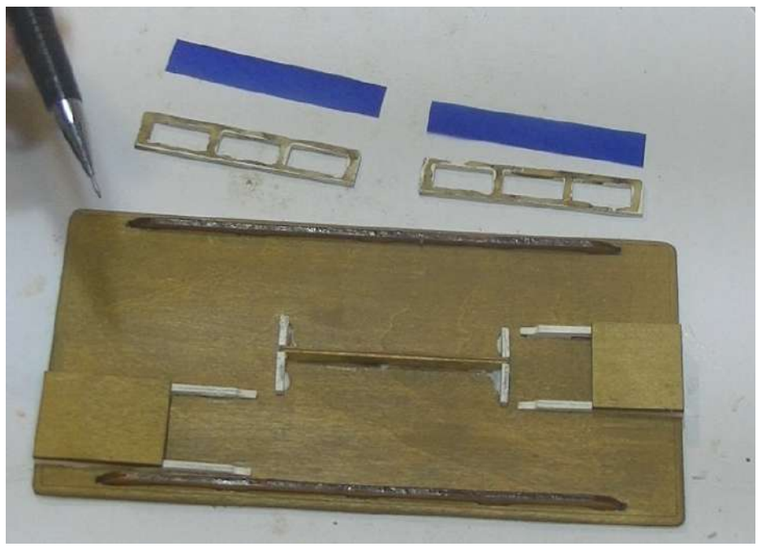


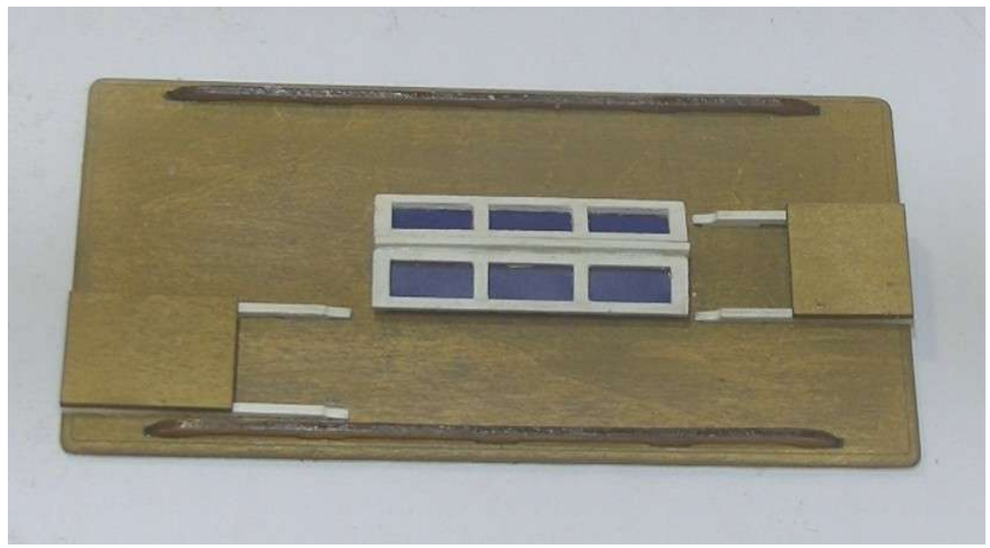
Brigantine
MATTHEW TURNER
SHEET 47

6.1 Chart House - continued

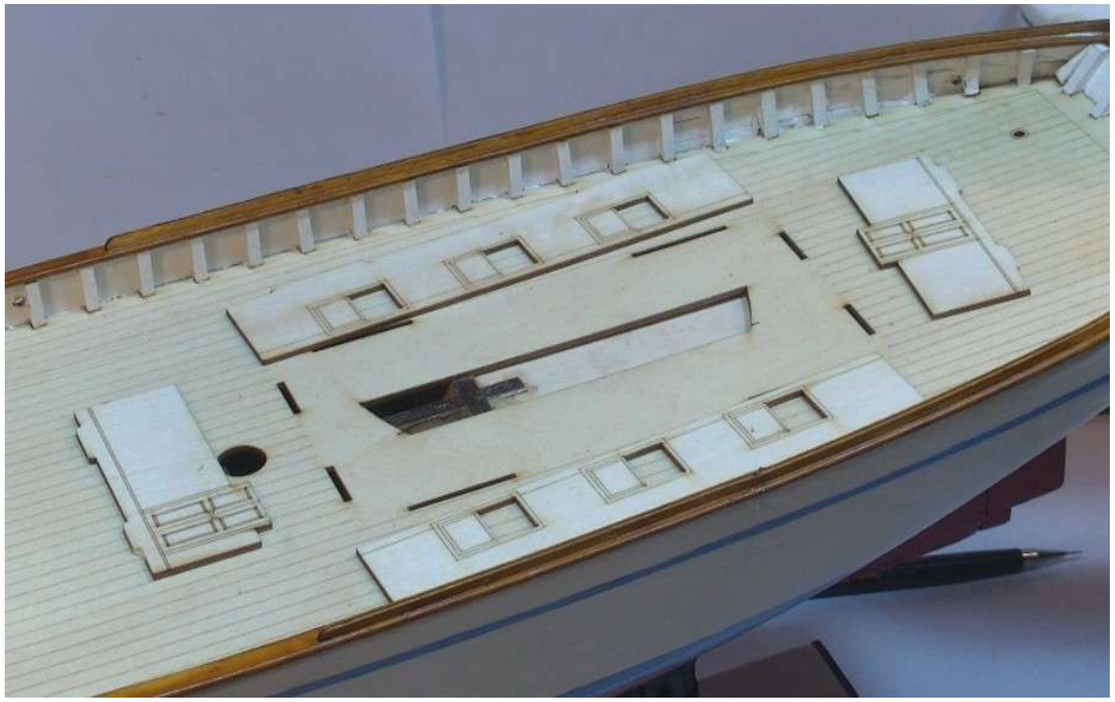
Identify the skylight ends P48, and central base P49, centre board P51, skylight frames P50 and glazing sheet P52. Dry fit all parts and make fractional adjustments where necessary. Paint the skylight ends and centre board white. Glue the skylight ends and central base in place as shown. Paint the skylight frames white. Cut two pieces of glazing and glue in place on the underside of the frames. Glue the centre board P51 in place and then glue the skylight frames in place. Set the assembled chart house roof aside for fitting later.

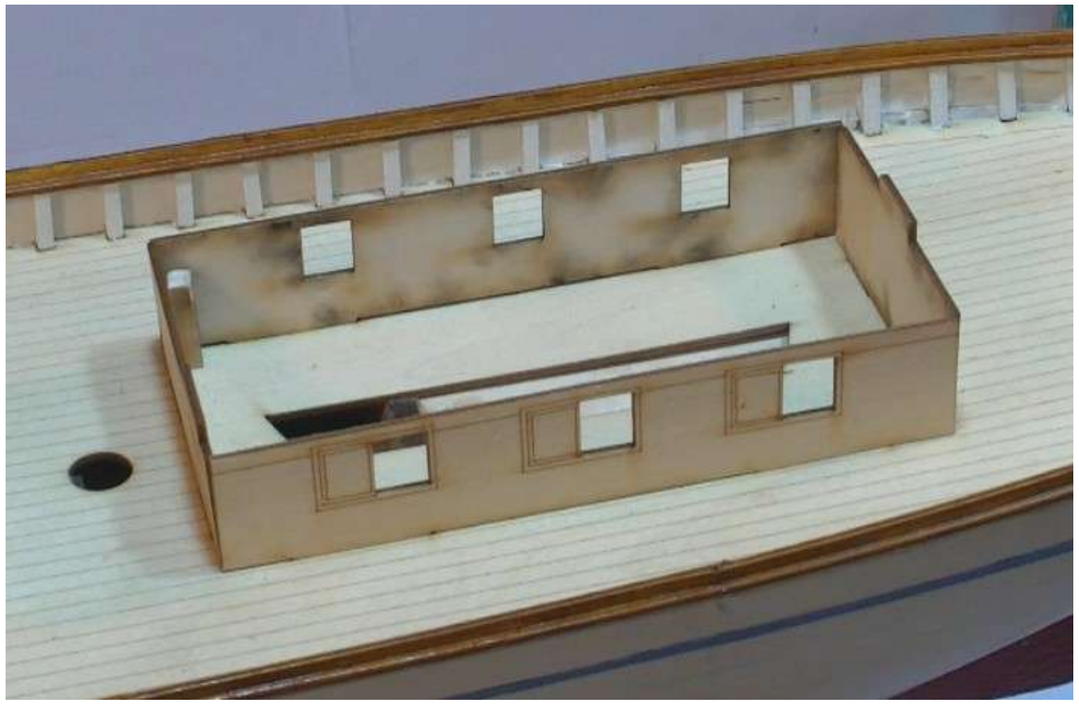






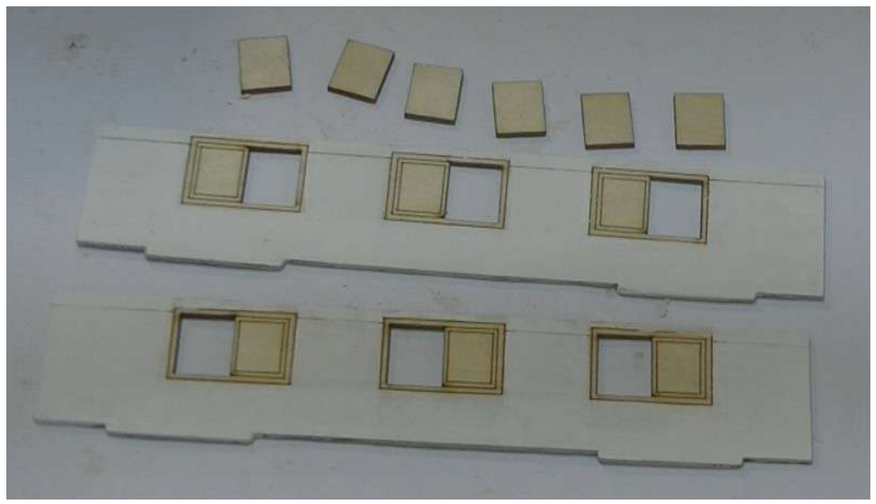
Identify the chart house side walls P53, front wall P54, rear wall P55, window shutters P56 and inner support blocks P57. Trial fit the four wall into the locating slots on the deck - fractionally adjust as necessary. Note that the front and rear walls fit inside the side walls. **Do not glue anything at this stage.**

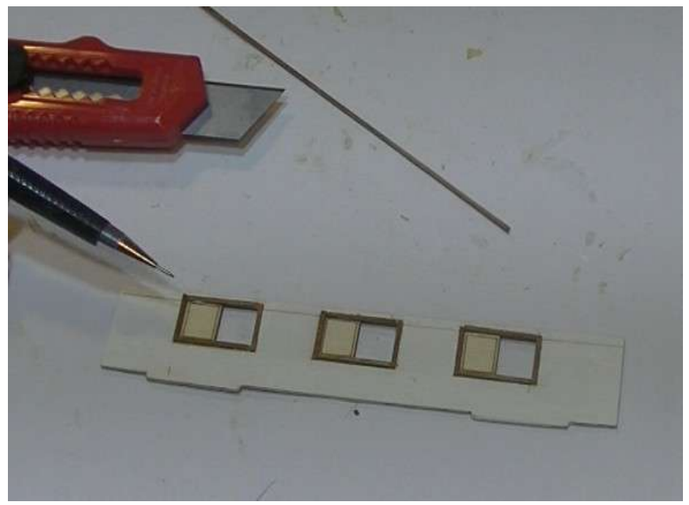


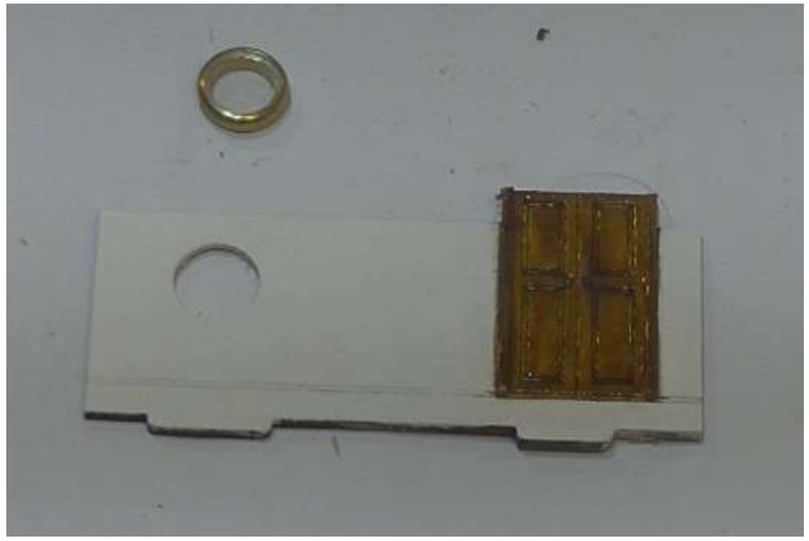


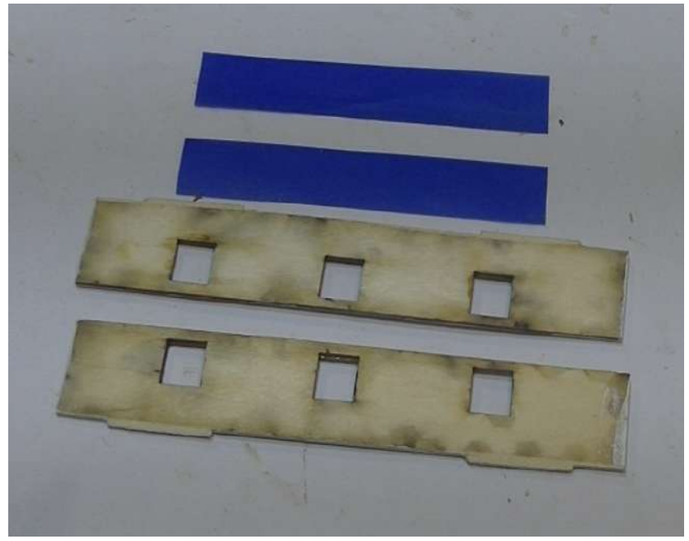
6.1 Chart House - continued

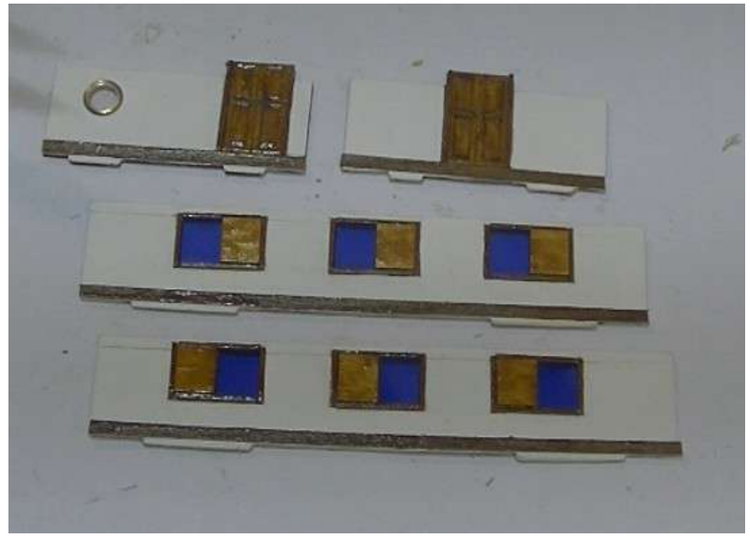
Identify the window shutters P56 - set the shutters safely aside. Paint the walls white - leave the windows untouched as shown. Identify the 1x1mm walnut timber P58 - cut lengths to form an architrave for each window and glue in place. Glue the window shutters in place as shown. Stain the window shutters and doors with shellac. Identify the port hole P59 - trial fit and then glue in place. Cut lengths of glazing P52 to fully cover the windows then glue in place on the inside of the side walls. Identify the 0.5x3mm walnut P60 - cut lengths to fit along the base of each wall - note the lengths for the front and rear walls need to be longer that the wall width as they need to cover the ends of the side walls. Glue the strips in place and apply shellac.





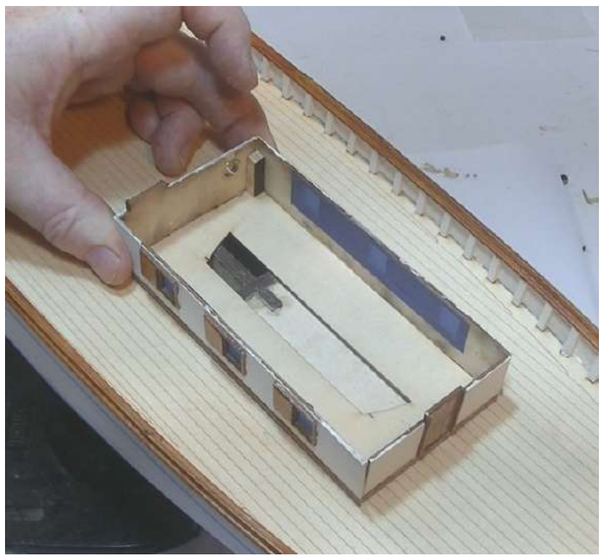


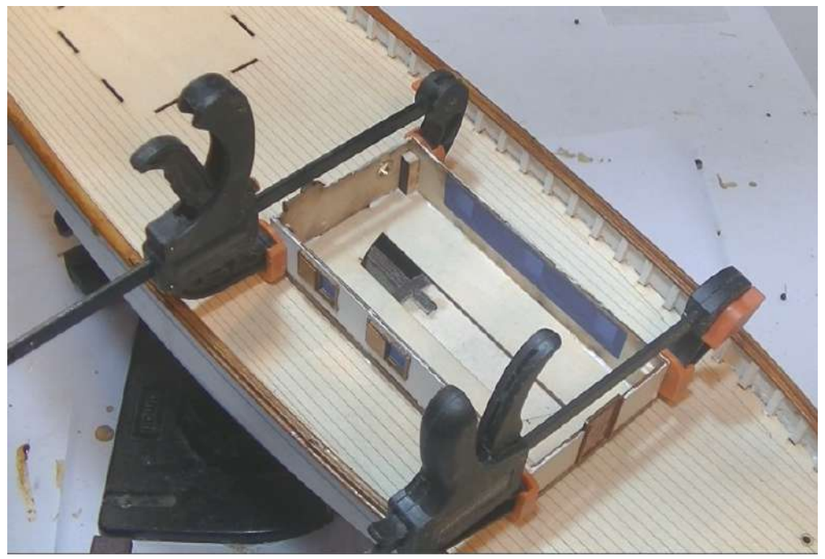


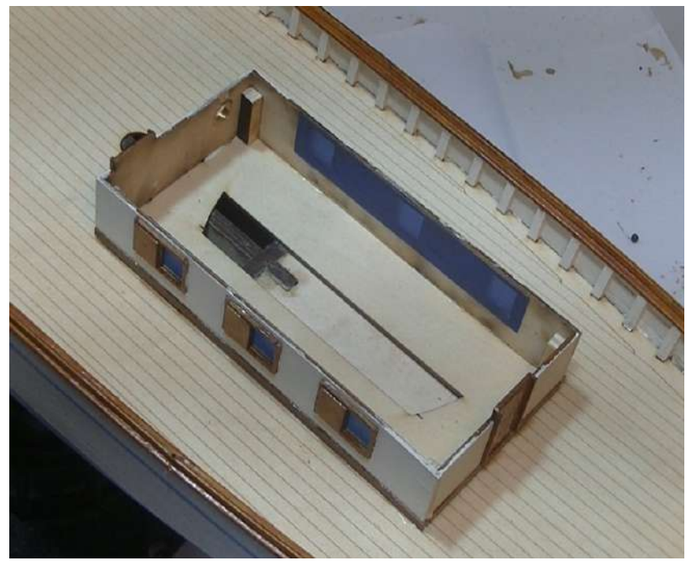


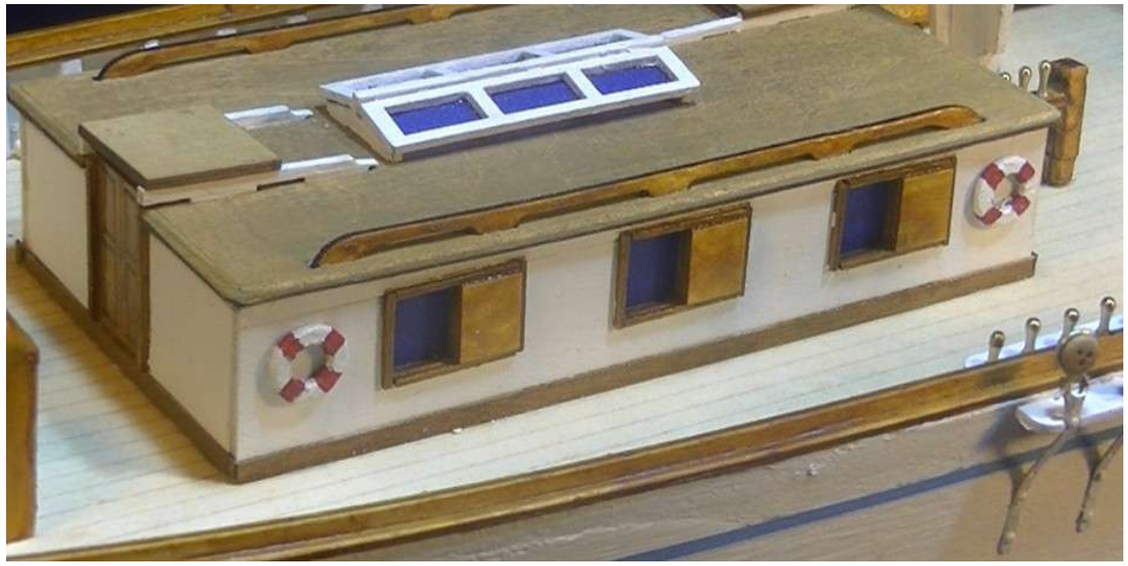
6.1 Chart House - continued

Trial fit the walls back in place as shown. Once satisfied glue the wall and four inner support blocks P57 in place. Clamp as shown. Once glue has set remove clamps and glue the assembled roof in place as shown. Identify the life rings P140 - use a file to remove sharps edges - paint each ring white and paint red stripes. Glue in place on port and starboard sides of chart house as shown.



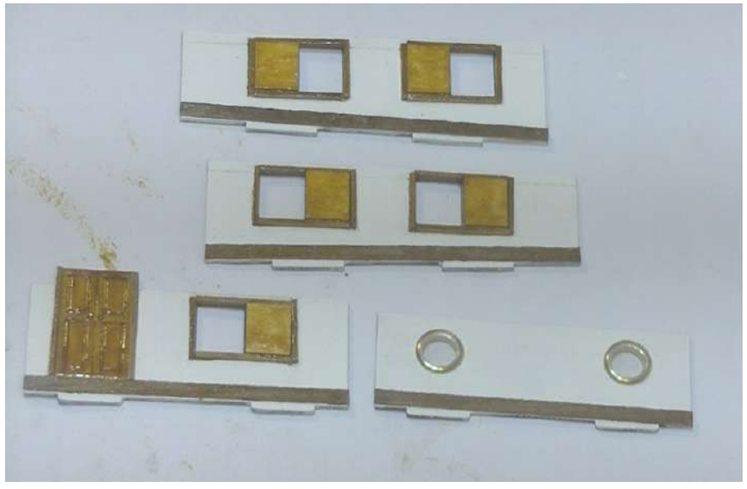


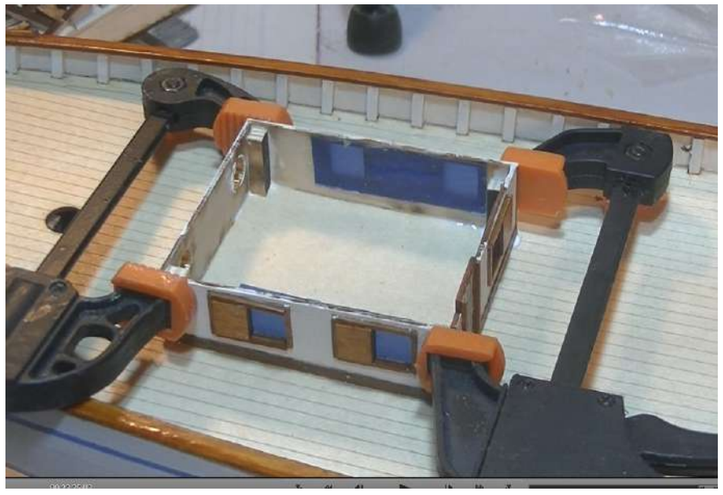


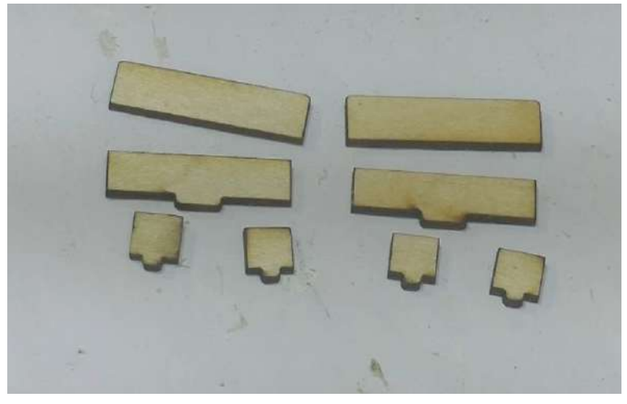


6.2 Galley House

Construct the galley house using the same approach as for the chart house. Identify the roof P61, hatch P62, hatch runners P63 and racks P64. Paint and stain as shown and glue each part in place. Identify the side walls P65, front wall P66 and rear wall P67 - trial fit in position on the deck - note the height of the front wall is less than the rear wall to accommodate the sheer of the deck. Paint the walls white leaving the windows untouched. Identify the 1x1mm walnut timber - cut lengths to form an architrave for each window and glue in place. Identify the window shutter P56 and glue them in place as shown. Stain the window shutters and door with shellac. Identify the port holes P59 - trial fit and then glue in place. Identify the 0.5x3mm walnut P60 - cut lengths to fit along the base of each wall - note the lengths for the front and rear walls need to be longer that the wall width as they need to cover the ends of the side walls. Glue the strips in place and apply shellac. Cut lengths of glazing P52 to fully cover the windows then glue in place on the inside of the side walls. Trial fit the walls back in place as shown. Once satisfied glue the wall and four inner support blocks P57 in place. Clamp as shown. Once glue has set remove clamps and glue the assembled roof in place as shown. Identify the locker parts P68 - P70. Trial fit parts into the deck slots - once satisfied assemble, paint white and glue in place. Cut lengths of 1x1mm walnut as hinges and glue in place as shown.



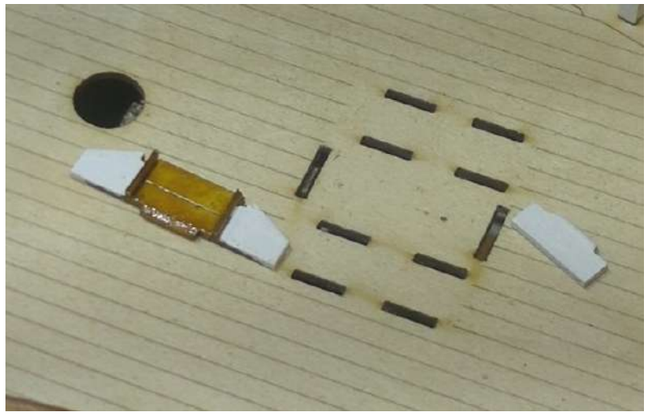
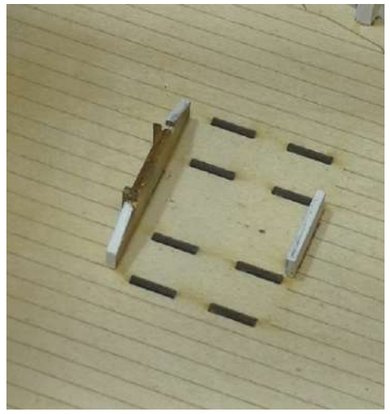


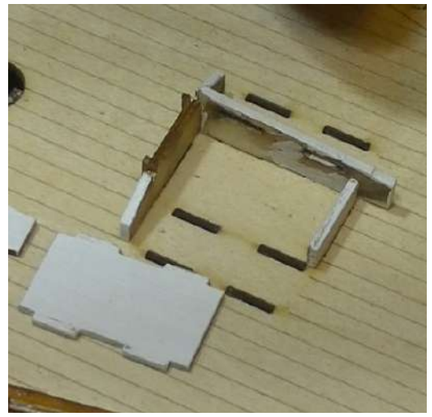
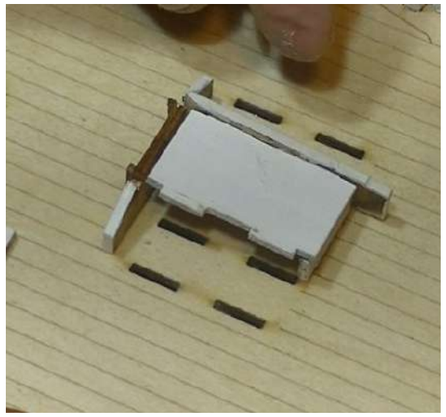


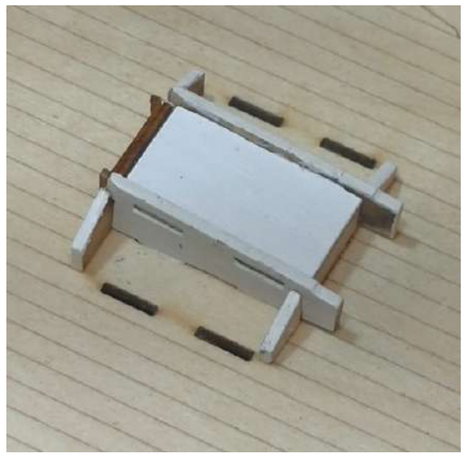
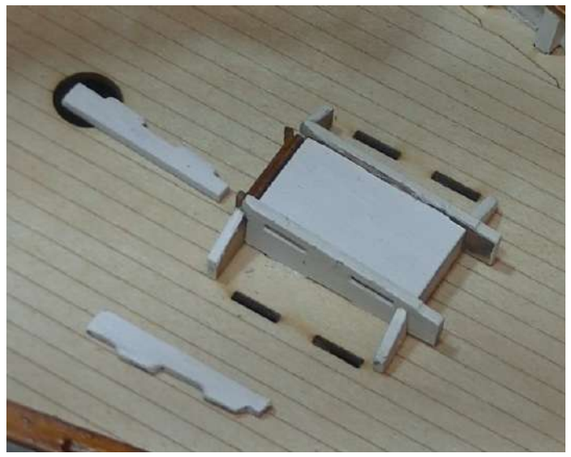
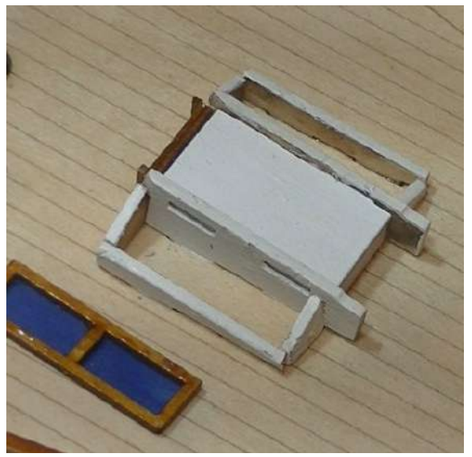
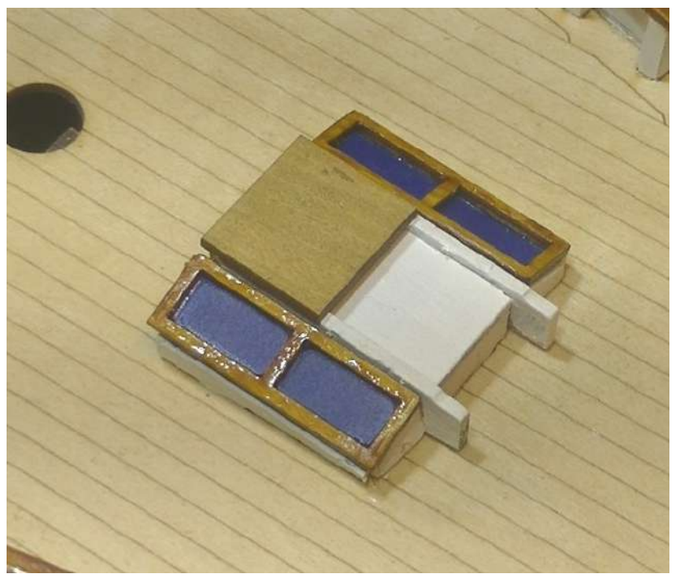
Brigantine
MATTHEW TURNER
SHEET 51

6.3 Forecastle Companionway

Identify the front panel P71 and rear panel P72. Trial fit each in place. Stain the door with shellac and glue in place as door trim lengths of 1x1mm walnut P58. Paint the rear panel and rest of the front panel white as shown - glue each part in place as shown. Identify the inner sides P73 and roof P74 - trial fit in place - paint white and assemble and glue in place as shown. Identify the rear sides P75 - paint white and glue in position as shown. Identify the outer sides P76 - paint white and fit into deck slots - glue in place. Identify the skylight frames P77 - stain with shellac. Cut lengths of glazing P52 and glue in place on the underside of frames - glue frames in place as shown. Identify the hatch P78 - stain with Baltic Pine - then glue in position as shown.

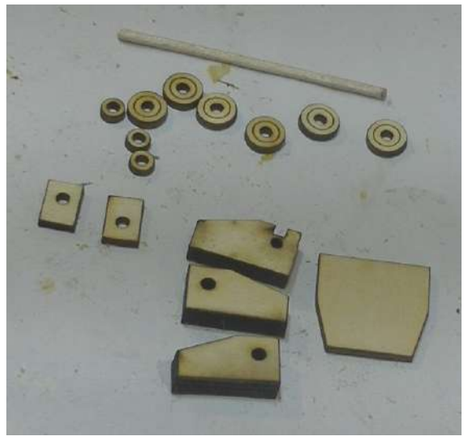
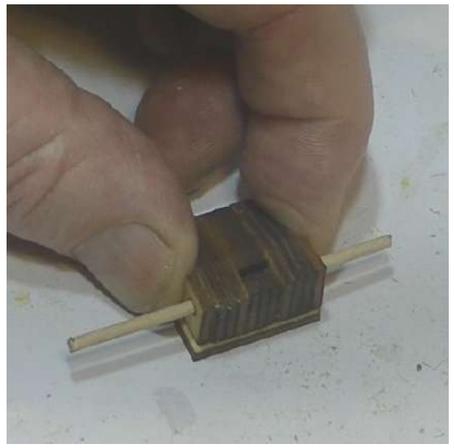



Brigantine
MATTHEW TURNER
SHEET 52

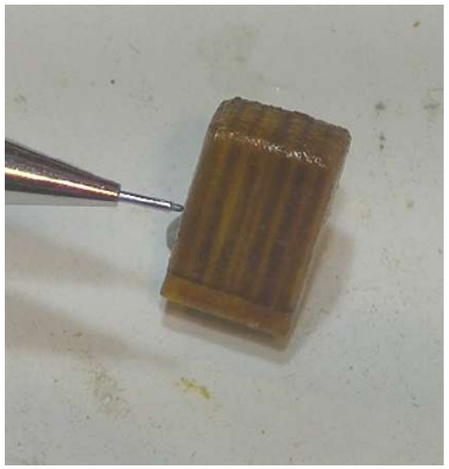
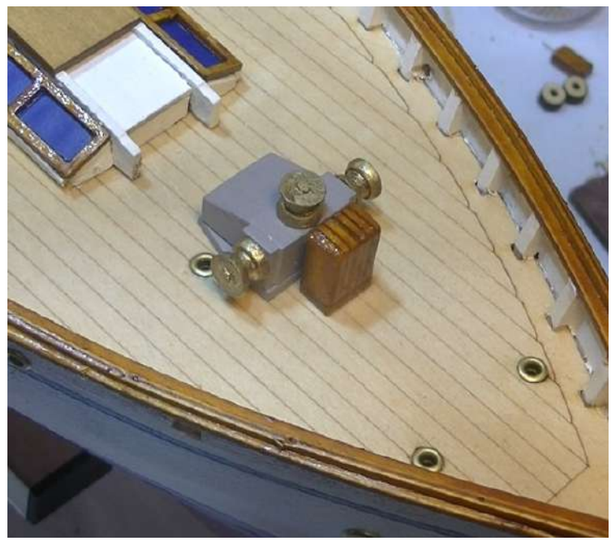
6.4 Winch & Samson Post

Identify winch base P104, winch body - outer P105A, winch body - inner P105B and winch sides 106. Cut a length of 2mm dowel P31. Using the dowel as a guide glue the two outer body either side of the inner body and glue the sides in place - glue assembled body to the base as shown. Paint the assembled body and base grey. Identify the outer pulley wheels P107 - file from the score line to the outer edge giving a round shape on each wheel. Identify the inner wheels P108 - glue an outer wheel either side of the inner to create a pulley wheel as shown. Paint the pulley wheels gold. Fit two pulley wheels to the shaft as show. Glue a length of 2mm dowel into the slot in the inner winch body and glue the last pulley wheel in place as shown. Identify the samson post P109 - glue the two parts together and file the laser burn off. Stain with shellac. Glue the assembled winch and samson post in place as shown. Identify the hawse pipes P35 and glue into the pre-cut holes as shown.



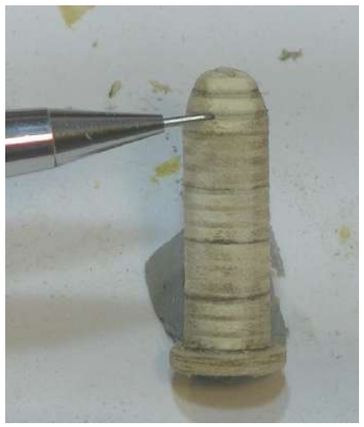


6.5 Binnacle

Identify the binnacle base P79, body pieces P80, top 1 P81, top 2 P82 and top 3 P83. Identify the 2mm dowel P31 - cut a 40mm length. On top 2 P82 note the score mark - file from the opposite edge to this score line. Assemble the parts as shown. Shape the top parts to create a dome as shown - file a small flat face as shown to represent the viewing window for the binnacle. Rotate the binnacle by 90 degrees and drill a 2mm hole as shown. Cut an 18mm length of 2mm dowel P31 - insert through the hole - this represents the Flinders Bar. Paint the dome and dowel gold to represent brass. Drill 0.7mm holes through the 2mm dowel and fit a red and green map pin as shown - red on the port side and green in the starboard side. Paint the flat face blue as shown. Stain the body of the binnacle with shellac. Fix a locating pin to the underside of the base - drill a 0.7mm hole into the deck - there is a score mark on the deck at this point. Glue the binnacle in place.

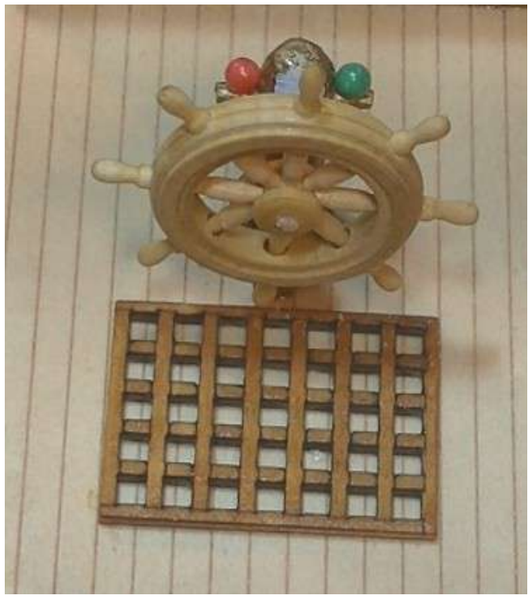





6.6 Ship Wheel & Post and Grating

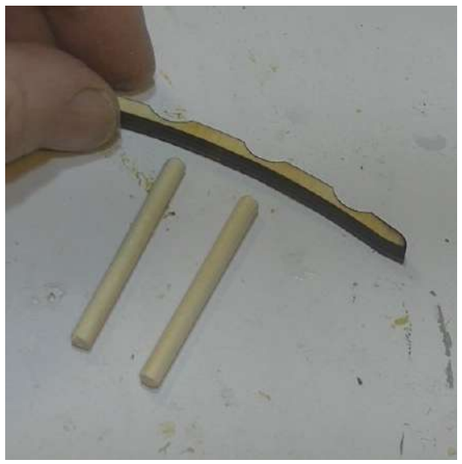
Identify the ship wheel P84 and wheel post P85. Stain the post with shellac. Fit the ship wheel to its post with a length of 2mm dowel P31. Fix a locating pin to the base of the post and trial fit immediately in front of the binnacle as shown. Once satisfied glue the assembled wheel and post in position. Identify the grating P86 - stain with shellac and glue in place as shown.



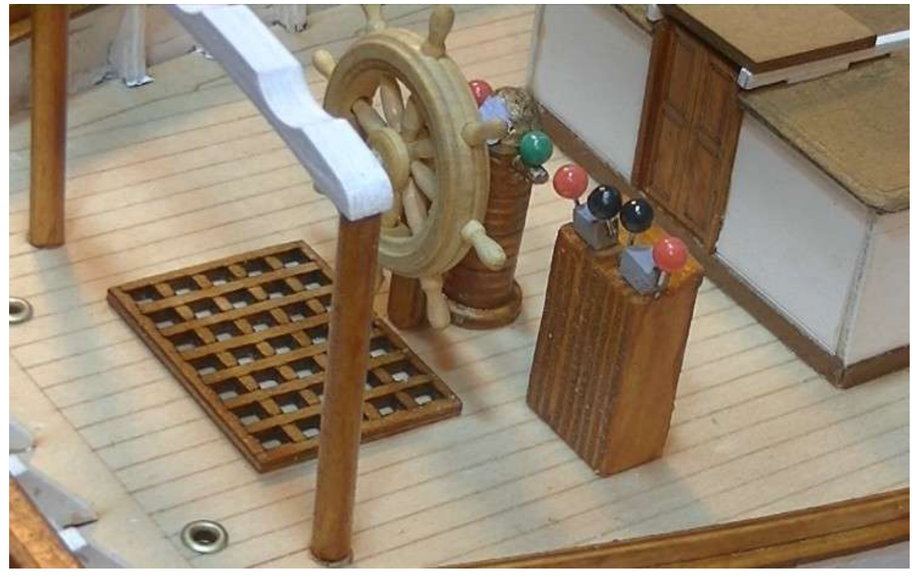
6.7 Boom Galley

Identify the boom galley P87 - paint white. Identify the 4mm dowel P88 - cut two 45mm lengths - stain with shellac. Fit locating pins to the ends as shown. Drill 0.7mm holes into the flat underside face of the galley - glue the pins and dowels in place as shown. Drill 0.7mm holes into the locating score marks on the deck and glue the assembled boom galley in place as shown.



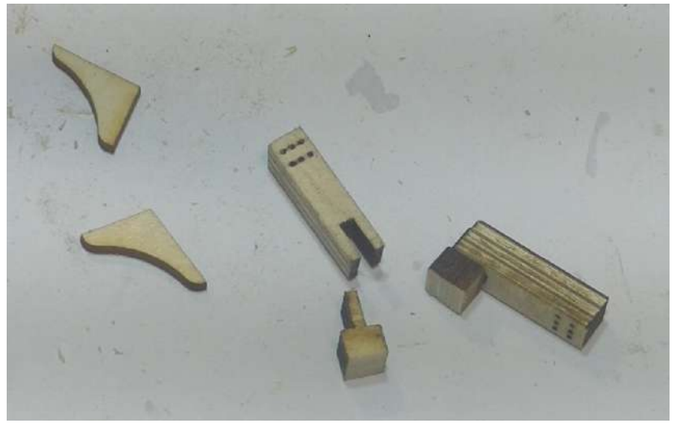
6.8 Motor Control Stand

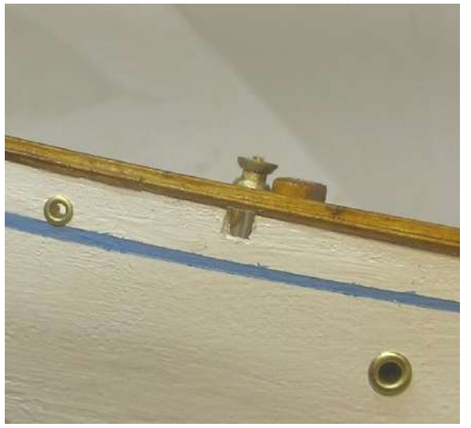
Identify the control stand P89 - glue the three parts together. Stain assembled stand with shellac. Identify the control level bases P90 - glue in pairs and paint grey. Drill 0.7mm holes into each end. Using red and black pins cut and shape as shown and glue in place into pre-drilled holes. Glue assembled control levers to stand as shown. Glue assembled control stand in place as shown.

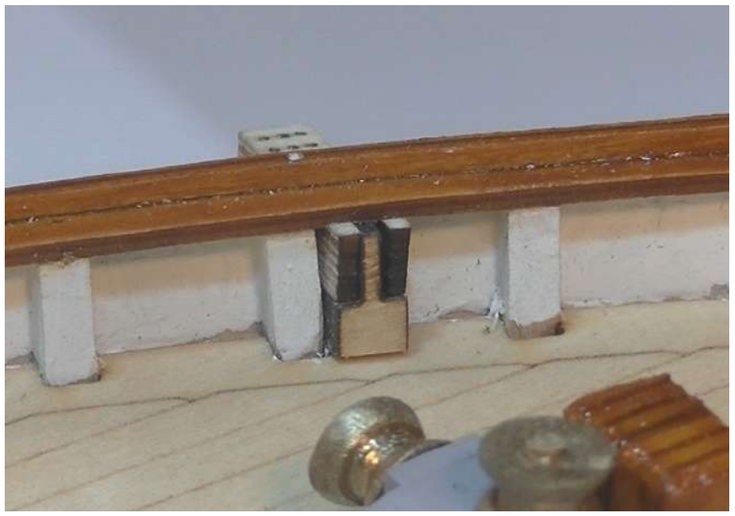


6.9 Catheads

Identify the catheads P91 and the knees P92. Each cathead is in two parts. The cathead fits into the pre-cut rectangle in the bulwark at the bow. Trial fit the cathead together as shown. Next trial fit the cathead into its bulwark position - some fractional fitting will be required - ensure the fit is not overly tight. Once satisfied with the fit glue the cathead together - use wood filler to fill any gap in the joint. Paint white and then glue each cathead in place as shown. Identify the cathead knees P92 - trial fit the knees beneath the cathead as shown - once satisfied glue in position.







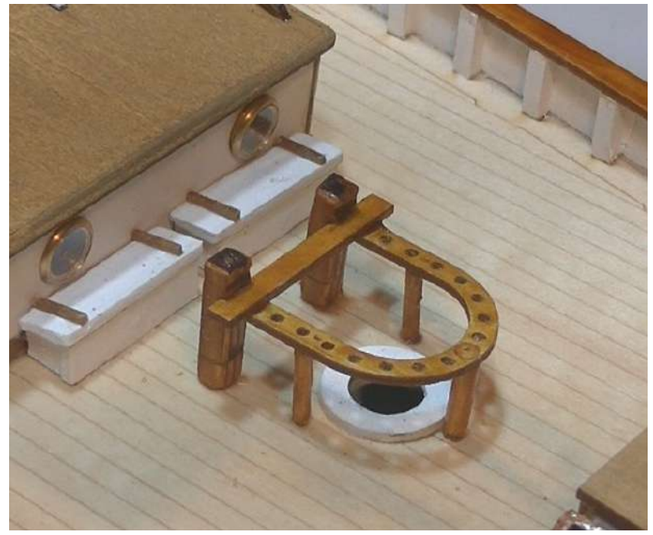
Brigantine
MATTHEW TURNER
SHEET 56

6.10 Mast Heels

Identify the mast heels P93 - trial fit in place using a length of 10mm dowel P94 - some adjustment of the slot may be necessary to ensure alignment with keel below deck. Once satisfied paint each mast heel white and glue in place as shown.

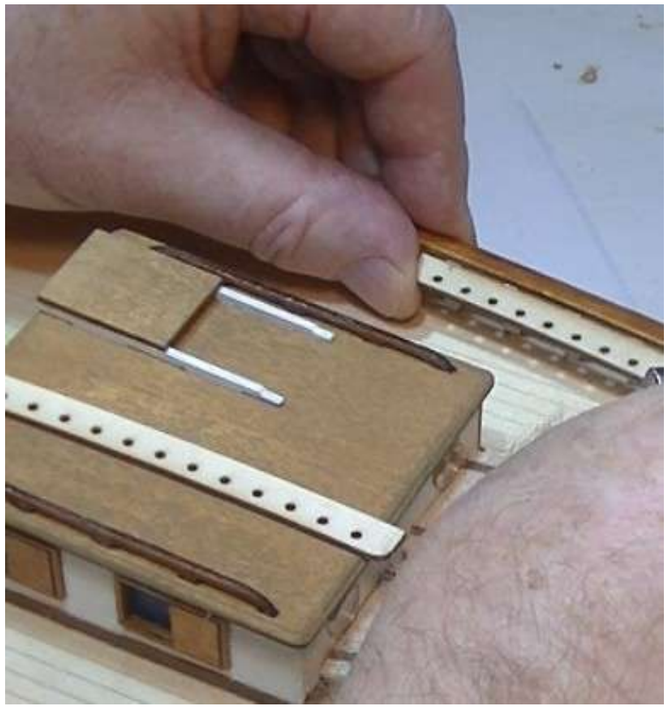
6.11 Mast Fife Rails

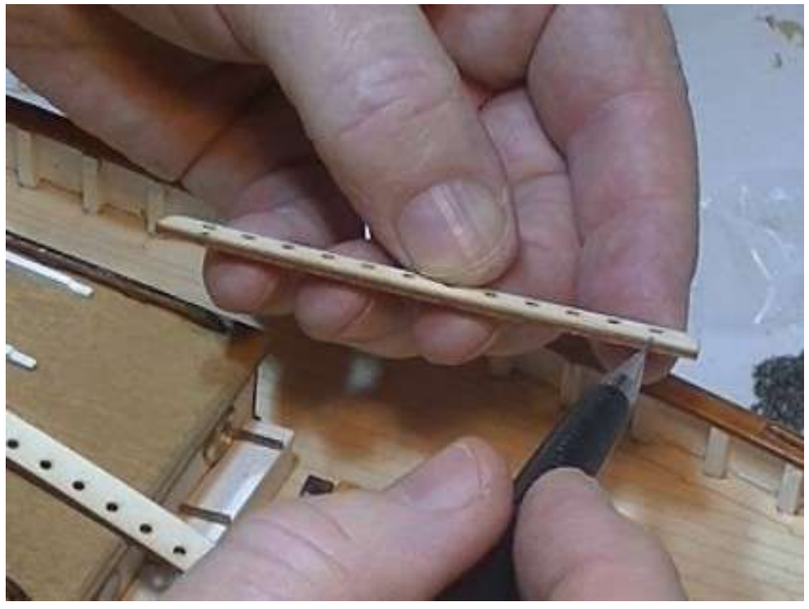
Identify the main mast fife rail P95 and posts P96 - sand to remove laser burn marks - fit locating pins to posts. Assemble rail and posts as shown and stain with shellac. Drill 0.7mm holes at scored points on deck and glue assembled fife rail and posts in place as shown. Identify the foremast fife rail P97, bracket P98 and posts P99 - sand to remove laser burn marks - fit locating pins to posts. Identify the 3mm dowel P30 - cut a length 12mm. Identify the 2mm dowel P31 - cut two lengths 12mm. Glue rail and bar together - make sure the bar is glued centrally across the rear of the rail. Notice the laser score locating marks for the support dowels on the top of the rail - drill a 0.7mm hole at these three points and fix a pin through the rail and into the top of the support dowel - snip-off the pin heads. Assemble the fife rail, posts and support dowels as shown. Also note the location score marks on the deck - drill 0.7mm holes at these points then glue the posts in position.

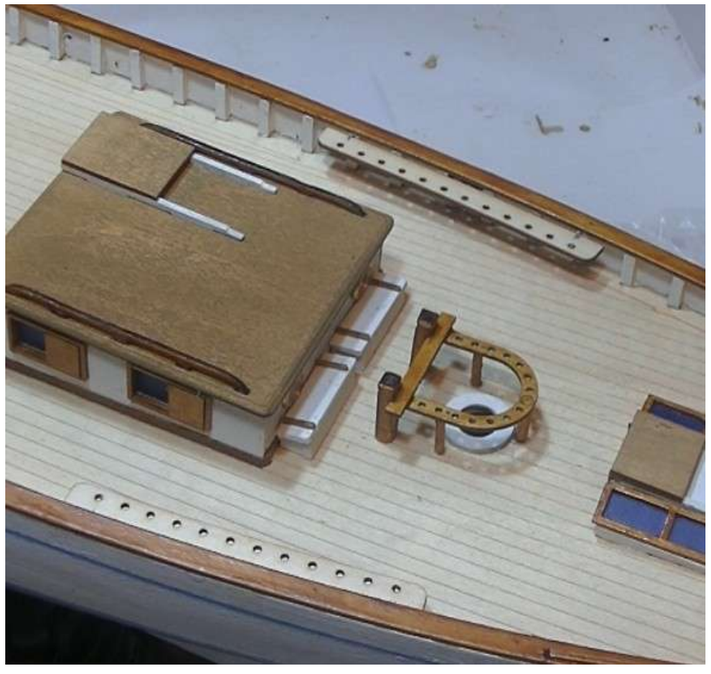


6.12 Pin Rail - Foremast

Identify the foremast pin rails P100. Lay a length of batten P27 across the bulwarks as shown - align the batten with the third belaying pin holes on each side of the fife rail as shown - make a pencil mark on the false frame that aligns with the batten. Place the pin rail in place and align the **first belaying pin hole on the pin rail** with the pencil mark on the frame - mark this point on the rear edge of the rail as shown. Next mark on the pin rail at its other end where it aligns with another frame as shown. At these two points drill a 0.7mm hole into the edge of the pin rail - glue pins into these holes - remove the pin heads. Drill 0.7mm holes into the false frames where marked so that the pin rail sits immediately below the cap rail. Trial fit the pin rail in position. Once satisfied paint the pin rail white and glue in position. Repeat for the other pin rail.

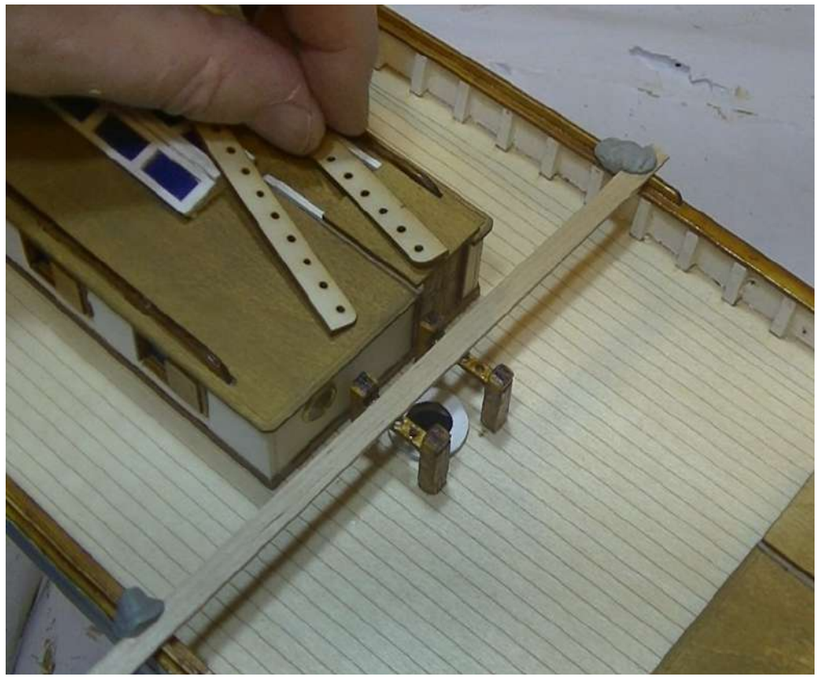


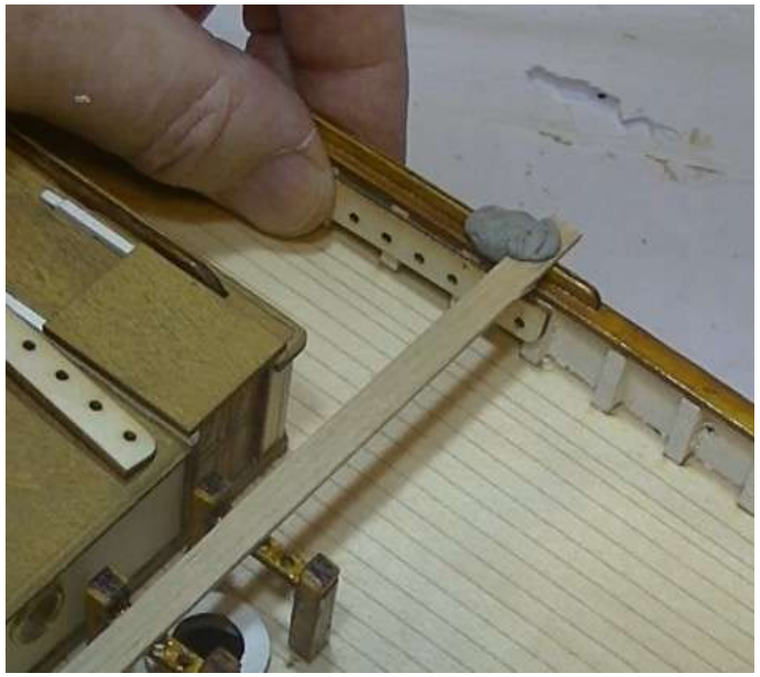


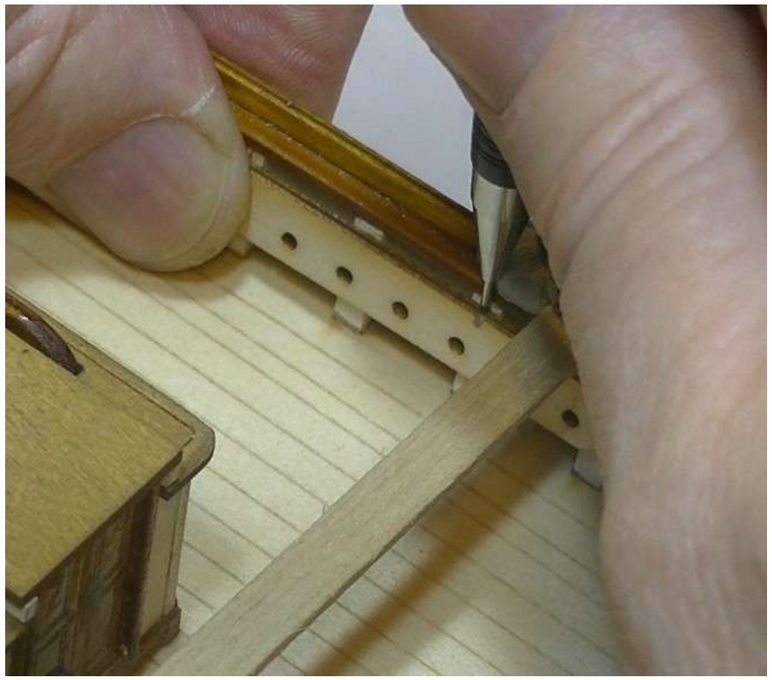


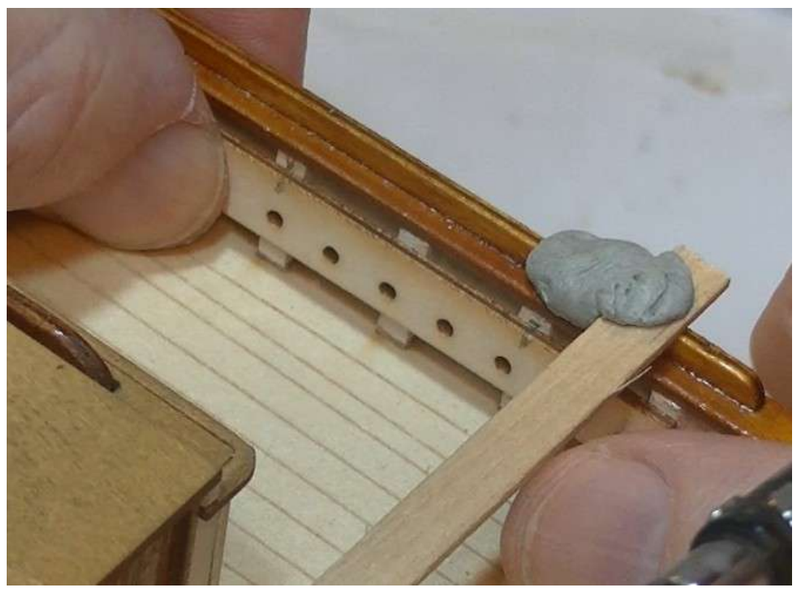
6.13 Pin Rail - Main Mast

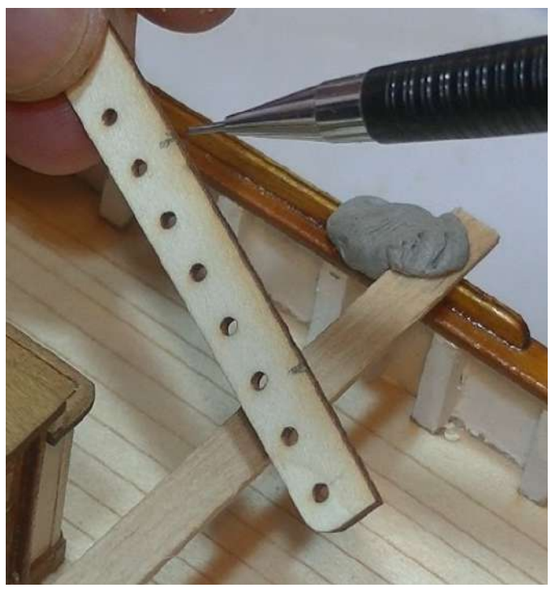
Identify the foremast pin rails P101. Lay a length of batten P27 across the bulwarks as shown - align the batten with the centre belaying pin holes on each side of the fife rail as shown - use blue tac to hold the batten in place. Place the pin rail against the frames and align the **first belaying pin hole on the pin rail with the front edge of the batten.** With the pin rail now held firmly in place mark where the pin rail rests against a false frames - mark the frame as well as this point on the pin rail as shown. Next mark on the pin rail at its other end where it aligns with another frame as shown. At these two points drill a 0.7mm hole into the edge of the pin rail - glue pins into these holes - remove the pin heads. Drill 0.7mm holes into the false frames where marked so that the pin rail sits immediately below the cap rail. Trial fit the pin rail in position. Once satisfied paint the pin rail white and glue in position. Repeat for the other pin rail.









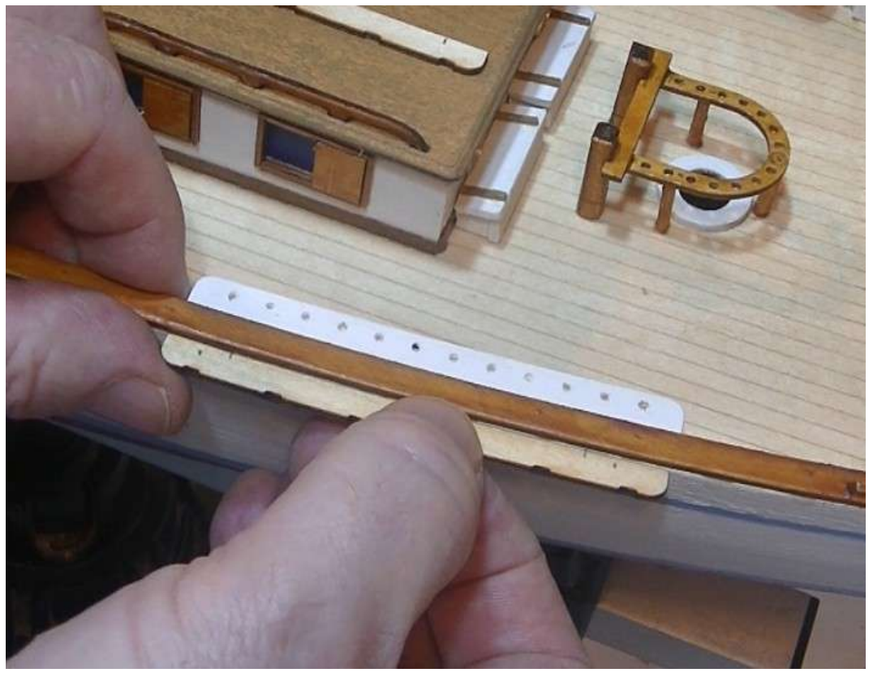


Brigantine
MATTHEW TURNER
SHEET 59

6.14 Pin Rails
Foremast and main mast pin rails in position

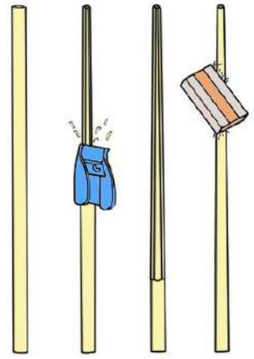
6.15 Channels

Identify the foremast channels P102. Align with the foremast pin rail - align two points with false frames and mark locations on channel as shown - drill 0.7mm holes into edge of channel - glue pins in place - remove heads and drill corresponding locating holes into hull side immediately below cap rail. Trial fit channel - once satisfied paint channel white and glue in position. Identify the main mast channels P103. Align with the main mast pin rail - align two points with false frames and mark locations on channel as shown - drill 0.7mm holes into edge of channel - glue pins in place - remove heads and drill corresponding locating holes into hull side immediately below cap rail. Trial fit channel - once satisfied paint channel white and glue in position.



7.0 Bowsprit & Masts

The next step is to shape and assemble the bowsprit & masts. Refer to the drawings below to shape each part - identify the relevant dowels, blocks and fittings to be used for this stage. The dowels will need to be shaped and tapered. This can be achieved using a mini plane, a file and sandpaper as shown. Once they have all been shaped and tapered paint and stain as indicated. Fit any eye pins, blocks and stirrups as shown. **Do not fit the masts to the model yet.**

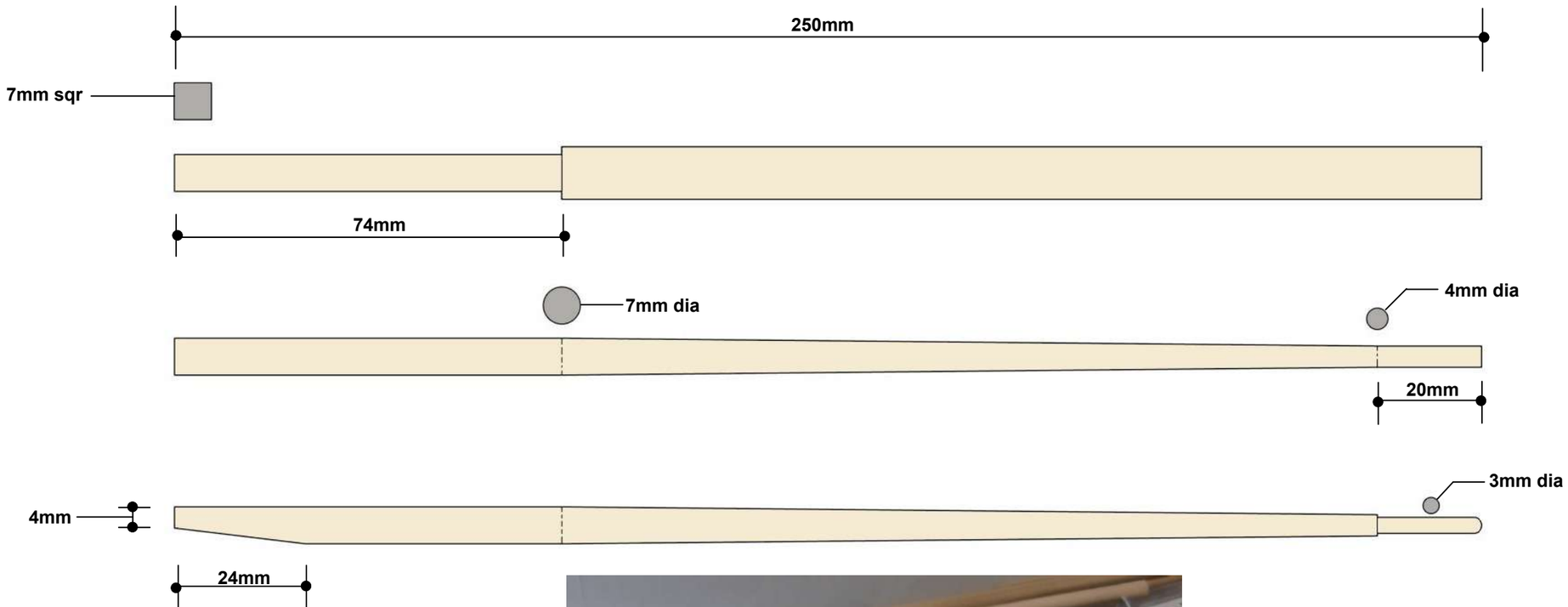


Modellers Shipyard

7.1 Bowsprit

Identify the 10mm dowel P94 - cut and shape the dowel as shown below. Trial fit the as shown - some fractional fitting may be required to fit the bowsprit into the bulwark opening at the top of the stem post.

NOT TO SCALE

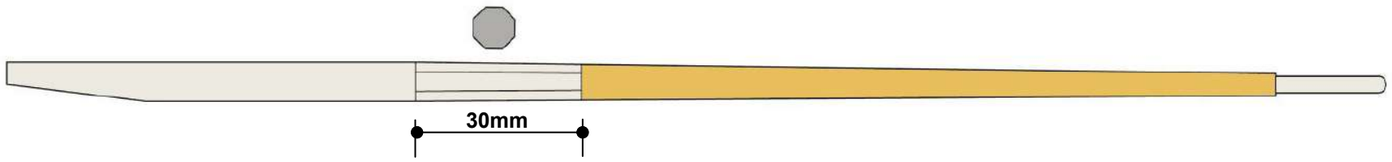


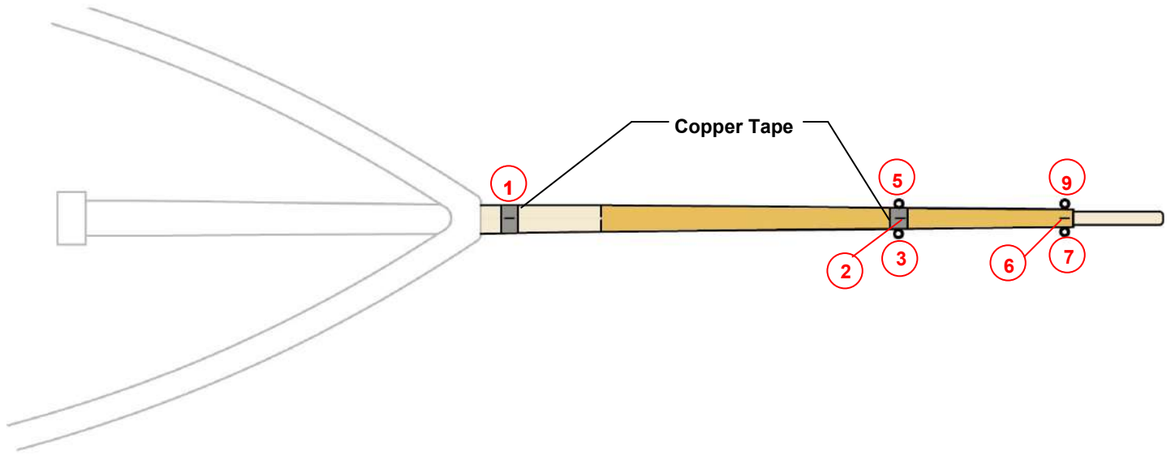
Brigantine
MATTHEW TURNER
SHEET 62

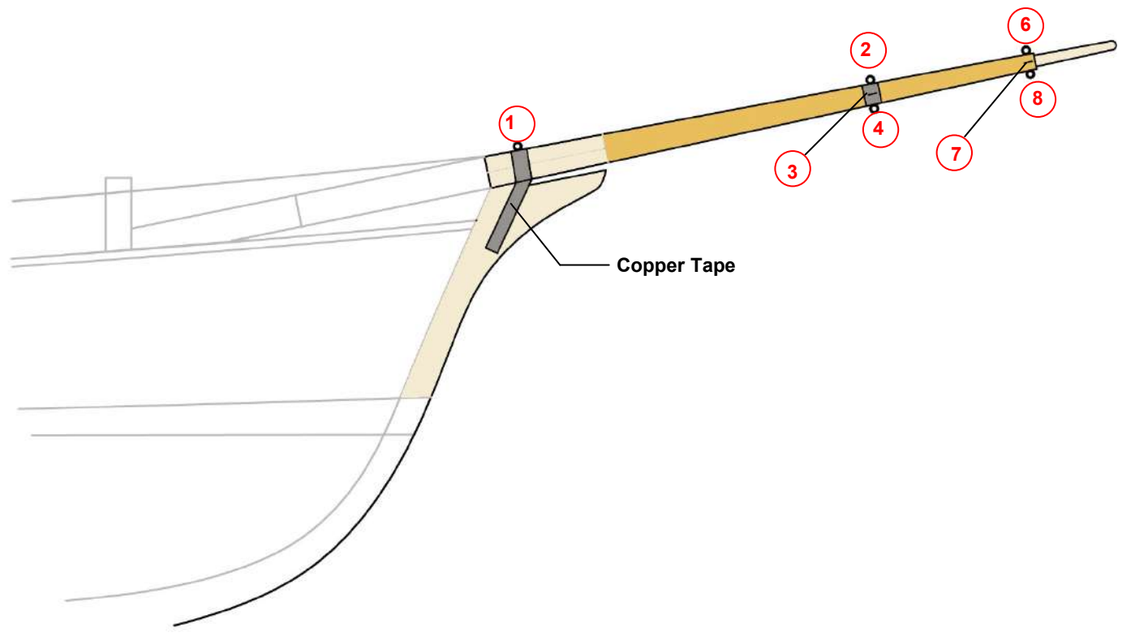
7.1 Bowsprit continued

Measure a distance of 30mm along the bowsprit from where the bowsprit leaves the bulwark opening - shape this area to be octagonal as shown. Paint and shellac the bowsprit as shown. Once dry glue the bowsprit in position as shown. Identify the copper tape P123 - fix in place as shown. Paint grey as shown. Fix eye pins P124 to points 1 to 9 as shown.

NOT TO SCALE







Brigantine
MATTHEW TURNER
SHEET 63

7.2 Anchor Chain, Bowsprit Pin Rail & Belaying Pins

Identify the anchor chain P110 - cut two 100mm lengths. Feed one end of the chain into the front hawse pipe - apply a dab of glue into the pipe to hold the chain in place. Wrap the chain over and under the pulley and down into the rear hawse pipe and apply glue as previously. Repeat for the other side. Indentify the bowsprit pin rail P111 - trial fit in place as shown - fractionally adjust ends to fit snuggly across the bowsprit and under the cap rail as shown. Once satisfied paint white and glue in position. Identify the belaying pins P112 - glue in place into all pin rails as shown.

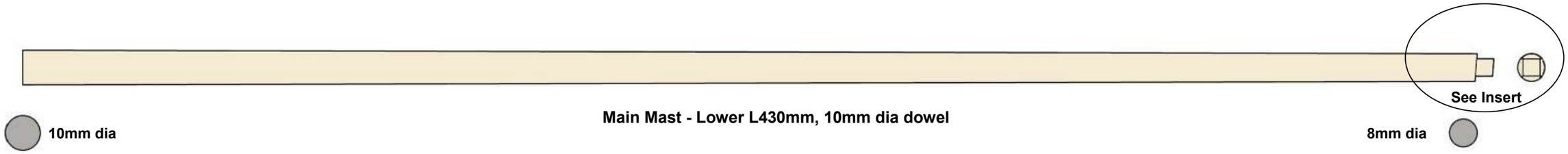
Brigantine
MATTHEW TURNER
SHEET 64

7.3 Main Mast

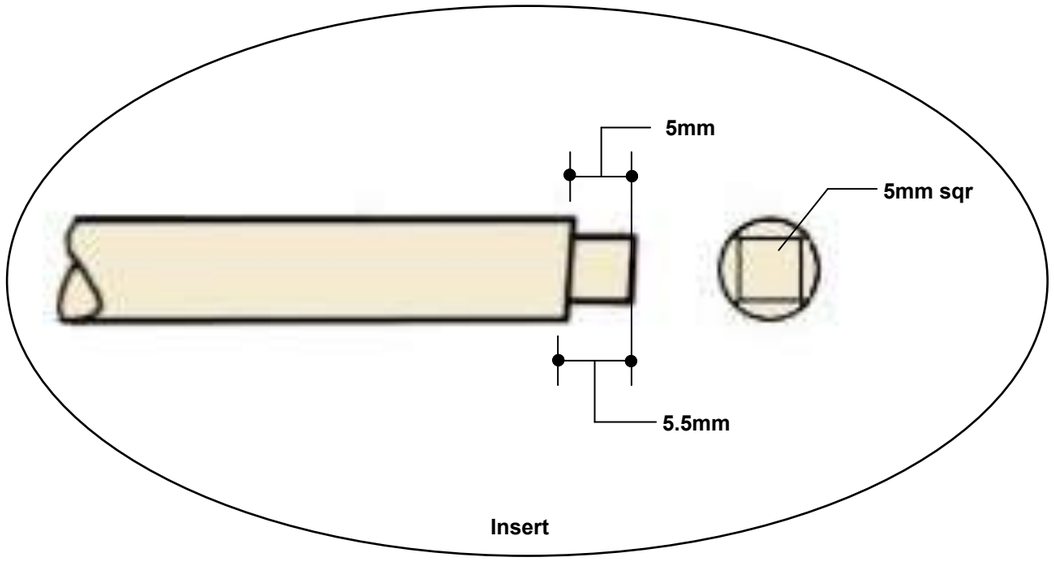
7.3.1 Main Mast - Lower

Identify the 10mm dowel P94 - cut, taper and shape the dowel as shown below. The shaped area at the top of the lower main mast is to accommodate the mast rake of 5 degrees.

NOT TO SCALE



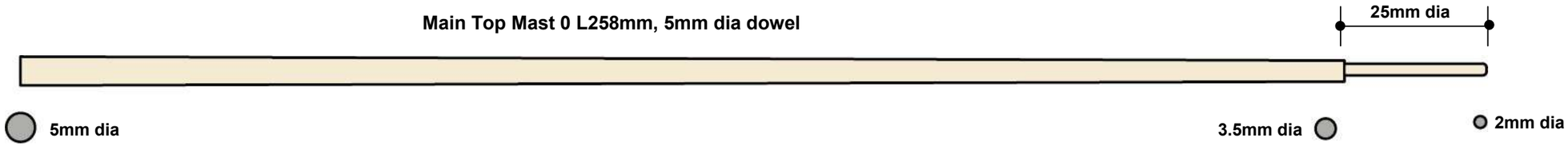
Main Mast - Lower L430mm, 10mm dia dowel



Insert

7.3.2 Main Top Mast Identify the 5mm dowel P113 - cut, taper and shape the dowel as shown below.

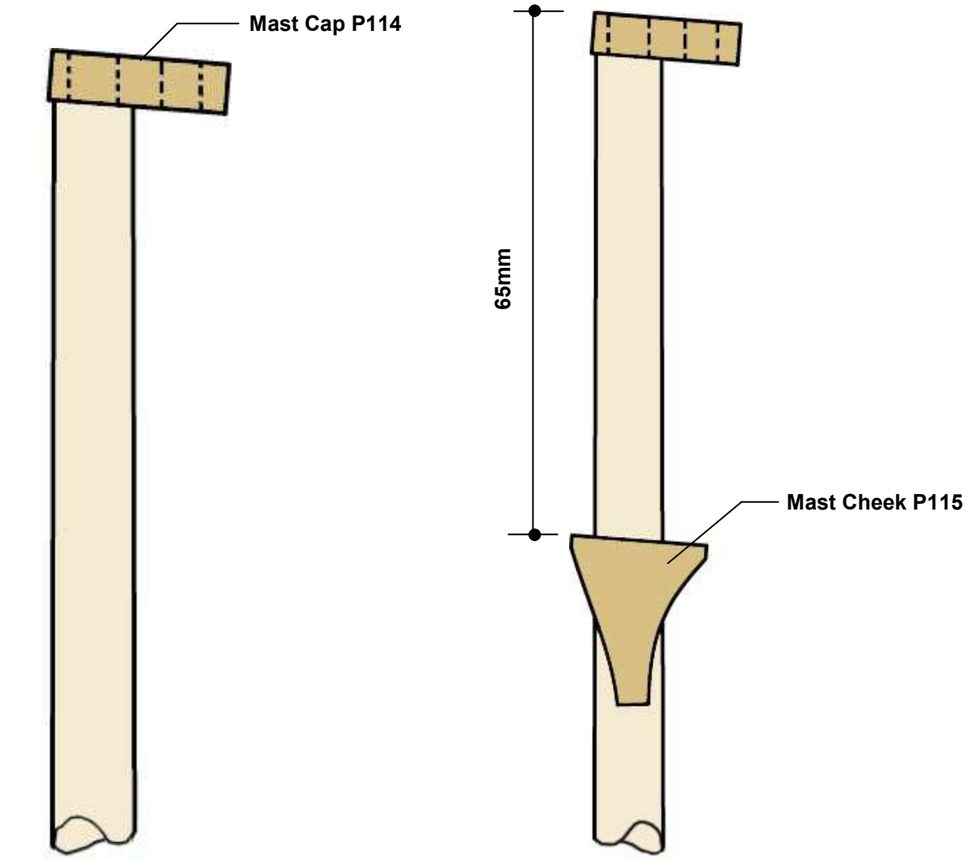
Main Top Mast 0 L258mm, 5mm dia dowel



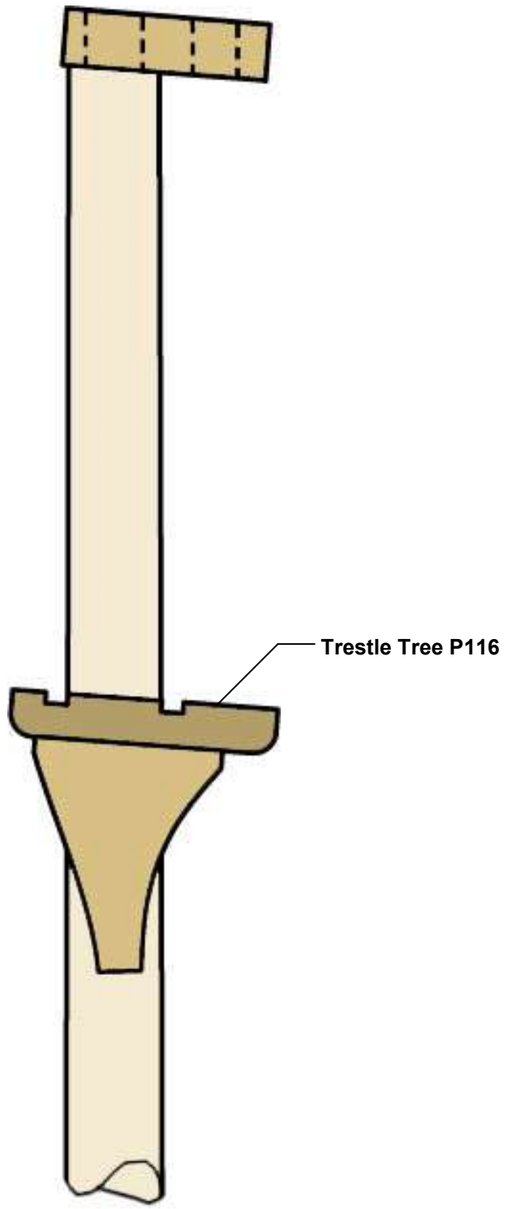
Brigantine
MATTHEW TURNER
SHEET 65

7.3.3 Mast Cap Identify the mast cap P114 - trial fit the to the 5mm square section at top of mast - once satisfied glue in place. Some fractional adjustment of the square hole will be necessary. Also use a small round file to adjust the round hole to be vertical.

7.3.4 Mast Cheeks Identify the mast cheeks P115. Measure 65mm down from the top of the mast cap and mark a line on the mast - ensure this line is parallel with the line of the mast cap. Place the mast cheek in place as shown and mark where the lower side rests on the mast - remove the mast cheek and using a small flat file make a flat surface between these two line approximately 0.5mm deep. Repeat for the other side of the mast. The upper side of the mast cheek is at an angle to accommodate the rack of the mast. Once satisfied glue and pin the mast cheeks in place.



7.3.5 Trestle Trees
Identify the trestle trees P116 - trial fit to the top of the mast cheeks - ensure the two slots align either side of the mast - some fractional adjustment of the mast width and slot may be needed - check using a small length of timber - once satisfied glue each trestle tree in place as shown.



Brigantine
MATTHEW TURNER
SHEET 66

7.3.6 Cross Trees

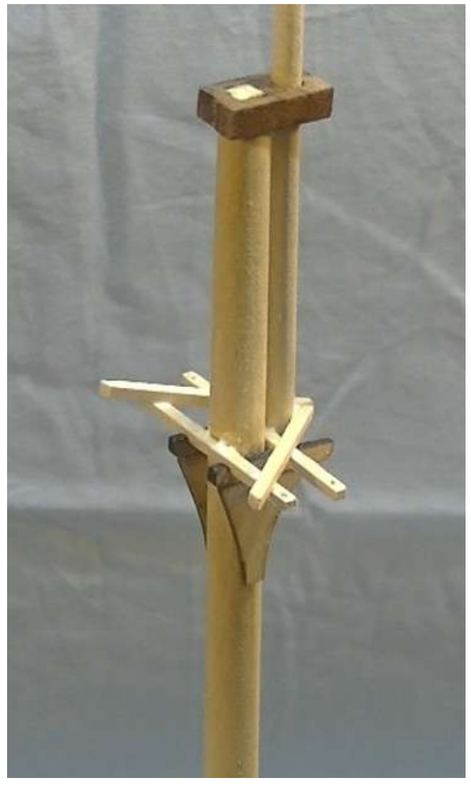
Identify the cross trees P117 - trial fit the two cross trees in place across the trestle trees - make sure they are aligned centrally - once satisfied glue in place as shown.

7.3.7 Fit Main Top Mast

Trial fit the main top mast in place. Adjust the position so that the top of the mast is 186mm above the mast cap - once satisfied glue and clamp in position as shown.

7.3.8 Backstay Spreaders

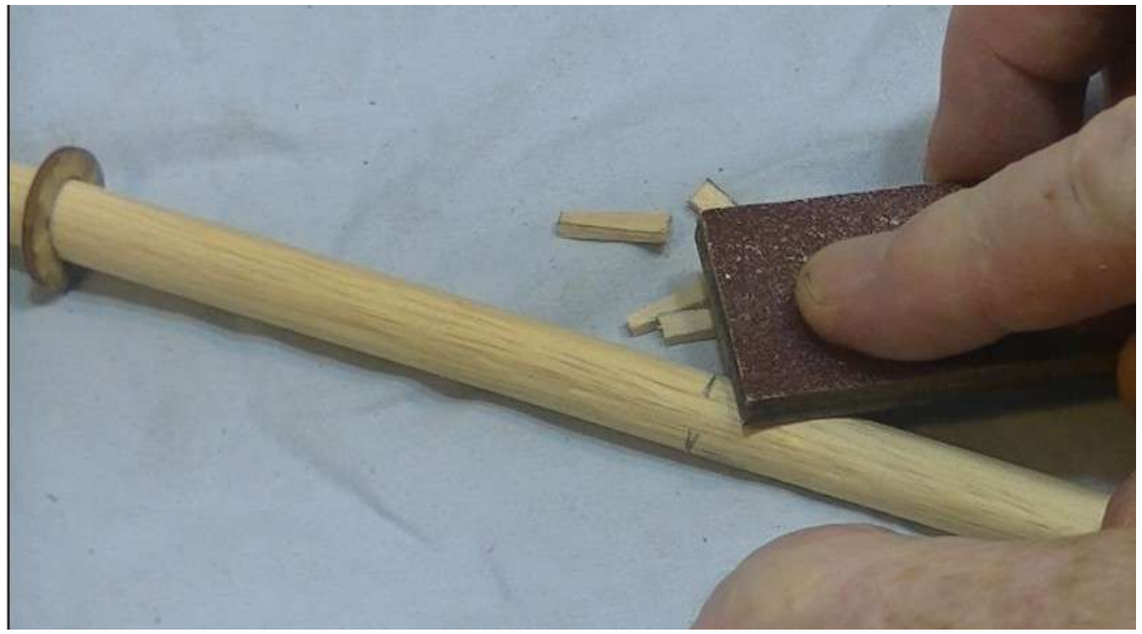
Identify the backstay spreaders P118 - trial fit in place a shown - once satisfied glue in place making sure they are symmetrically placed as shown.



Brigantine
MATTHEW TURNER
SHEET 67

7.3.9 Boom Rest and Supports

Identify the boom rest P119 and the supports P120. Place the main mast on your bench - on the front face measure up 85mm from the bottom of the mast. Repeat this for the rear face and the two sides of the mast. Use a small flat file or sanding block to create a flat surface immediately below each of these marks. Fit the boom rest onto the mast above these markings. Glue the boom rest supports in place at the four marked positions on the mast. Once glue has set glue the boom rest in place as shown.

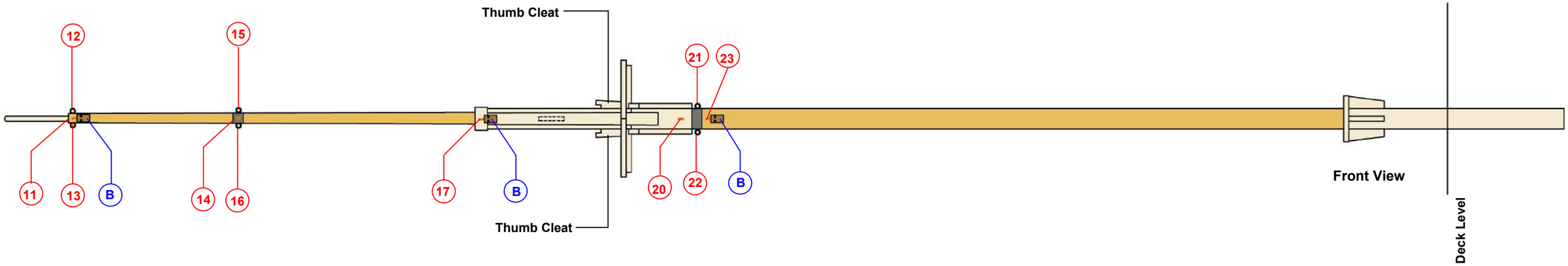


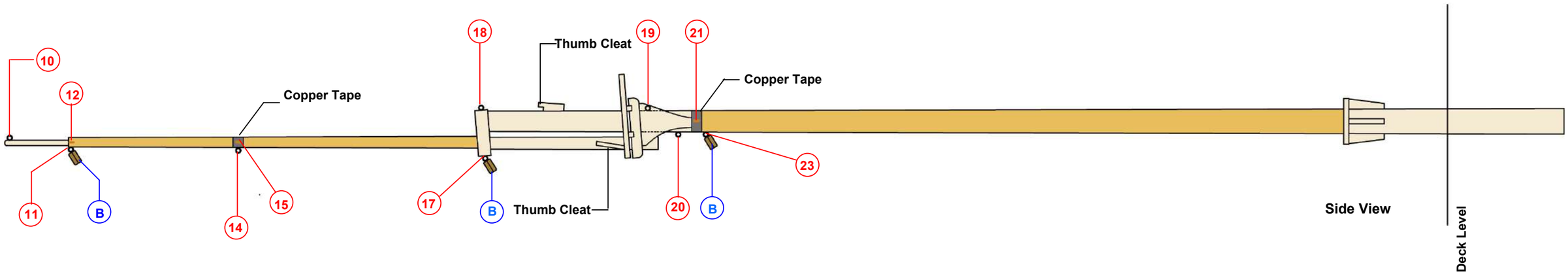
Brigantine
MATTHEW TURNER
SHEET 68

7.3.10 Main Mast Assembled

The assembled main mast is presented in two views below. Paint white and stain with shellac as shown. Identify the thumb cleats P122 - glue to the mast in positions as shown. Identify the copper tape P123 - wrap around the mast at positions shown - glue in position - paint black. Identify eye pins P124 - fix eye pins at points 10 to 23 as shown. Identify block B P125 - attach to eye pins 11, 17 & 23 as shown using cord G. **Do not fit the mast to the model yet.**

NOT TO SCALE





BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

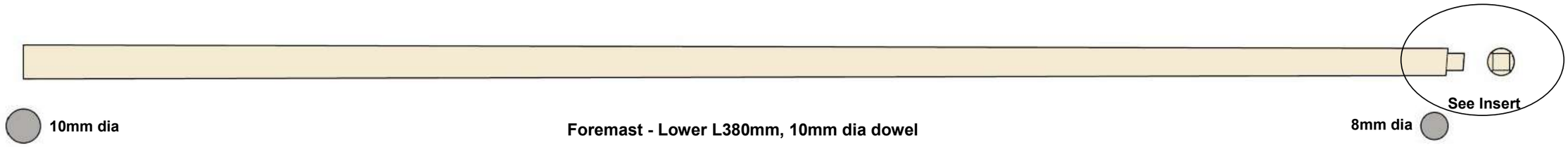
Brigantine
MATTHEW TURNER
SHEET 69

7.4 Foremast

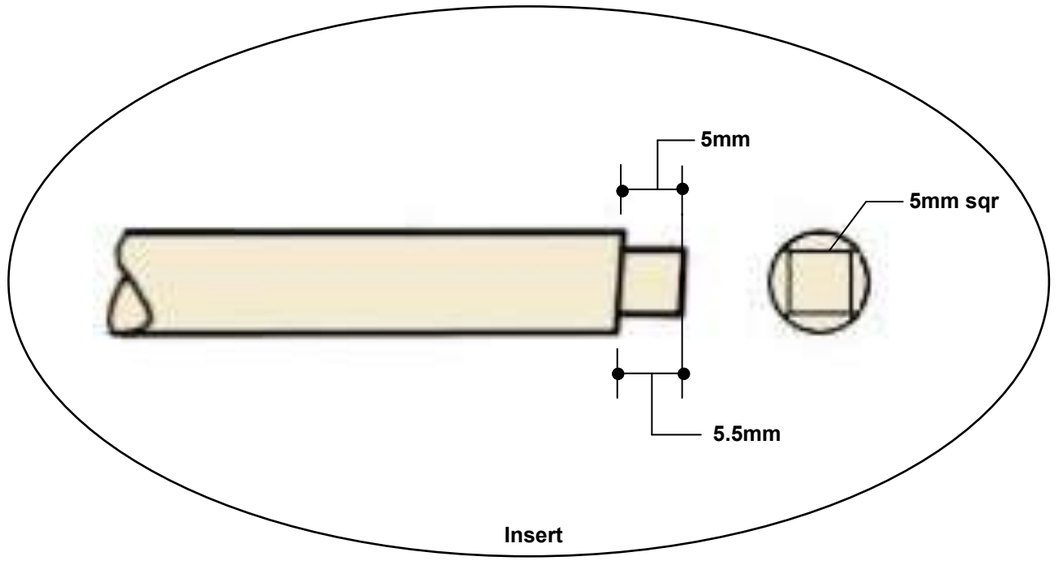
7.4.1 Foremast - Lower

Identify the 10mm dowel P94 - cut, taper and shape the dowel as shown below. The shaped area at the top of the lower foremast is to accommodate the mast rake of 5 degrees.

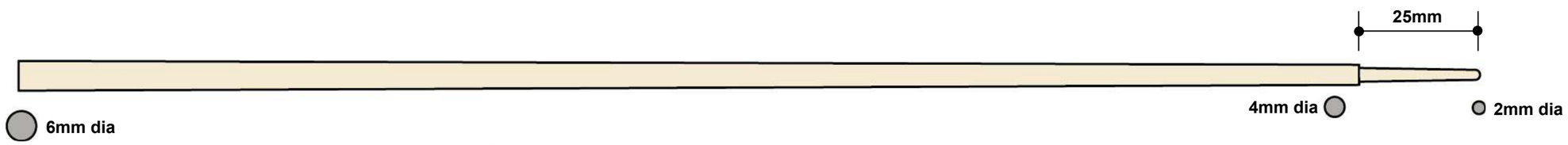
NOT TO SCALE



Foremast - Lower L380mm, 10mm dia dowel



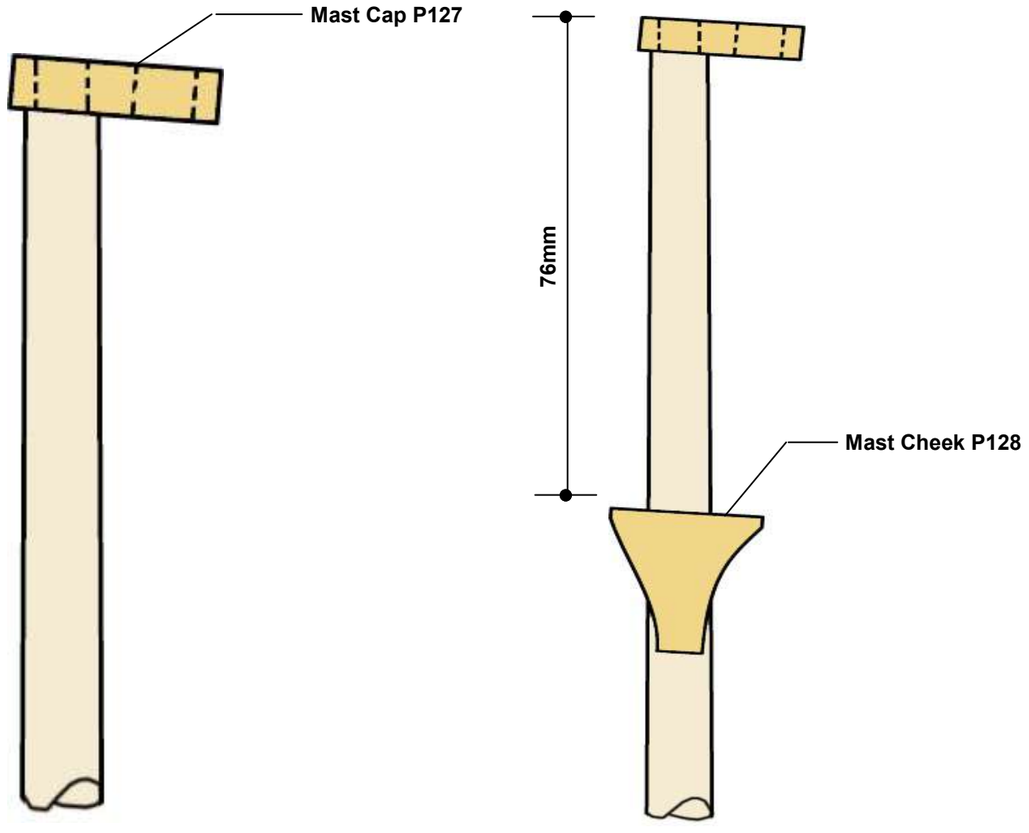
7.4.2 Fore Topmast Identify the 6mm dowel P121 - cut, taper and shape the dowel as shown below.



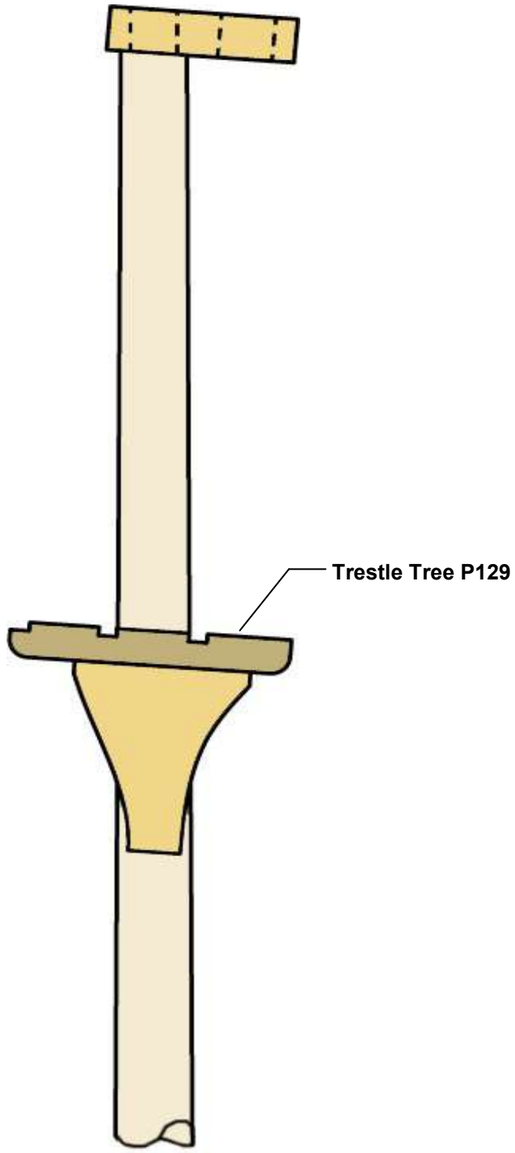
Fore Topmast - L300mm, 6mm dia dowel

7.4.3 Mast Cap Identify the mast cap P127 - trial fit the to the 5mm square section at top of mast - once satisfied glue in place. Some fractional adjustment of the square hole will be necessary. Also use a small round file to adjust the round hole to be vertical.

7.4.4 Mast Cheeks Identify the mast cheeks P128. Measure 76mm down from the top of the mast cap and mark a line on the mast - ensure this line is parallel with the line of the mast cap. Place the mast cheek in place as shown and mark where the lower side rests on the mast - remove the mast cheek and using a small flat file make a flat surface between these two line approximately 0.5mm deep. Repeat for the other side of the mast. The upper side of the mast cheek is at an angle to accommodate the rack of the mast. Once satisfied glue and pin the mast cheeks in place.



7.4.5 Trestle Trees
Identify the trestle trees P129 - trial fit to the top of the mast cheeks - ensure the two slots align either side of the mast - some fractional adjustment of the mast width and slot may be needed - check using a small length of timber - once satisfied glue each trestle tree in place as shown.



Brigantine
MATTHEW TURNER
SHEET 71

7.4.6 Cross Trees
Identify the cross trees P130 - trial fit the three cross trees in place - across the trestle trees as shown - make sure they are aligned centrally - once satisfied glue in place as shown.

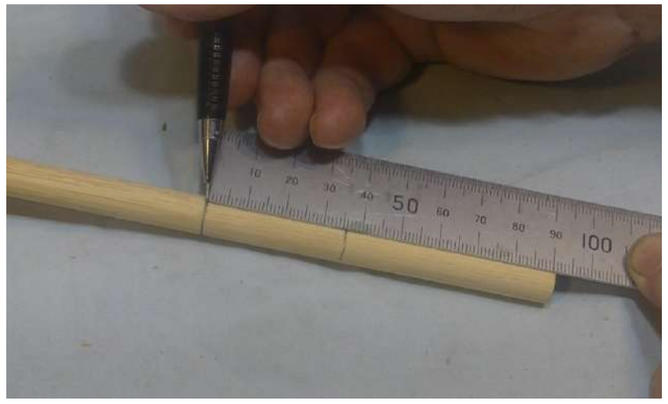
7.4.7 Fit Fore Topmast
Trial fit the fore topmast in place. Adjust the position so that the top of the mast is 215mm above the mast cap - once satisfied glue and clamp in position as shown.

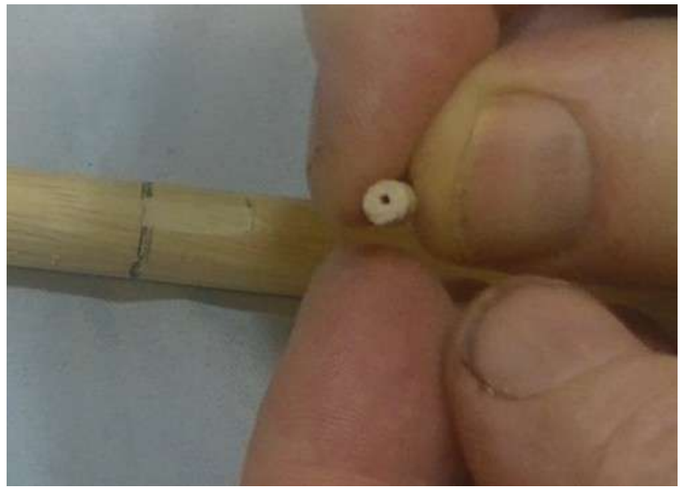
7.4.8 Backstay Spreaders
Identify the backstay spreaders P131 - trial fit in place a shown - once satisfied glue in place making sure they are symmetrically placed as shown.

Brigantine
MATTHEW TURNER
SHEET 72

7.4.9 Goose Neck Saddle

On the foremast measure up from the bottom edge 91mm - mark a line around the mast. On the rear face of the mast use a small flat file to make a flat face 10mm long immediately below the pencil mark as shown. To make the goose neck saddle cut a 10mm length of 4mm dowel P88 - drill a 1mm hole through the centre of the dowel. File one face of the length of this dowel flat as shown. Glue the goose neck saddle in place onto the flat surface on the mast as shown.

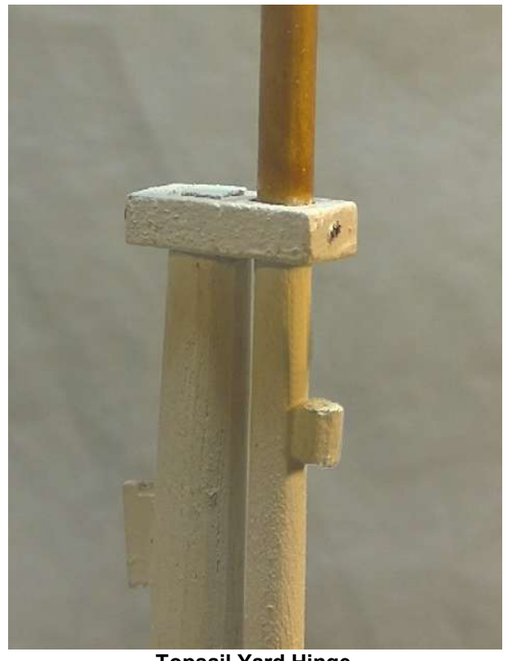




7.4.10 Main Yard & Lower Topsail Yard Truss Hinges

The main yard and topsail yard are attached to the foremast with trusses. The trusses are attached to hinges fixed to the foremast. To make the hinges cut two 5mm lengths of 4mm dowel P88 - drill a 1mm hole through the centre of the dowel. File one face of the dowels flat as shown. Glue the main yard hinge 14mm below the bottom edge of the mast cheeks - see 7.4.11. Glue the topsail yard hinge 16mm below the bottom edge of the mast cap - see 7.4.11

Main Yard Hinge



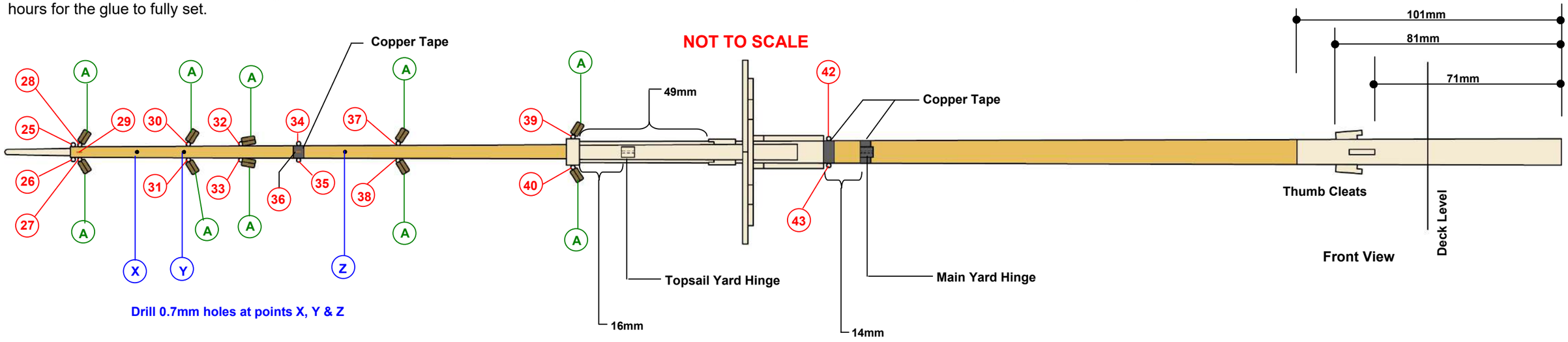
Topsail Yard Hinge

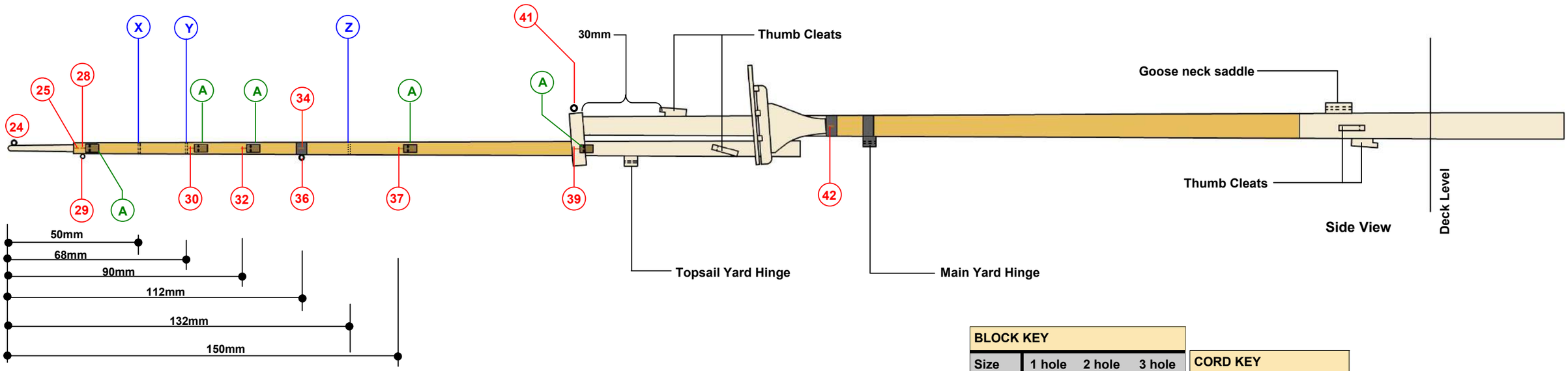
7.4.11 Foremast Assembled

The assembled foremast is presented in two views below. Paint white and stain with shellac as shown. Identify the thumb cleats P122 - glue to the mast in positions as shown. Identify the copper tape P123 - wrap around the mast at positions shown - glue in position - paint black. Identify eye pins P124 - fix eye pins P124 at points 24 to 43 as shown. Drill 0.7mm holes as shown at points X, Y & Z. Identify block A P132 - attach to eye pins 27, 28, 30, 31, 32, 33, 37, 38, 39 & 40 as shown using cord G.

7.4.12 Fit Assembled Masts to Model

Once you have fitted all parts and fittings to the two mast glue each mast in place making sure the mast is seated properly into its keel slot and they are vertical along the bow-stern plane. Allow 24 hours for the glue to fully set.





BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

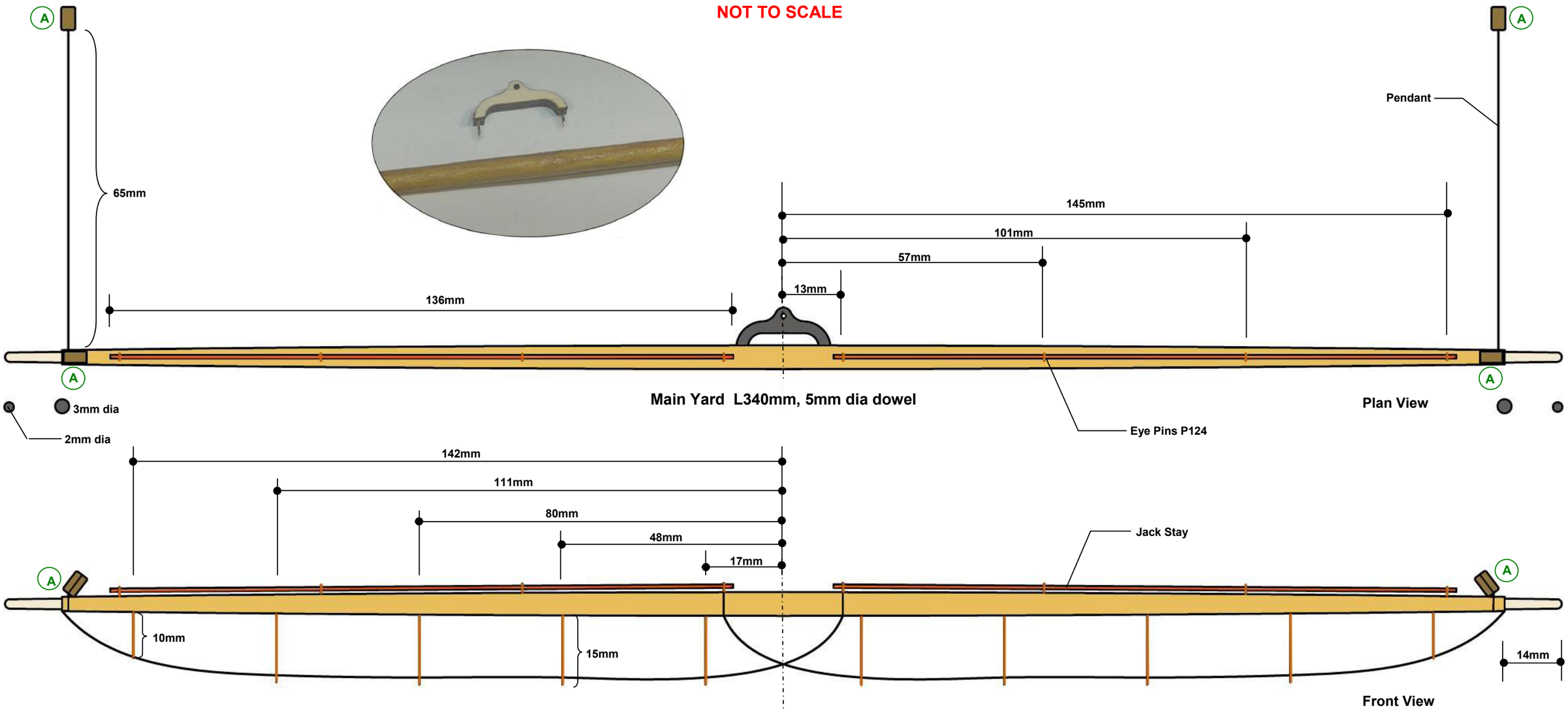
Brigantine
MATTHEW TURNER
SHEET 74

8.0 Yards

The next step is to taper and shape the yards and booms. Taper the dowels as previously described. Once all yards have been shaped and tapered stain with shellac and paint white where shown. Finish by spraying with a clear matt or satin polyurethane finish. Fit all parts and fittings to the yards as presented. Once finished put each yard and boom safely aside to fitted to the model later. As the ship is brigantine rigged the yards are fitted to the foremast only. **Do not fit any yards or booms to the masts yet.**

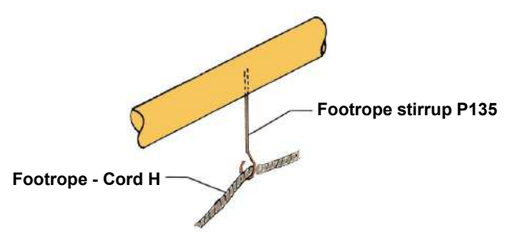
8.1 Main Yard

Identify the 5mm dowel P113. Cut and shape the dowel according to the dimensions given below. Identify the trusses P133 - glue two together. Drill 0.7mm holes into the feet - fix pins as shown - align centrally to yard and mark location - drill holes and glue truss in position - paint black. Fit and fix eye pins P124 as shown. Identify the brass rod P134 - cut two lengths 136mm - as the jack stays - feed through eye pins as shown - apply glue to each eye pin to hold rod in place. Identify the eye pins P135 - fix in place as shown as the footrope stirrups - adjust length as shown. Use cord G as the footropes as shown. Attach blocks A P132 as shown using cord G P126. For the pendants use cord G and attach block A. Set the assembled main yard aside to be fitted to the mast later.



BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

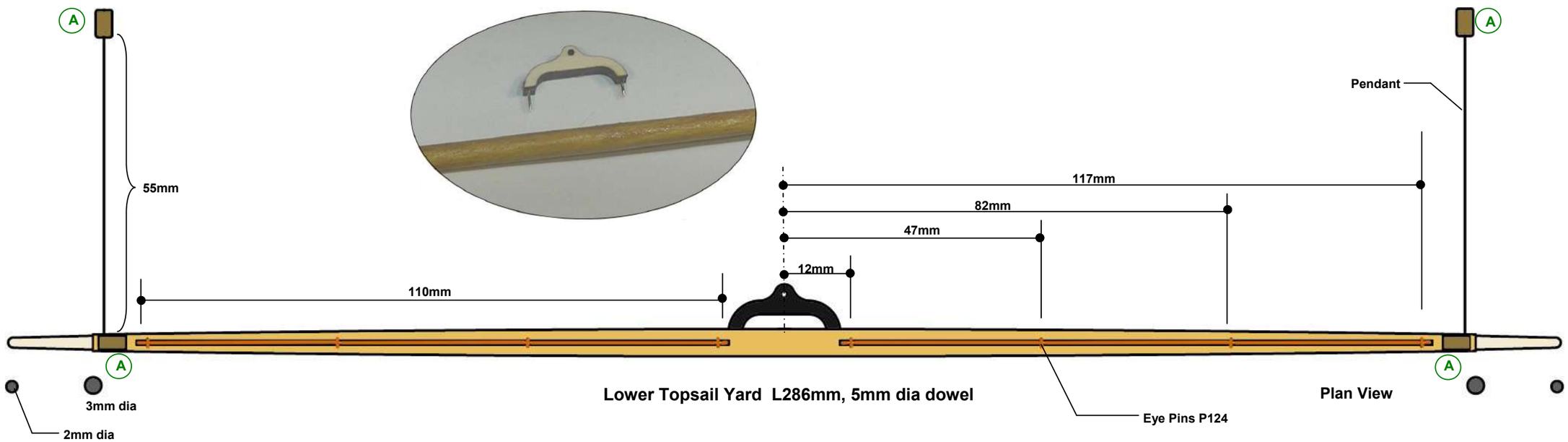


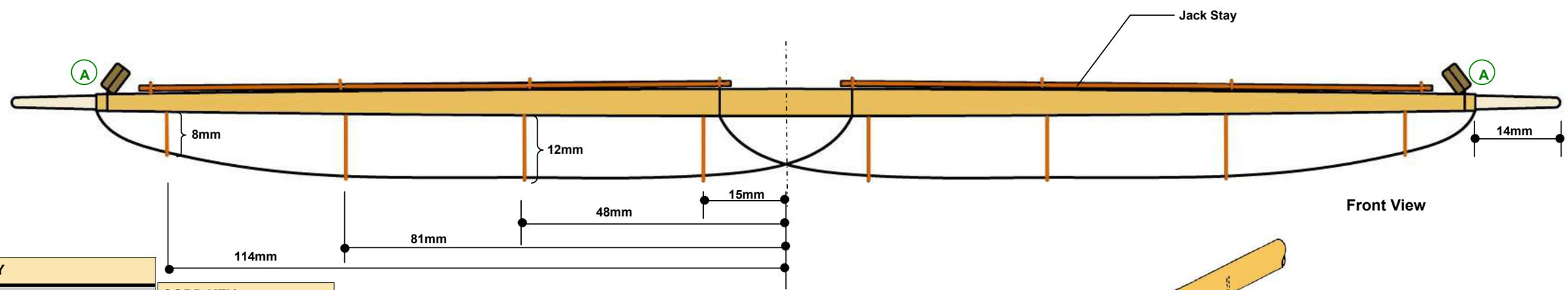
Brigantine
MATTHEW TURNER
SHEET 75

8.2 Lower Topsail Yard

Identify the 5mm dowel P113. Cut and shape the dowel according to the dimensions given below. Identify the trusses P133 - glue two together. Drill 0.7mm holes into the feet - fix pins as shown - align centrally to yard and mark location - drill holes and glue truss in position - paint black. Fit and fix eye pins P124 as shown. Identify the brass rod P134 - as the jack stays - cut two lengths 110mm - feed through eye pins as shown - apply glue to each eye pin to hold rod in place. Identify the eye pins P135 - fix in place as shown as the footrope stirrups - adjust length as shown. Use cord G P126 as the footropes as shown. Attach blocks A P132 as shown using cord G. For the pendants use cord G and attach block A. Set the assembled lower topsail yard aside to be fitted to the mast later.

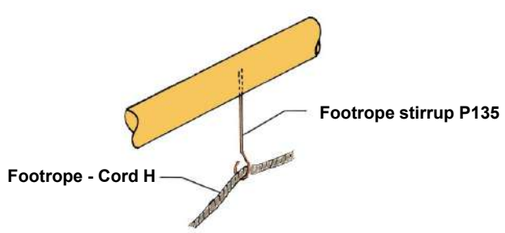
NOT TO SCALE





BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

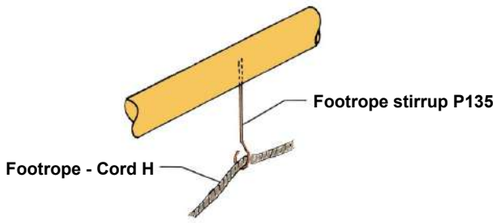
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

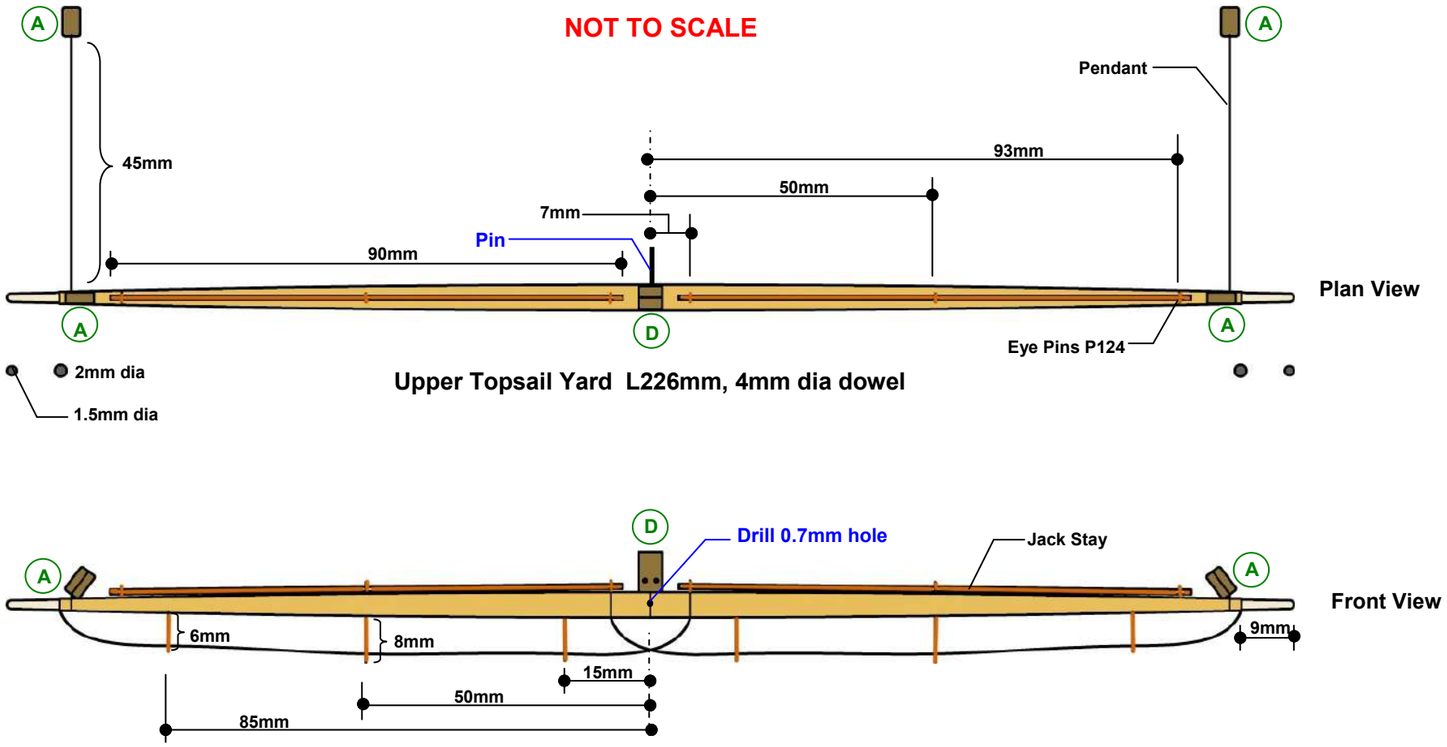


Brigantine
MATTHEW TURNER
SHEET 76

8.3 Upper Topsail Yard

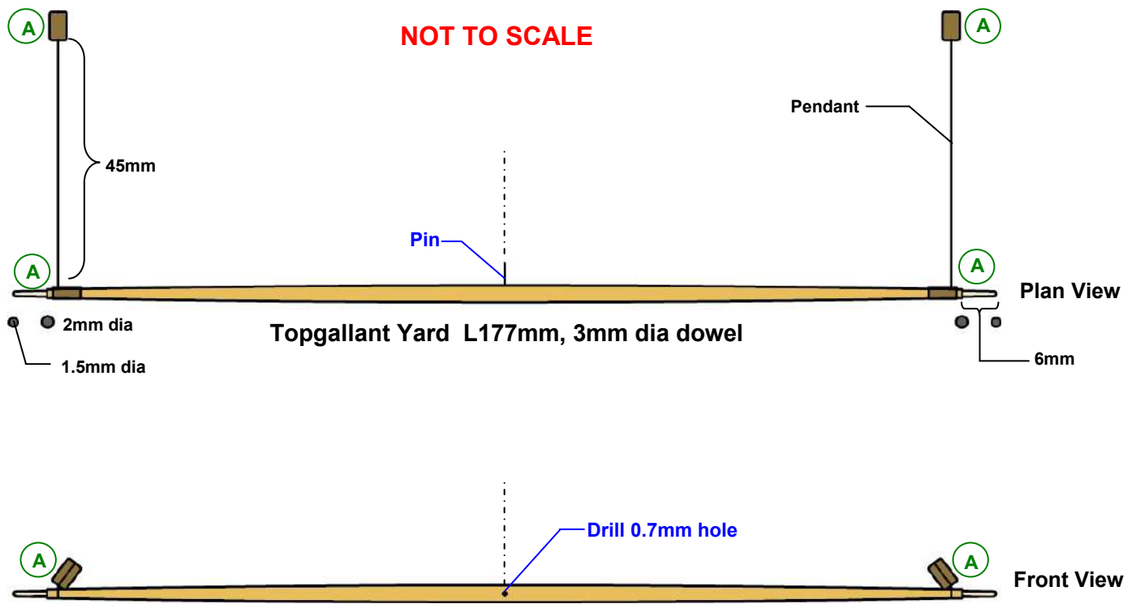
Identify the 4mm dowel P88. Cut and shape the dowel according to the dimensions given below. Drill 0.7mm hole through the yard from the front case - glue a pin into the hole so the pin is projecting from the rear of the yard as shown. Fit and fix eye pins P124 as shown. Identify the brass rod P134 - cut two lengths 90mm - feed through eye pins as shown - apply glue to each eye pin to hold rod in place. Identify the large eye pins P135 - fix in place as shown as the footrope stirrups. Use cord G P126 as the footropes as shown. Attach blocks A P132 as shown using cord G. Attach block D P135 as shown with cord G. For the pendants use cord G and attach block A. Set the assembled upper topsail yard aside to be fitted to the mast later.





8.4 Topgallant Yard

Identify the 3mm dowel P30. Cut and shape the dowel according to the dimensions given below. Drill 0.7mm hole through the yard from the front case - glue a pin into the hole so the pin is projecting from the rear of the yard as shown. Attach blocks A P132 as shown using cord G P126. For the pendants use cord G and attach block A. Set the assembled topgallant yard aside to be fitted to the mast later.



BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

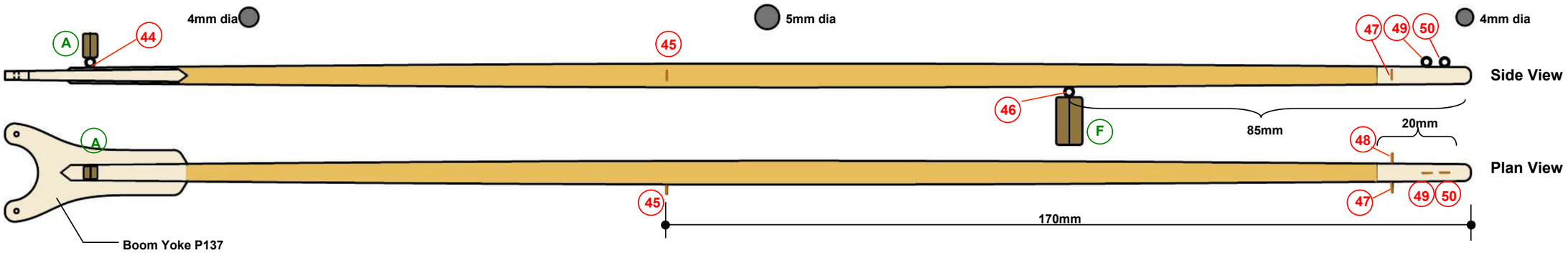
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 77

8.5 Main boom

Identify the 5mm dowel P113. Identify the boom yoke P137. Cut and shape the dowel according to the dimensions given below and to fit the boom yoke - once satisfied glue boom yoke in position. Paint boom white and stain with shellac as shown. Fit & fix eye pins P124 to points 44 to 50 as shown. Attach block A to eye pin 44 as shown using cord G. Attach block F P155 to eye pin 46 as shown using cord G. Set the assembled main mast boom aside to be fitted to the main mast later.

NOT TO SCALE

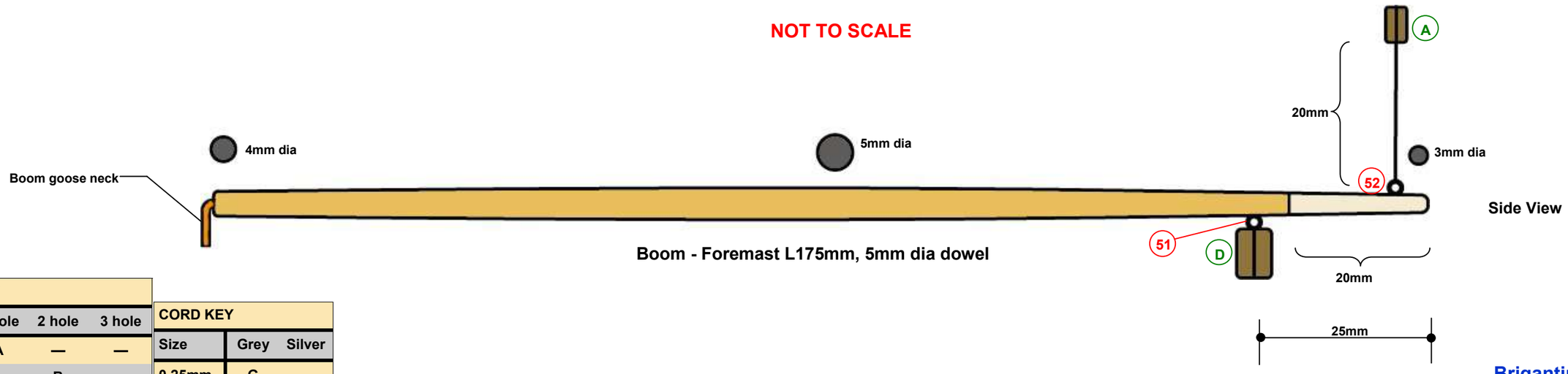


Boom - Main Mast L300mm, 5mm dia dowel

8.6 Staysail Boom

Identify the 5mm dowel P113. Cut and shape the dowel according to the dimensions given below. Paint white and stain with shellac as shown. Drill a 1mm hole into the centre of the 4mm end of the boom. To make the boom goose neck identify the 1mm brass wire P32 - cut a 15mm length - bend as shown and glue into previously drilled hole. Fit & fix eye pins P124 to points 51 & 52 as shown. Attach block D P135 to eye pin 51 as shown using cord G. Attach block A to a 20mm length of cord G and attach to eye pin 52.Set the assembled foremast boom aside to be fitted to the main mast later.

NOT TO SCALE



Boom - Foremast L175mm, 5mm dia dowel

BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 78

9.0 Rigging

9.1 Types of Rigging

The rigging of a ship can be divided into two main parts:
1. “Standing” rigging is used to support the masts and bowsprit.
2. “Running” rigging is used to manipulate yards and sails through pulley blocks.

The standing rigging is silver - two sizes are used 0.5mm and 0.7mm.
The running rigging is grey - two sizes are used 0.25mm and 0.5mm.

9.2 Preparation for Rigging

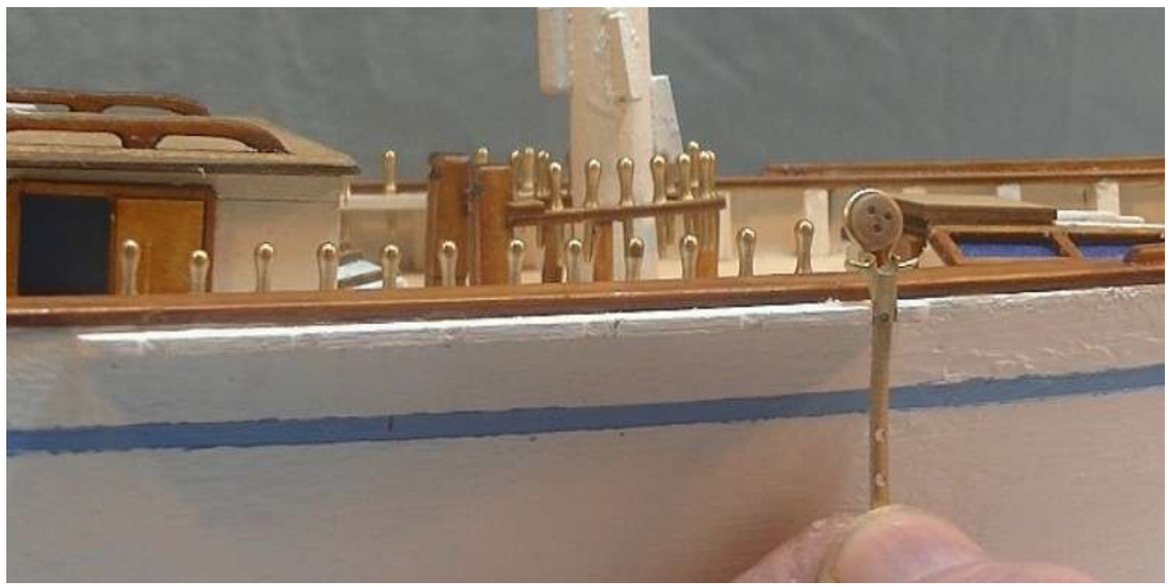
If needed drill out the holes in the blocks and deadeyes to facilitate the threading of the rigging cord when the time comes. For the most inaccessible blocks, insert a short piece of thin rigging cord through the hole and glue it to itself forming a loop. Later, when you wish to insert the permanent rigging you cut the loop, glue the new cord to one end and pull it through the hole using the other end of the pilot cord.

There are a few points to remember when rigging.

- Never cross rigging lines with each other.
- Never run rigging lines on the forward side of the yards.
- Never bend rigging lines around obstacles.
- Never run rigging lines through ratlines.
- Never make knots in rigging lines.
- Seize knots at tie-off points with white wood glue.

9.3 Deadeye Chain Strap Assembly

Deadeye chain straps are fixed to the channel and side of the hull. The lower deadeyes of the shrouds are attached to the straps. Identify the brass wire 0.7mm P141, chain strap P142 , 5mm deadeye P143 and brass nails P144. Assembling the chain straps is tedious - take your time. Cut a 30mm length of the brass wire. Use pointed nose pliers to open out the flaps on the top of the chain strap as shown. Next fold the wire around the deadeye and bend the ends out as shown. Manipulate the wire ends into the two holes in the flaps - fiddly to do - once achieved use the pliers to close the flaps. Use side cutter pliers to snip-off the excess wire to achieve the deadeye chain strap assemble. Make sure the deadeye is positioned so that the centre hole of the deadeye is the lowest of the three. Apply a dab of glue to the lower part of the deadeye to hold it in place. Make a total of 22 of the deadeye chain strap assemblies. To fix the assembly to the channel hold it in place in the channel slot and mark and drill a 0.7mm hole into the edge of the channel - apply glue to a nail P144 and insert to hold the top of the strap in place as shown. **Do not attach the rest of the strap to the hull yet as we need to determine the shroud extension angle -** this will be done later. Fit & fix all chain straps to the channels as shown.

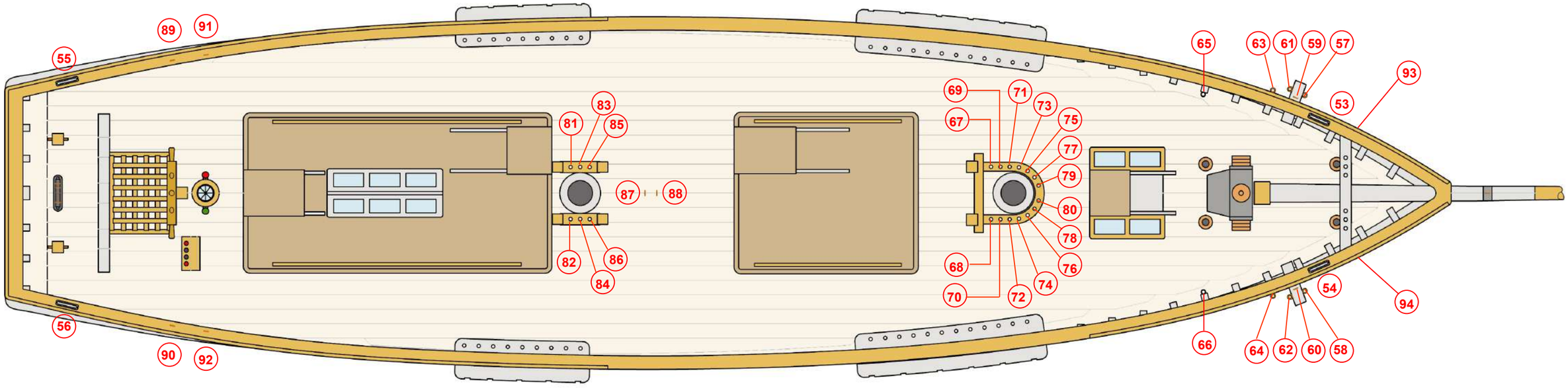


Brigantine
MATTHEW TURNER
SHEET 79

9.4 Belaying Plan

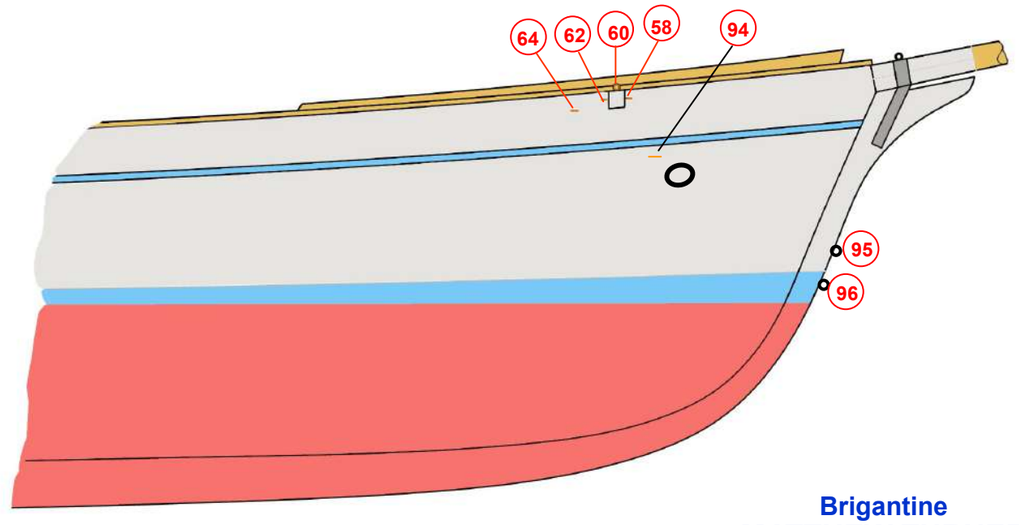
Examine the belaying plan below carefully - reference will be made to this plan during the rigging process.
Fit cleats P138 at points 53, 54, 55 & 56
Fit eye pins P124 to points 57 to 66 & 87 to 96.
Attach block C P139 to point 87.

NOT TO SCALE



BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K



Brigantine
MATTHEW TURNER
SHEET 80

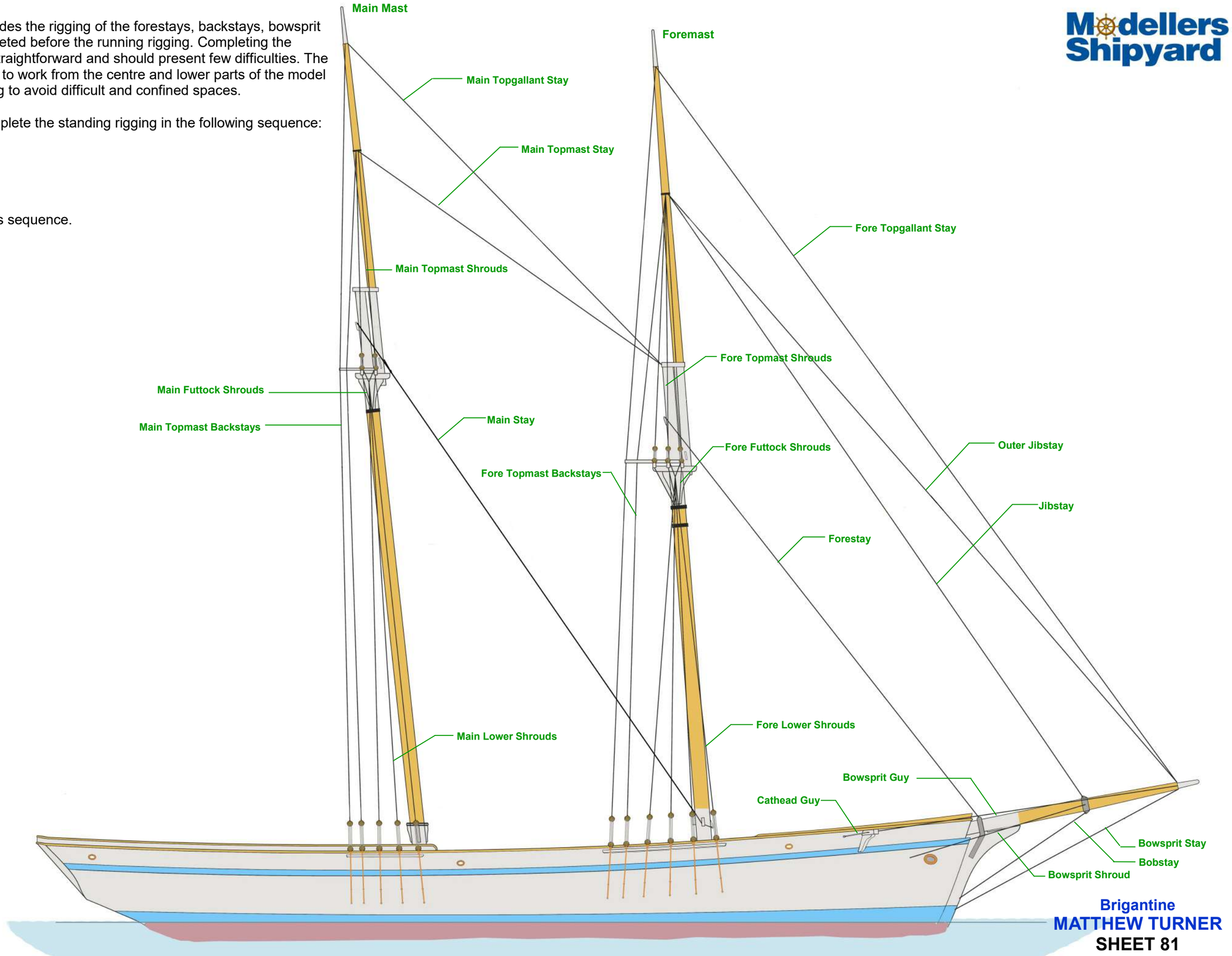
10.0 Standing Rigging

The standing rigging includes the rigging of the forestays, backstays, bowsprit and shrouds and is completed before the running rigging. Completing the standing rigging is fairly straightforward and should present few difficulties. The “golden rule” for rigging is to work from the centre and lower parts of the model and work up and out trying to avoid difficult and confined spaces.

It is recommended to complete the standing rigging in the following sequence:

1. Forestays
2. Bowsprit
3. Shrouds
4. Backstays

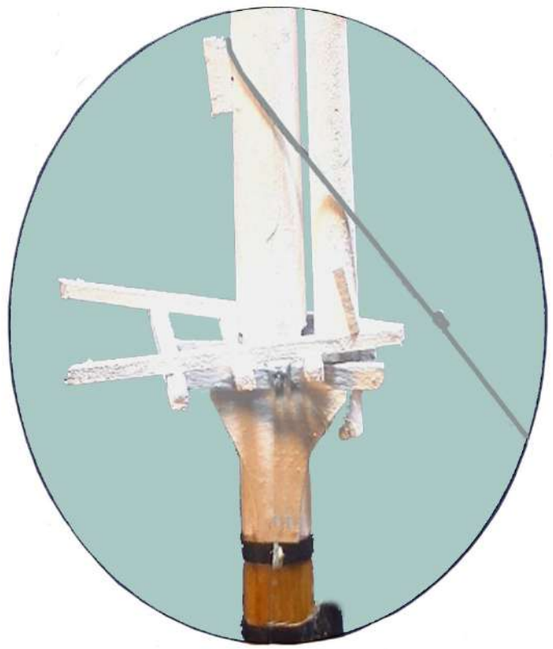
The instructions follow this sequence.

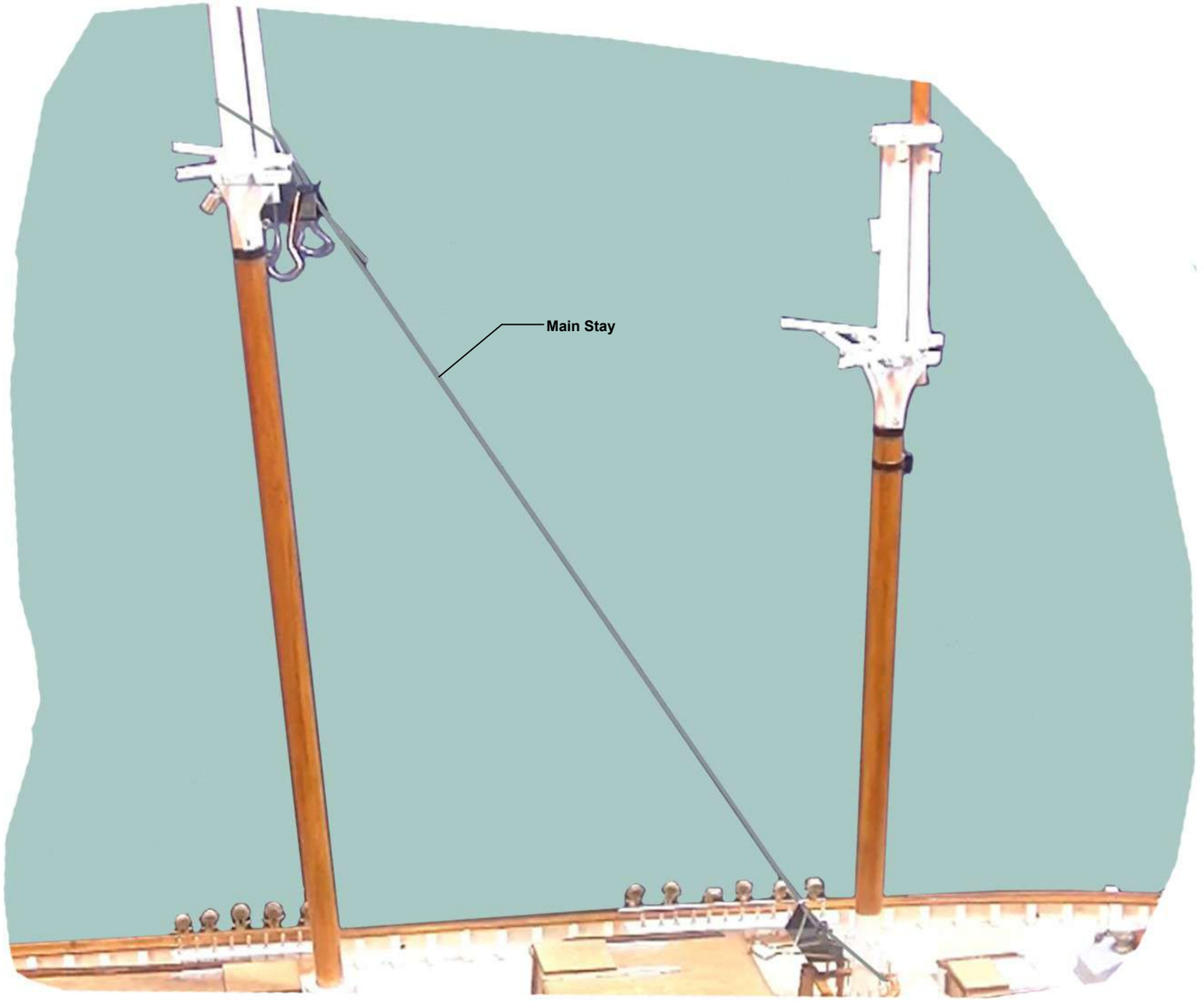


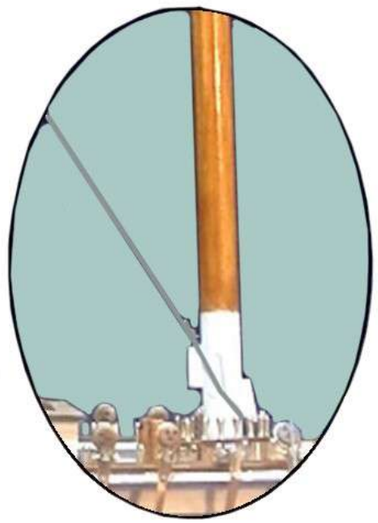
Brigantine
MATTHEW TURNER
SHEET 81

10.1 Forestays
10.1.1 Main Stay

Cut a length to cord K to run from the main mast head to the base of the foremast as shown being wrapped around the thumb cleats as shown - tie-off as shown.





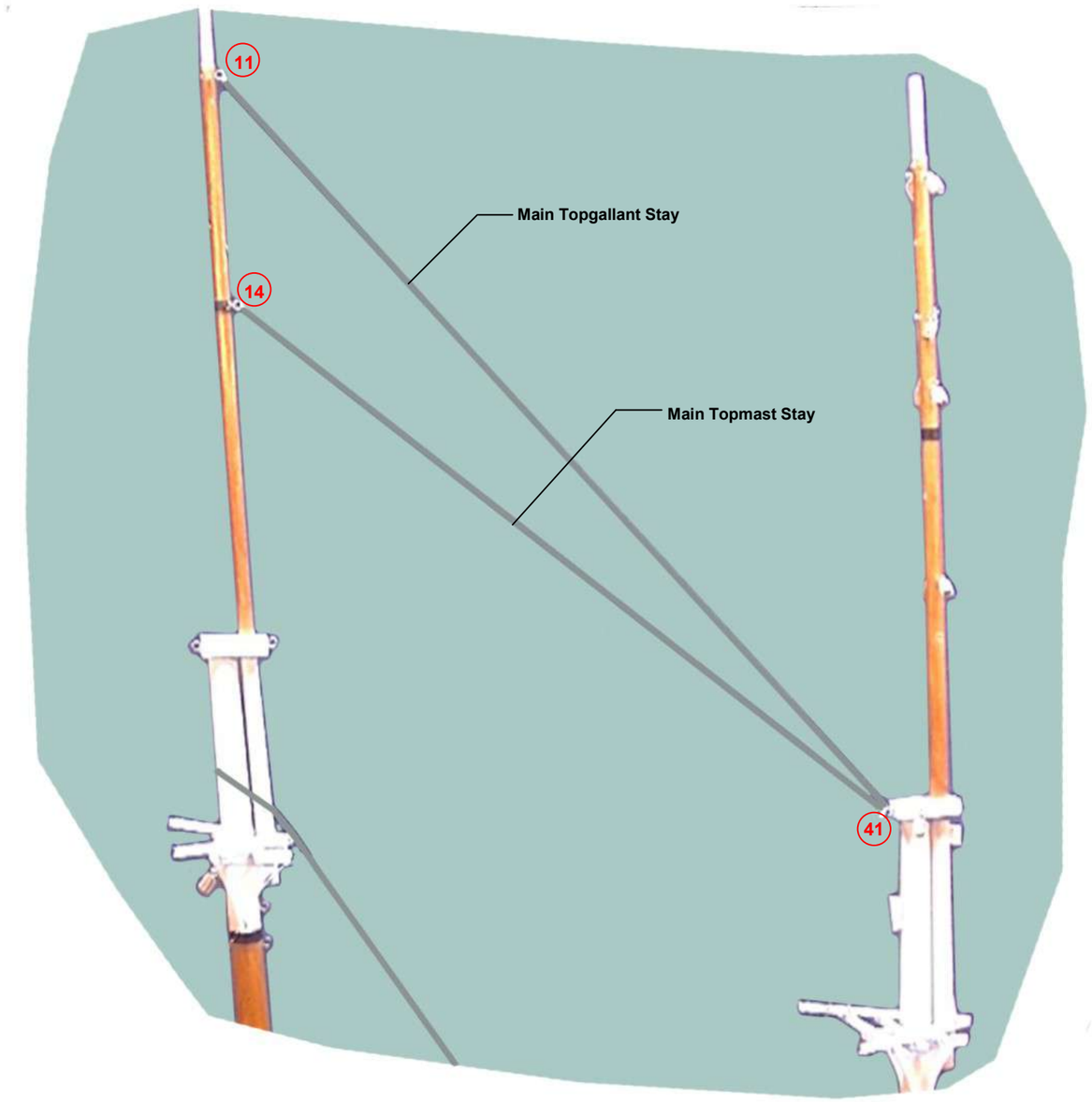


CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 82

10.1.2 Main Topmast Stay & Main Topgallant Stay

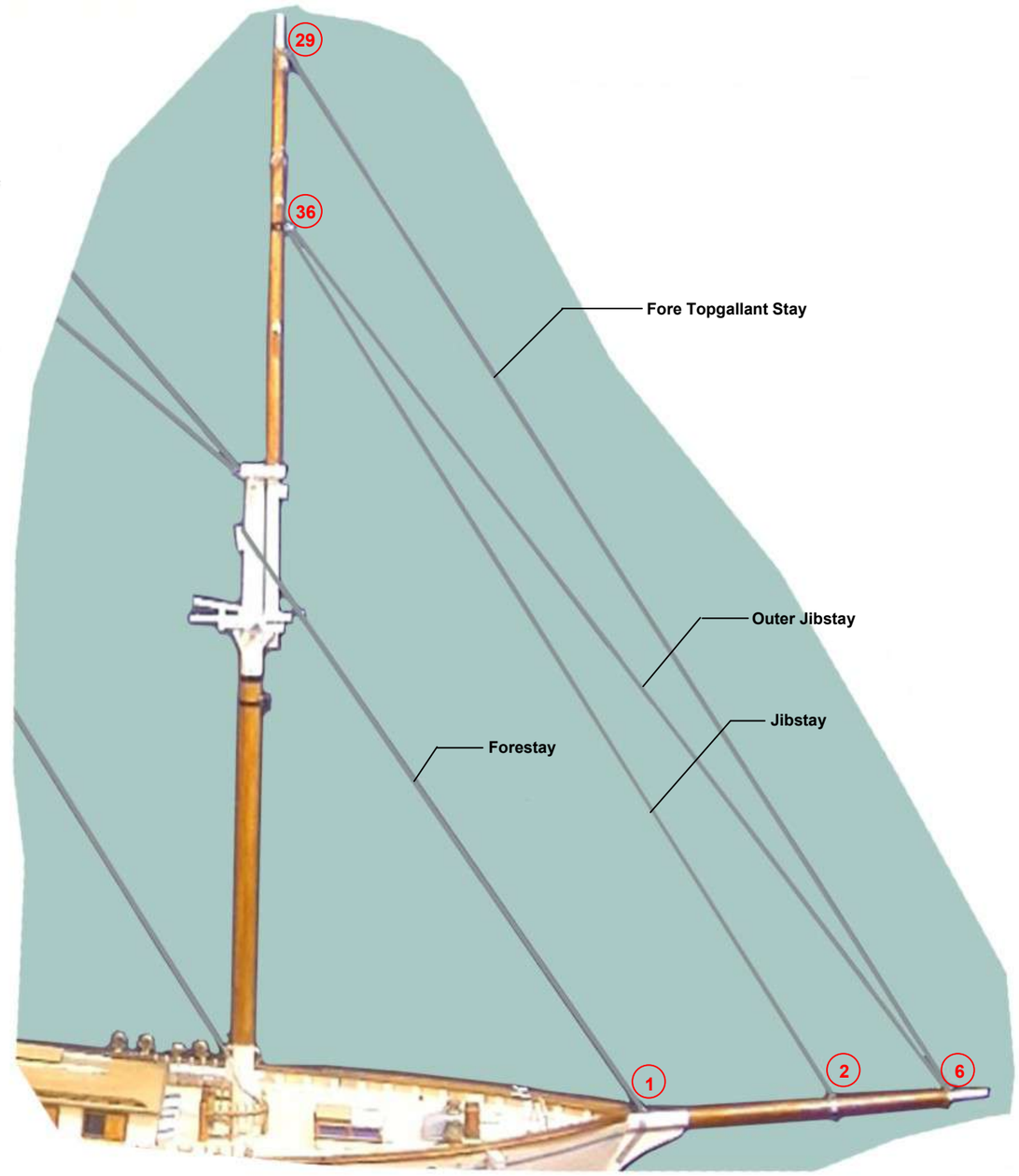
Use cord K for each stay. Run cord between points as shown.



CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

10.1.3 Fore Stay, Jibstay, Outer Jibstay and Fore Topgallant Stay

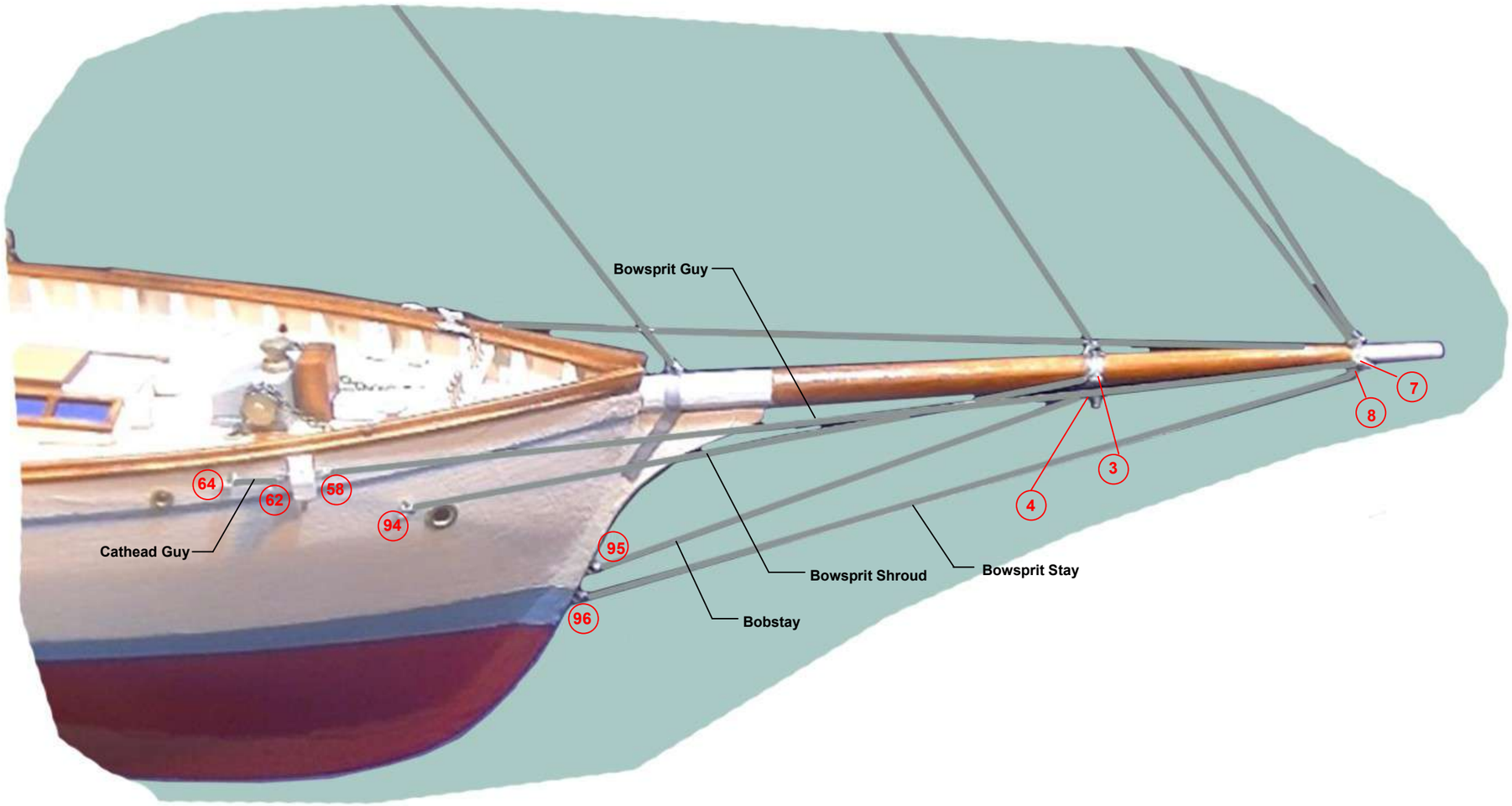
Use cord K for each stay. Forestay - run cord over thumb cleat to point as shown.
For remaining stays run cord between points as shown.



Brigantine
MATTHEW TURNER
SHEET 83

10.2 Bowsprit Shrouds, Bowsprit Guys, Cathead Guy, Bowsprit Stay & Bobstay

Use cord K. Run cord between points as shown. Repeat for corresponding points on other side of hull.



CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

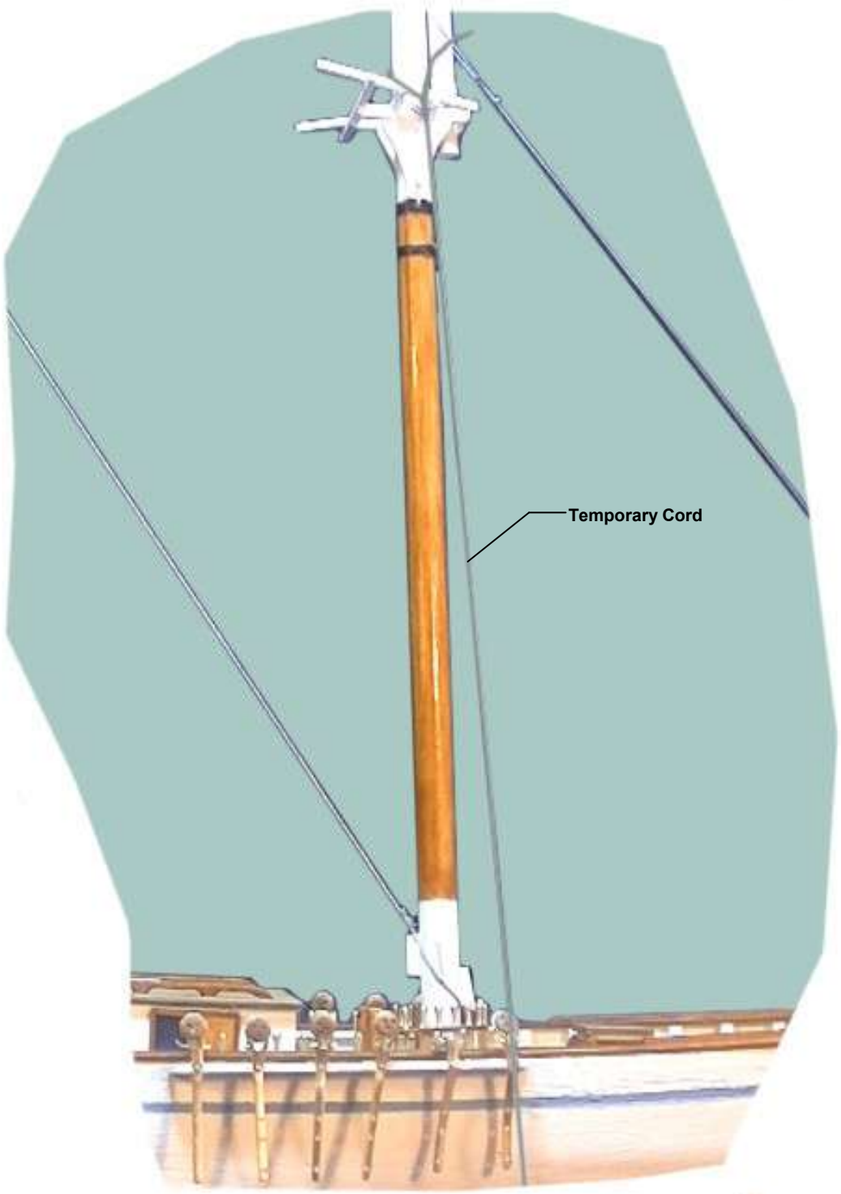
Brigantine
MATTHEW TURNER
SHEET 84

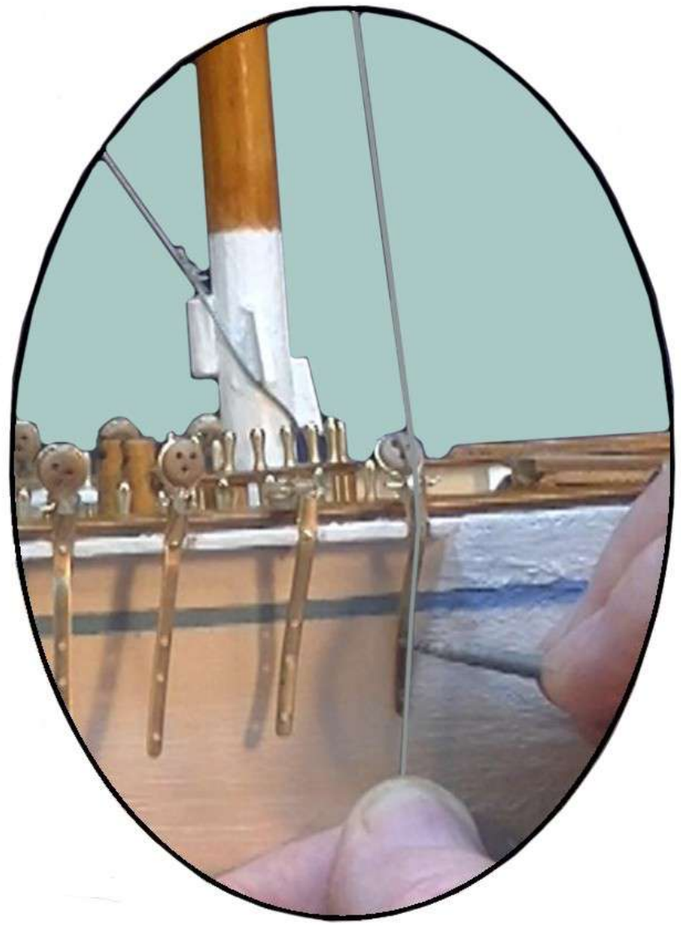
10.3 Shrouds

10.3.1 Shroud Extension Angle

The deadeye chain straps need to be fitted to the side of the hull as an extension of the angle of the shrouds. Before fixing the chain straps to the side of the hull we need to determine this extension angle for each shroud. To achieve this follow the steps below:

1. Temporarily attach a length of rigging cord from the mast head down to below the channel as shown.
2. Align the chain strap with the angle of the cord - push the strap onto the hull and mark the location of its fixing holes.
3. Drill 0.7mm holes into the hull at these points
4. Apply a dab of glue to a nail P114 and push home at each fixing point.
5. Repeat for each chain strap.



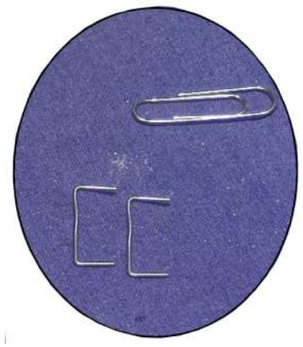


10.3.2 Lower Shrouds

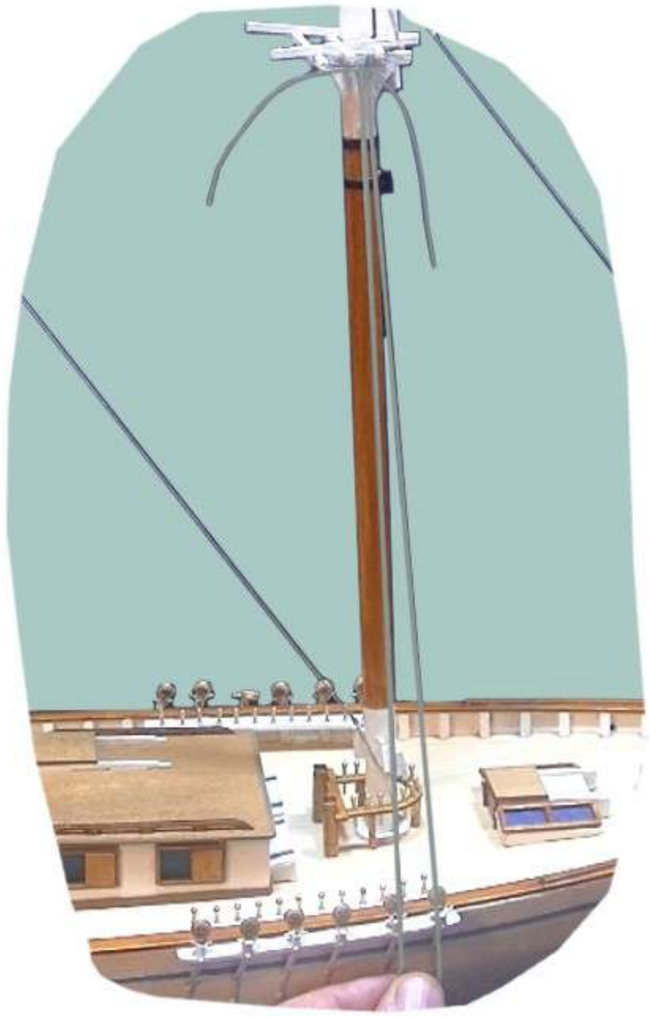
The shrouds are made up in pairs with a deadeye attached to the end of a single cord. To ensure all the upper deadeyes are parallel with their respective lower deadeye attached to the chain strap we use a wire jig - to make the jig straighten a paper clip and use pliers to bend one end at a right angle - bend the second end so that the gap is 15mm as shown - make two jigs.

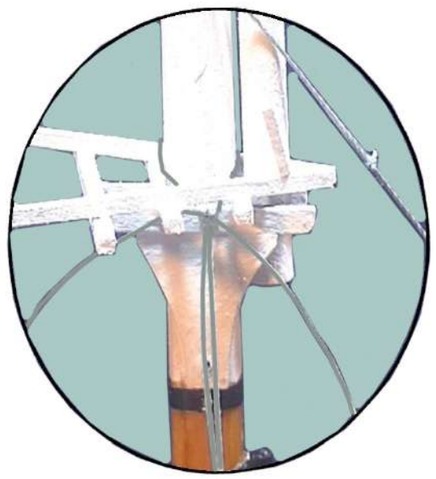
On the foremast starboard side fit the first pair of shrouds by cutting a piece of cord K P145 to a length long enough to go from the channel to the mast head twice with approximately 50mm over-hang. Tie-off the cord at the mast head as shown. Fit the jigs to the lower deadeyes and attach the upper deadeye P143 to the jigs as shown. Run the cord around the upper deadeye and clamp as shown. Use cord H to seize the shroud cord at the top of the deadeye - apply a dab of glue as shown. Make sure the centre hole of the upper deadeye is the highest of the three. Wrap the loose end of the cord back on itself four to five times - tie-off and apply a dab of glue - trim-off excess cord. Remove the jigs. Repeat this process for the second shroud on the starboard side.

Once the first pair of starboard shrouds has been completed, the exercise is repeated on the port side, then back to the starboard side and so on. Successive shrouds overlap the previously fitted shrouds at the mast head.



Deadeye Wire Jig





CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 86

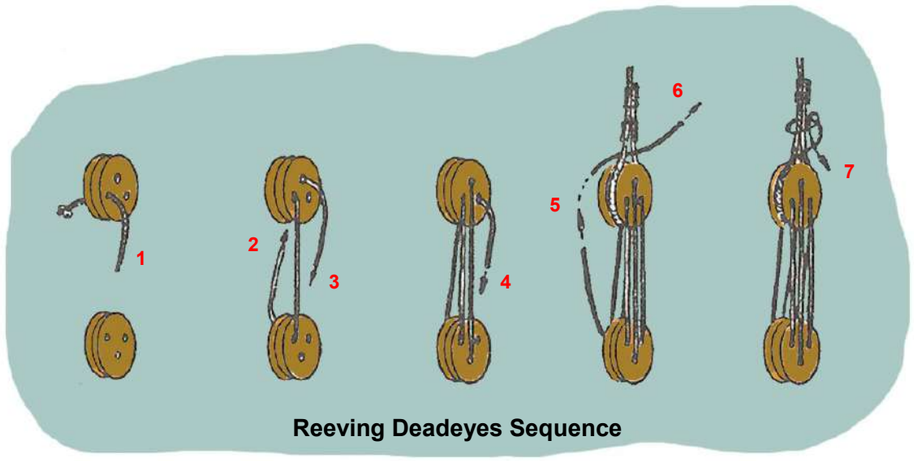
10.3.2 Lower Shrouds - continued

The next step is to reeve the lower and upper deadeyes together. The lanyards are the cords that tie (reeve) the upper and lower deadeyes together and are used to tension the shrouds. Use cord H P146 and reeve as shown.

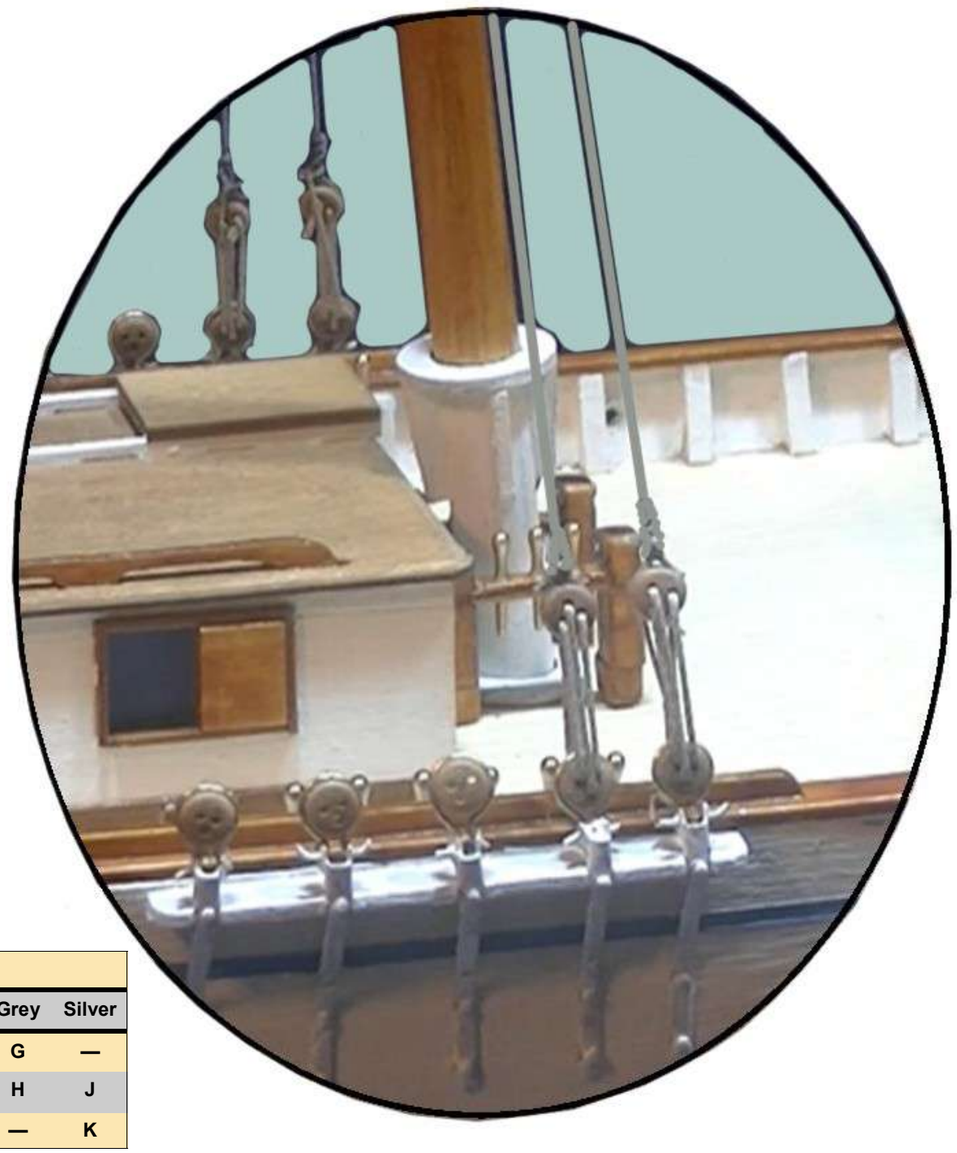
Once you have fitted two shrouds on each side reeve these shrouds in place as shown. Then repeat for the next two shrouds on each side to complete the foremast lower shrouds.

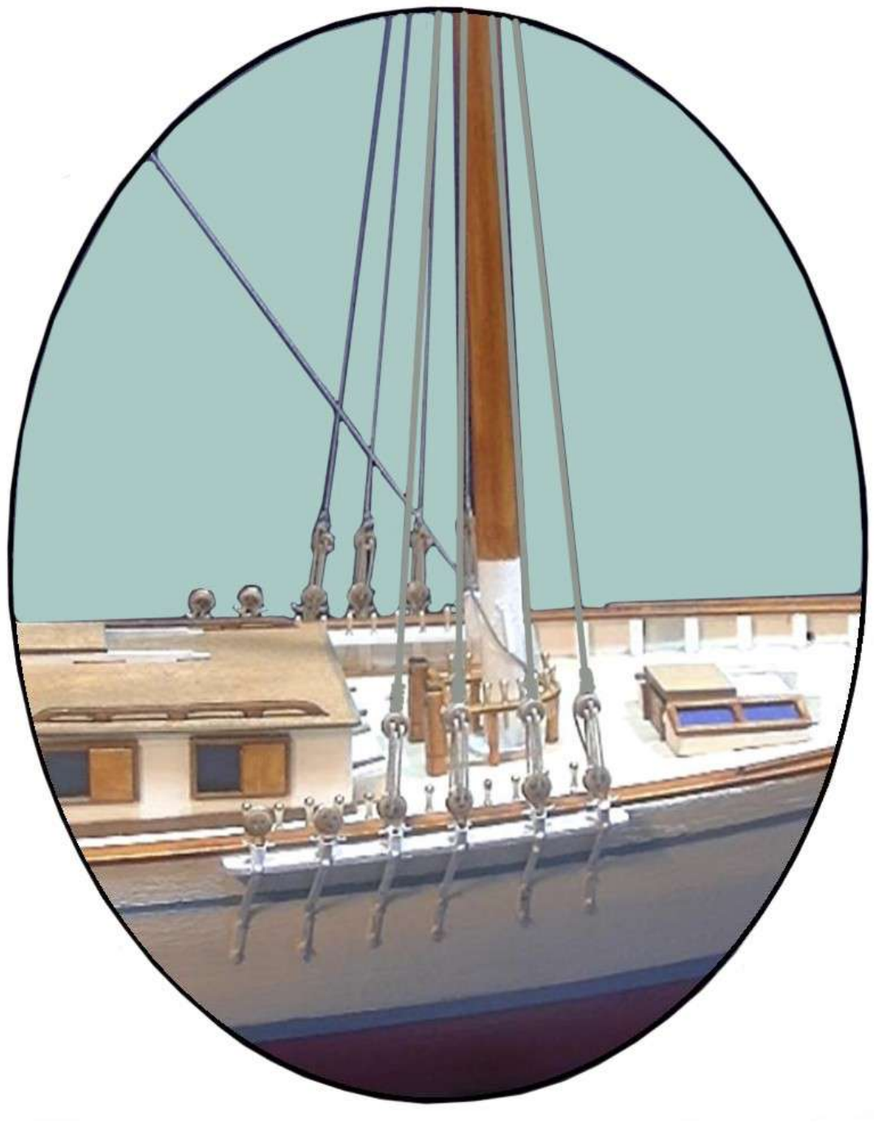
Do not fit the back stays yet.

Next we move on to the main mast.



Reeving Deadeyes Sequence



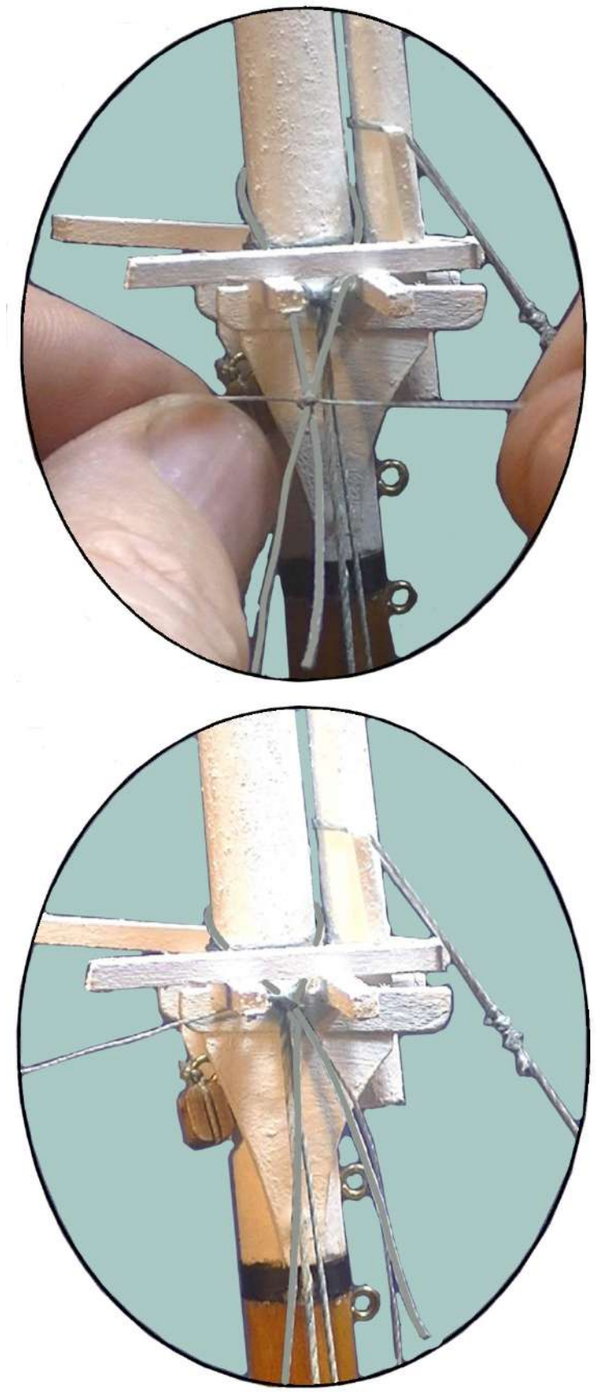


CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 87

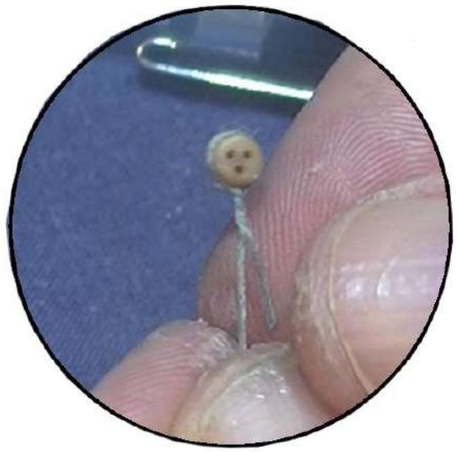
10.3.2 Lower Shrouds - continued

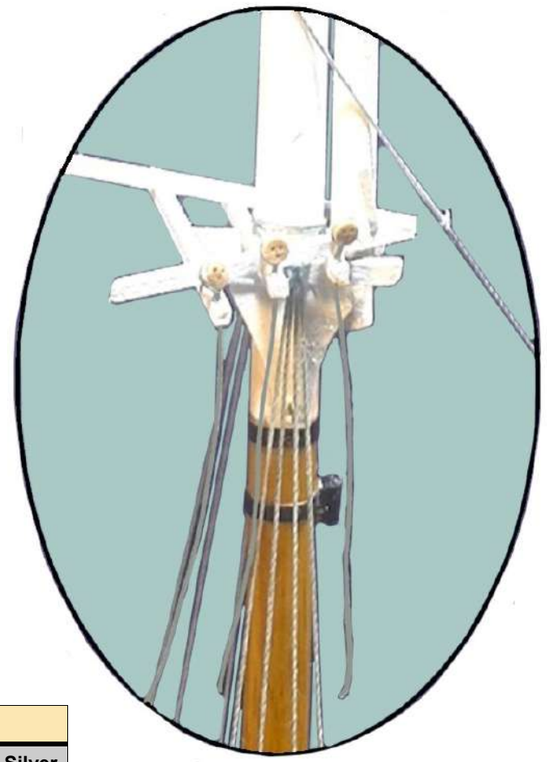
For the mainmast apply the same approach to fit and reeve the lower shrouds for the first two shrouds on each side of the hull. For the third shroud on each side run a cord up and around the mast head leaving a small length of tail as shown - seize the single shroud and tail together and push up to the mast head as previously done - apply a dab of glue to the knot. Once complete on both sides of hull finish the fitting of the upper deadeyes and reeving a previously done.

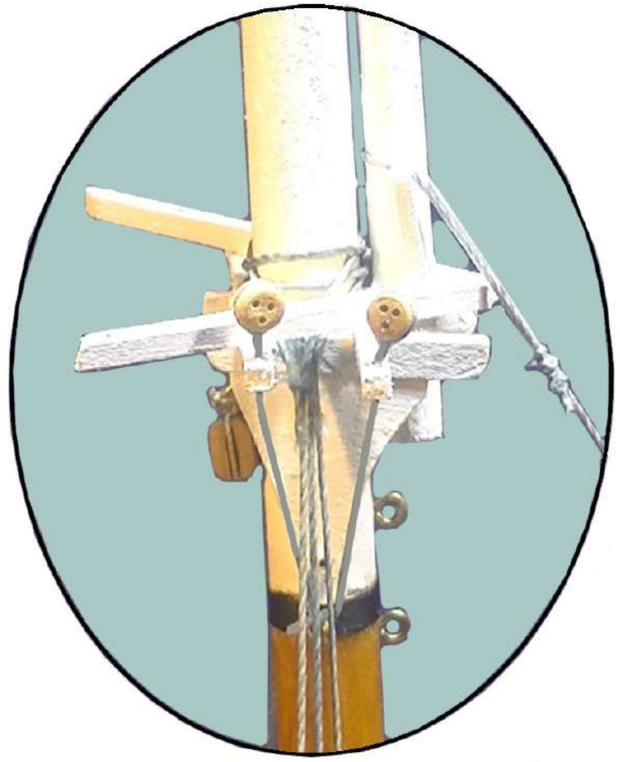


10.3.3 Futtock Shrouds

Identify the 3mm deadeyes P148. Cut 80mm lengths of cord J P147 - wrap one end around the deadeye leaving a small tail - holding the deadeye closely apply a drop of glue to the joint and twist the cord a few times - as shown. Cut-off the excess tail. Make a total of 10 futtock shrouds. The shrouds fit into the pre-cut holes in the cross tress on each mast head. Use a 0.7mm drill clean-out the holes. Fit and glue the shrouds in place as shown. The mainmast futtock shrouds are tied-off at points 21 & 22. The foremast futtock shrouds are tied-off at points 42 & 43 - run each futtock shroud between the lower shrouds.





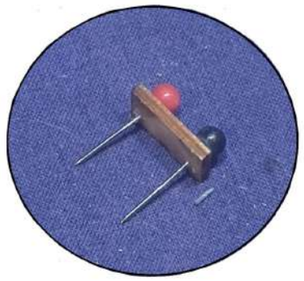


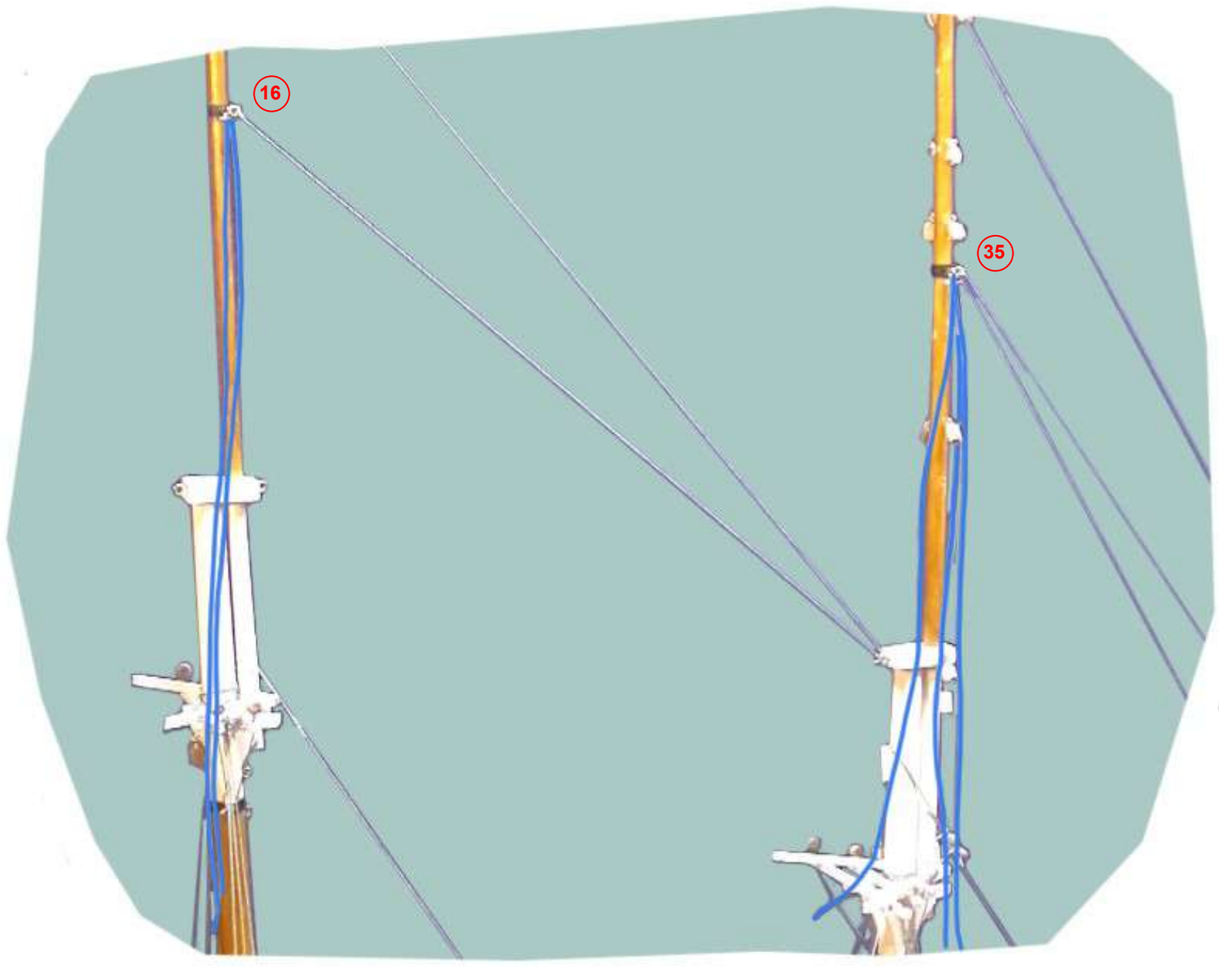
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

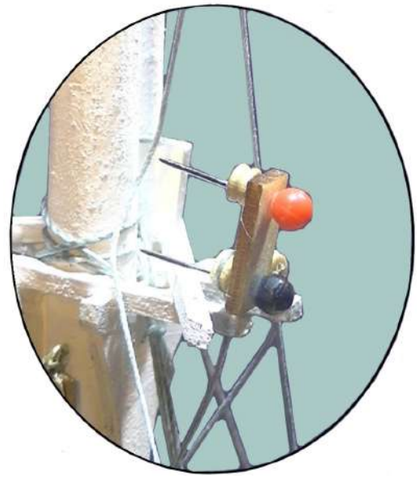
Brigantine
MATTHEW TURNER
SHEET 88

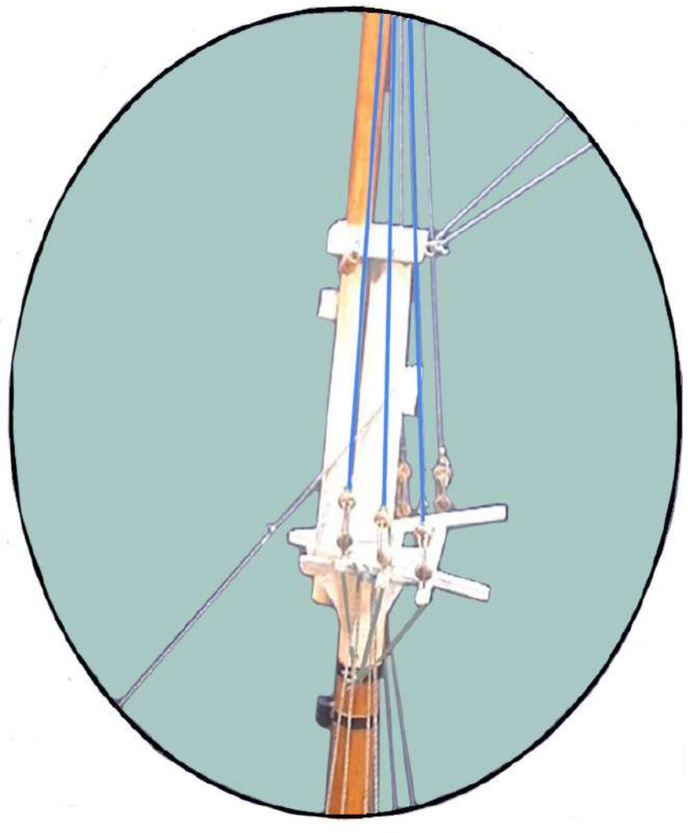
10.3.4 Topgallant Shrouds—Fore and Main Masts

Use cord J. For the main mast topgallant shrouds tie-off cords at points 15 & 16 - cut lengths long enough to hang below the futtock shrouds. For the foremast topgallant shrouds tie-off cords at points 34 & 35 - cut lengths long enough to hang below the futtock shrouds. Make another deadeye jig using a scrap length of 1.5mm ply and two pins - push the pins through the ply - distance between pins is 10mm. Fit the jig as shown with a 3mm deadeye placed on the top pin - make sure to use the lowest deadeye hole on the futtock deadeye and the top deadeye hole on the shroud deadeye eye - wrap the shroud around the deadeye and pull the tail over the ply and apply a dab of glue to seize the cord - trim-ff excess cord. Repeat for the rest of the shrouds on both sides of the each mast.







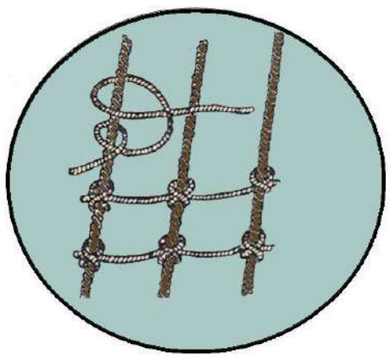


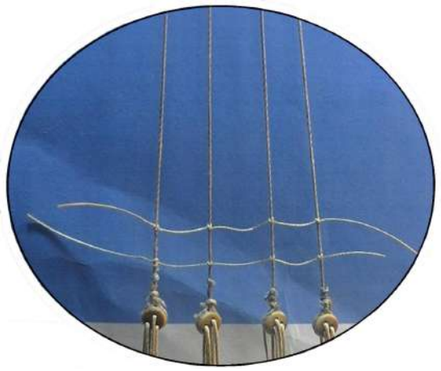
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

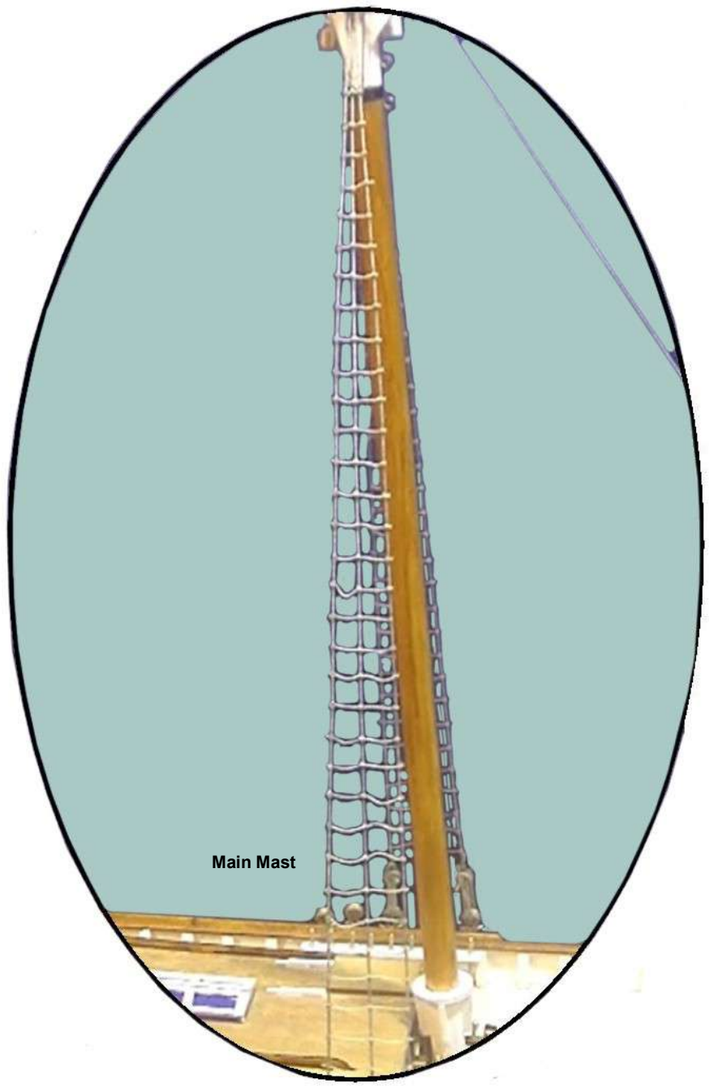
Brigantine
MATTHEW TURNER
SHEET 89

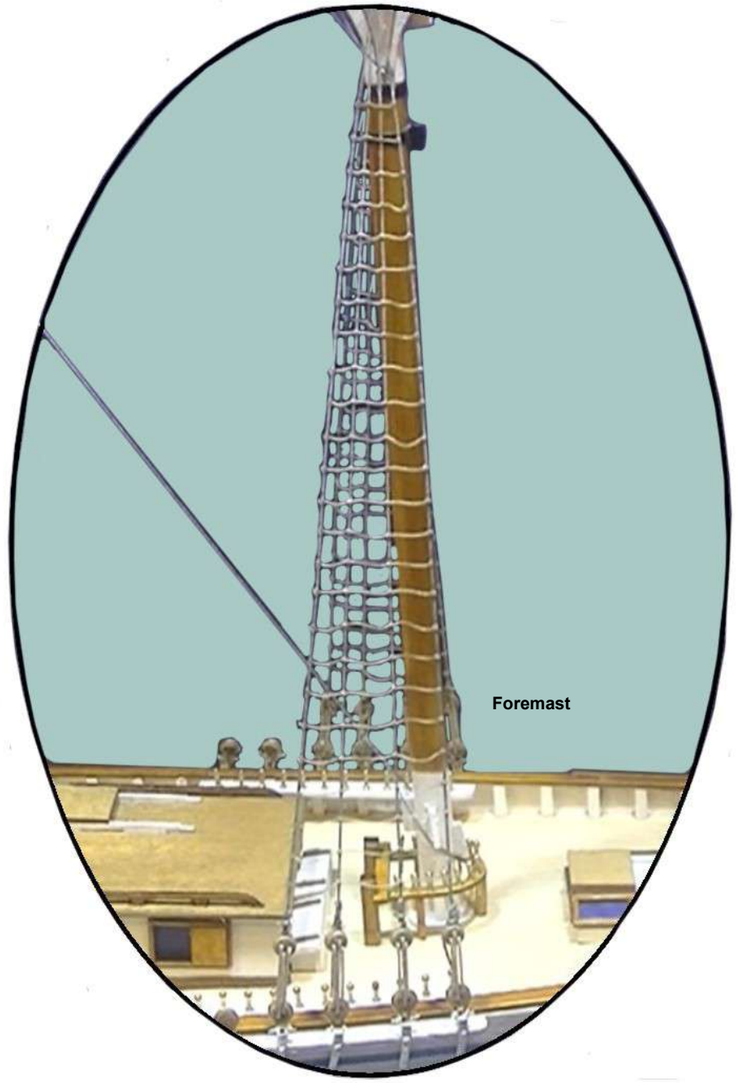
10.3.5 Ratlines

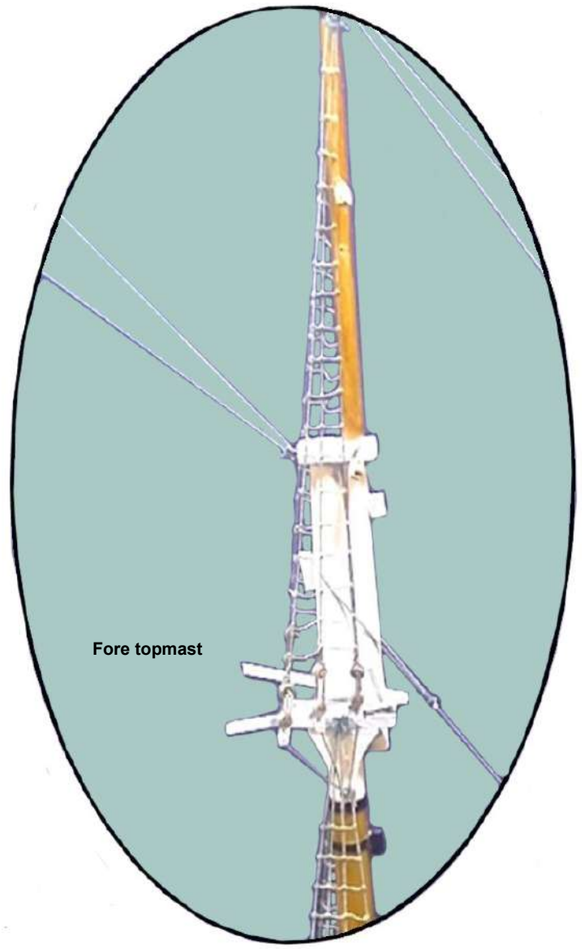
The ratlines are the rope ladders used by the crew to climb up the mast. Space the ratlines approximately 8mm apart making sure they are horizontal and parallel with each other. Fit the ratlines to the fore and main masts lower shrouds and the foremast topgallant shrouds only - as the ship is brigantine rigged there are no ratlines fitted to the main topgallant shrouds. Use cord G and tie with the double hitch knot as shown. Place a coloured paper sheet behind the shrouds to provide some contrast to ease eye strain. Once a set of ratlines has been completed apply a dab of glue to the outer knots and trim-off excess cord.









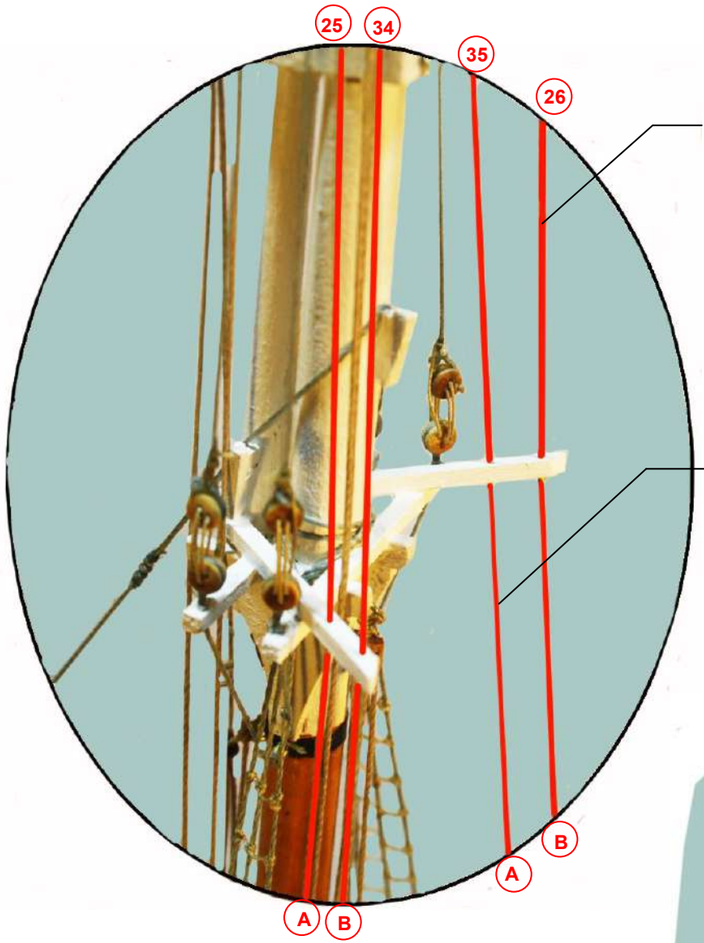


CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

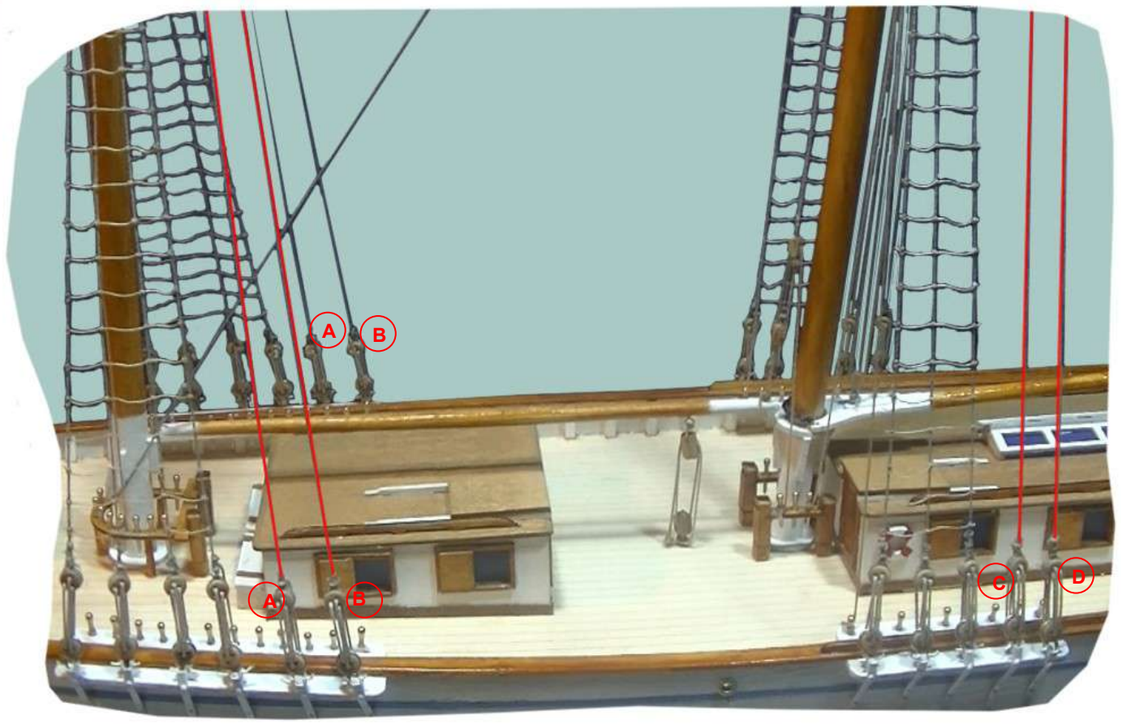
Brigantine
MATTHEW TURNER
SHEET 90

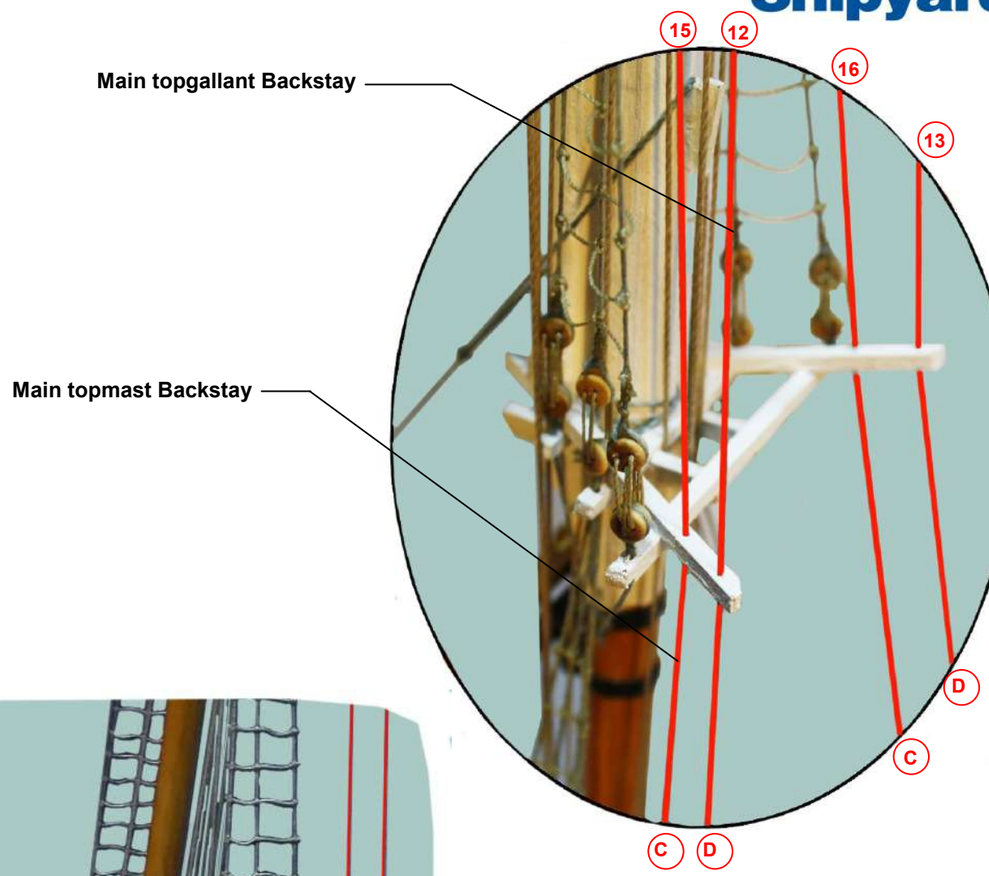
10.3.6 Backstays

Use cord K. Run the topmast backstays from the identified mast points through the backstay spreader holes and terminate at a deadeye reeved as previously shown. Repeat for the topgallant backstays.



Foremast Backstays





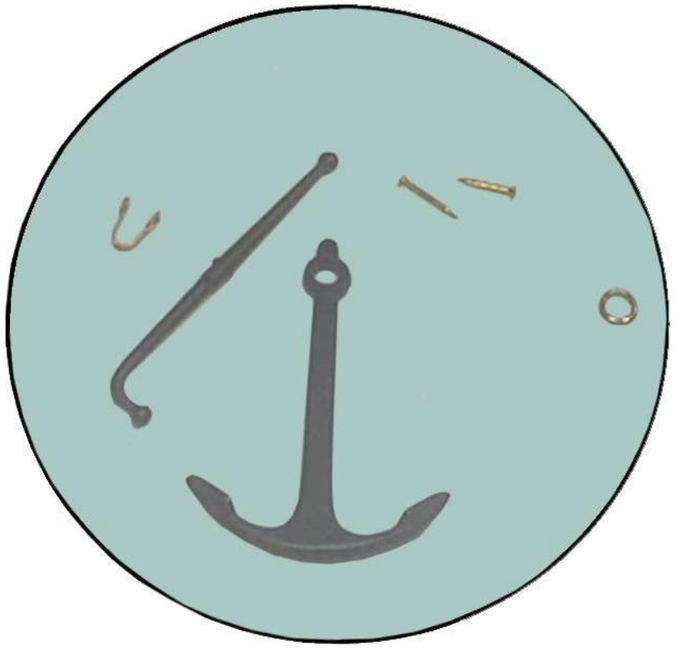
Main Mast Backstays

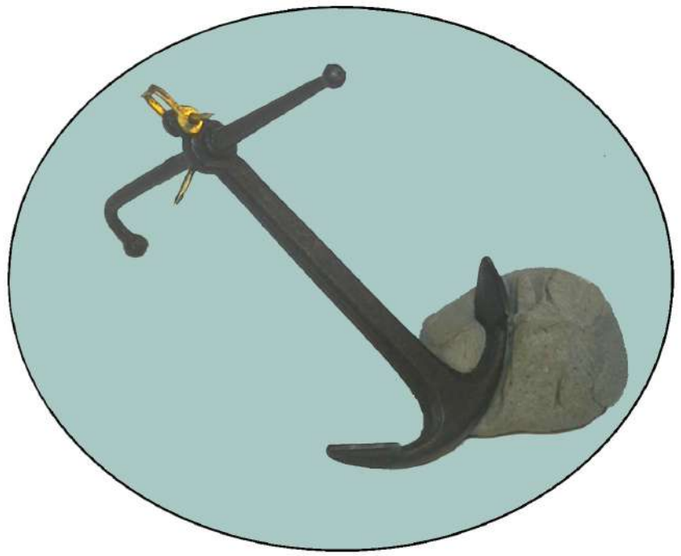
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 91

10.4 Anchors

Identify the anchors P149 - assemble as shown. Use super glue to seize the nails in position then snip off end of nails. Set both anchors aside to be fitted later.



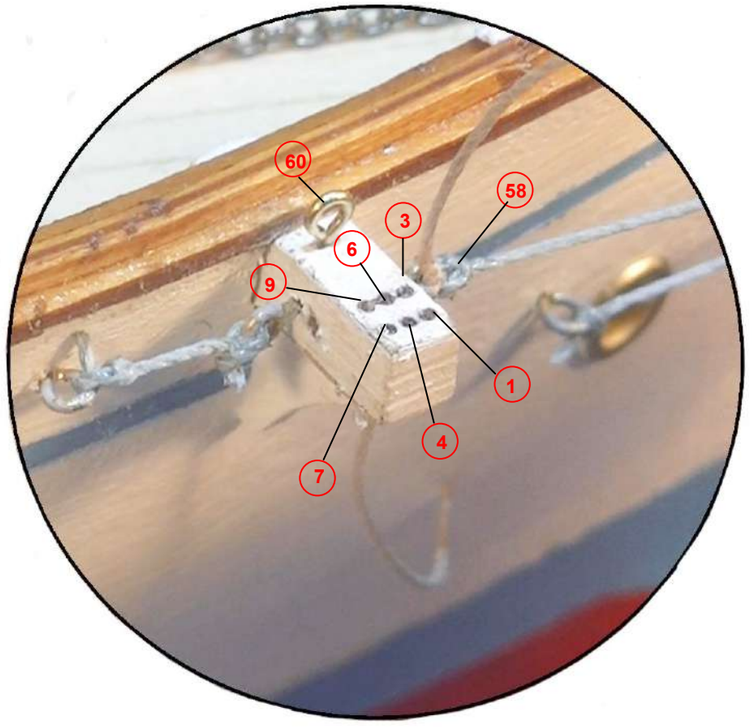


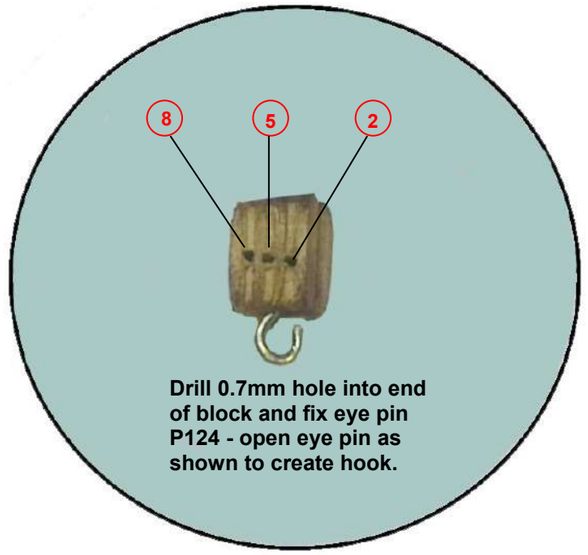
BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

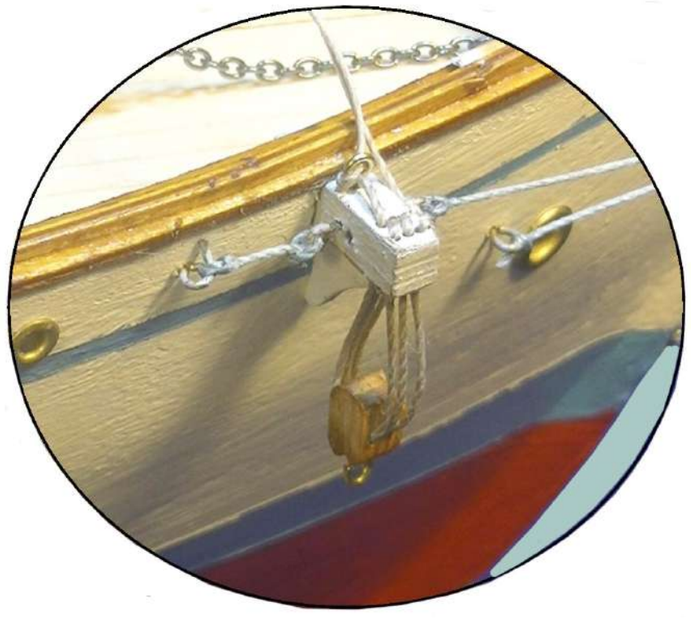
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

10.5 Anchor Crane

Use cord H P146 - cut a length to 250mm. Identify block E P150. Reeve the cathead and block as described. To assist the reeving process apply a dab of super glue to one end of the cord and give a quick twist - then cut this end of the cord at an angle to create a needle. Each hole in the cathead and block are numbered. Follow the numbering sequence. Tie the unglued end of the cord to point 58 eye pin at front of cathead. Feed cord down 1 on cathead. Feed through 2 on block then up through 3 on cathead. Feed down 4 on cathead and through 5 on block. Feed up through 6 and down through 7 on cathead. Feed through 8 on block and then up through 9 on cathead. Terminate at point 60 eye pin. Tri-off any excess cord. Repeat for other side of hull.



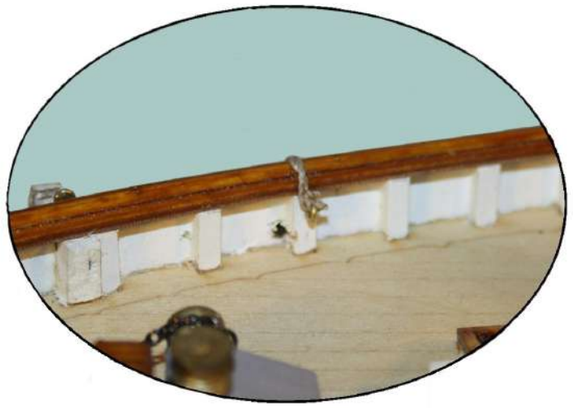




Brigantine
MATTHEW TURNER
SHEET 92

10.5 Anchor Crane - continued

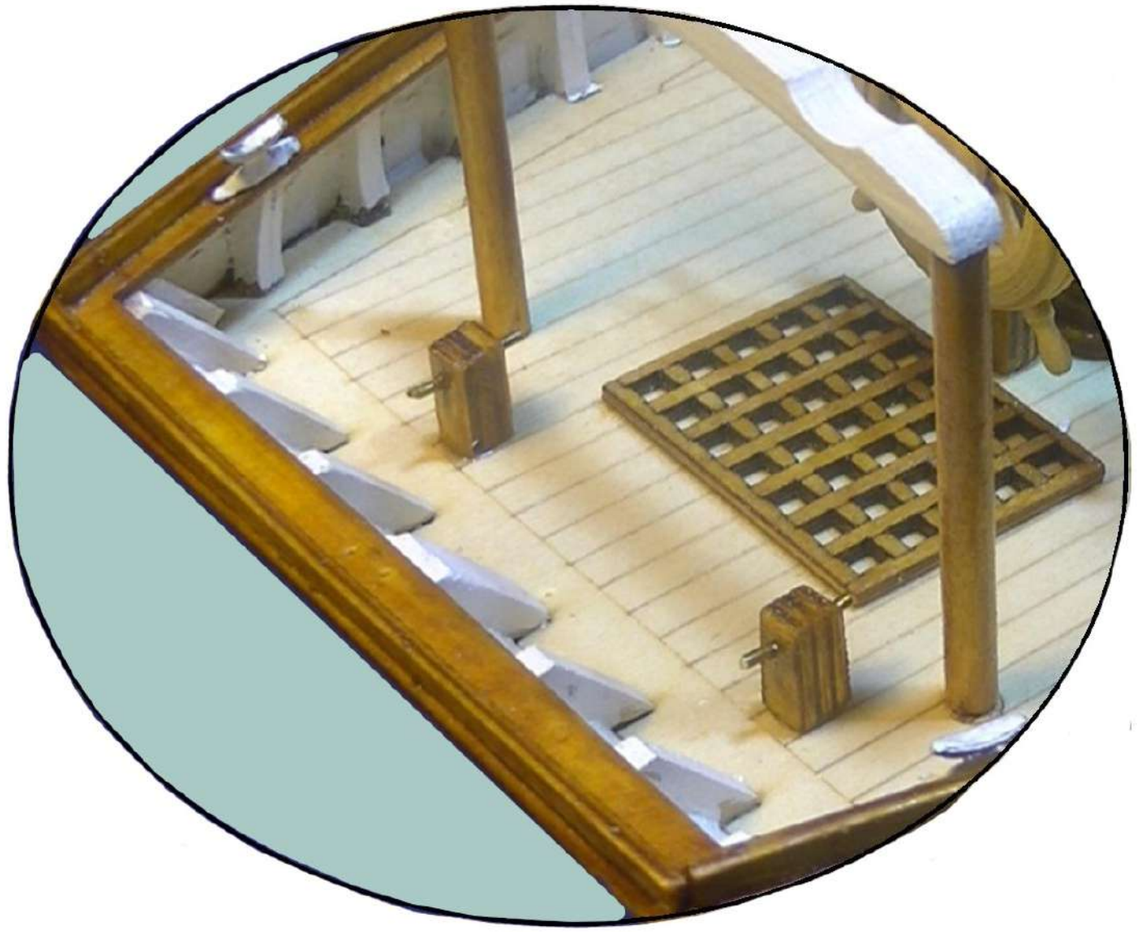
Identify the 4mm brass rings P151 - attach a ring to the anchor shackle. Identify the anchor chain P110 - cut 2 x 120mm lengths. Use a tooth pick to insert a dab of glue into the hawse pipe and feed one end of the chain into the pipe. Attach the other end of the chain to the anchor ring. Place the ring onto the crane block hook. To stow the anchor tie a length of cord H to point 66 eye pin and wrap around anchor fluke as shown. Repeat for the other side of hull.



CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

10.6 Boom Buffer Posts

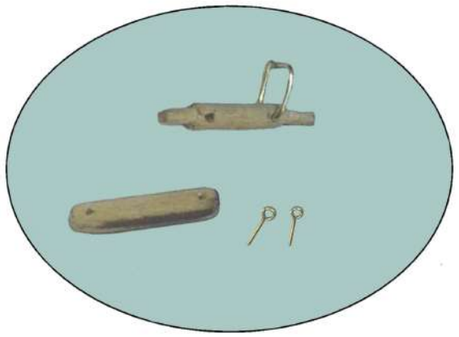
Identify the boom buffer posts P152. File the laser burn off and take the sharp edges off each post. Identify the 1mm brass wire P32 - cut 2 x 15mm lengths. Glue the lengths of wire in place as shown. Stain posts with shellac. Glue each post on to the deck locations.

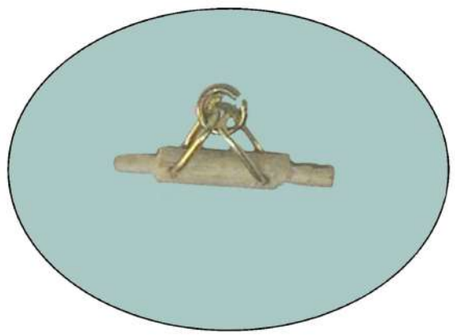


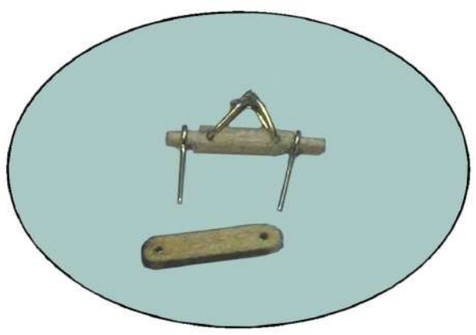
Brigantine
MATTHEW TURNER
SHEET 93

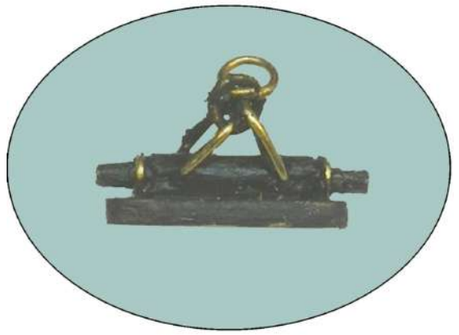
10.7 Boom Buffer

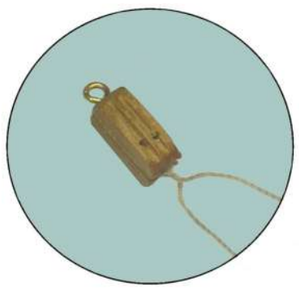
Identify the boom buffer base P153. Identify the 3mm dowel P30 - cut a 20mm length. Measure 4mm in from each end and shape as shown so that the eye pins P124 fit onto the ends. Drill 0.7mm holes 6mm from each end as shown. Identify the 0.7mm brass wire P141 - cut 2 x 25mm lengths - fit through the two holes and shape as shown as the braces. Identify the 4mm brass ring P151 - open joint and fit to link the braces as shown. Fit eye pins to ends of barrel and fit to base as shown - trim-off excess pin length. Paint assembled boom buffer black. Fit a second 4mm ring to the first ring as shown. Identify block F P155 - drill hole in top end and fix an eye pin as shown. Use cord G to attach block to ring as shown. Fix assembled boom buffer with block in place on deck location as shown.

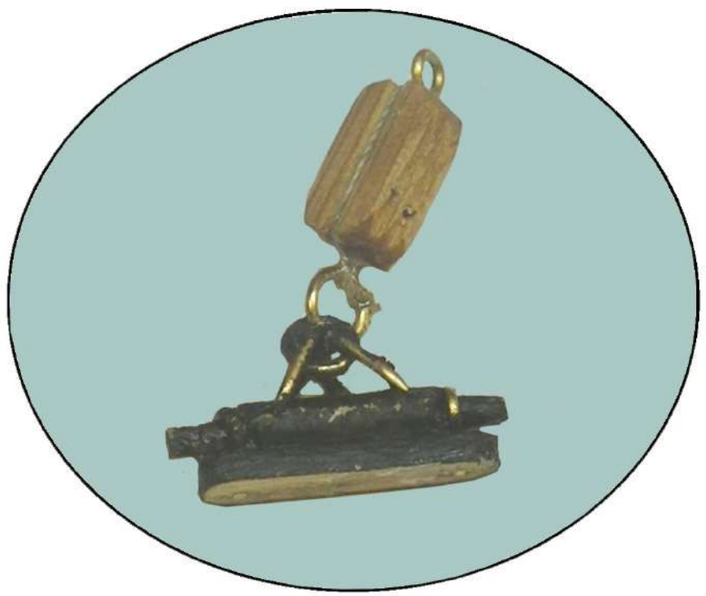


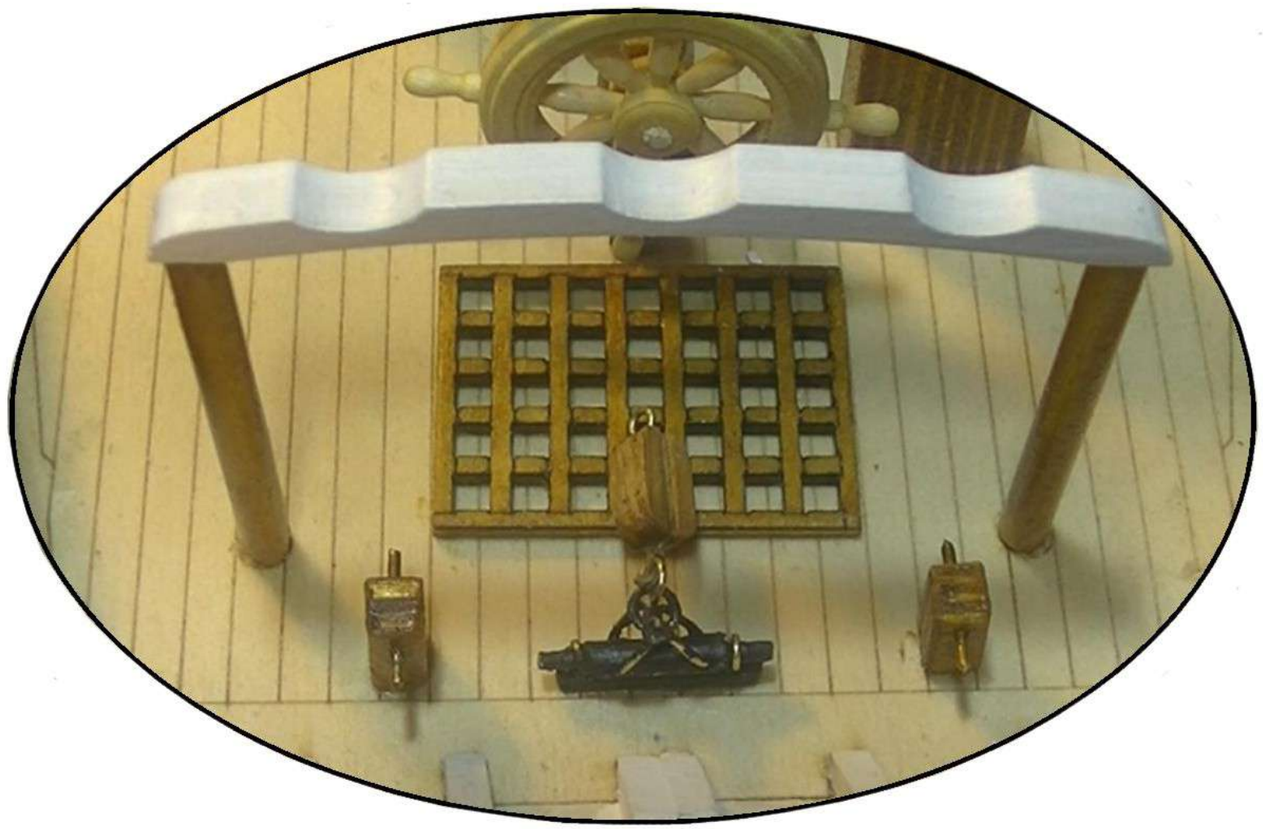












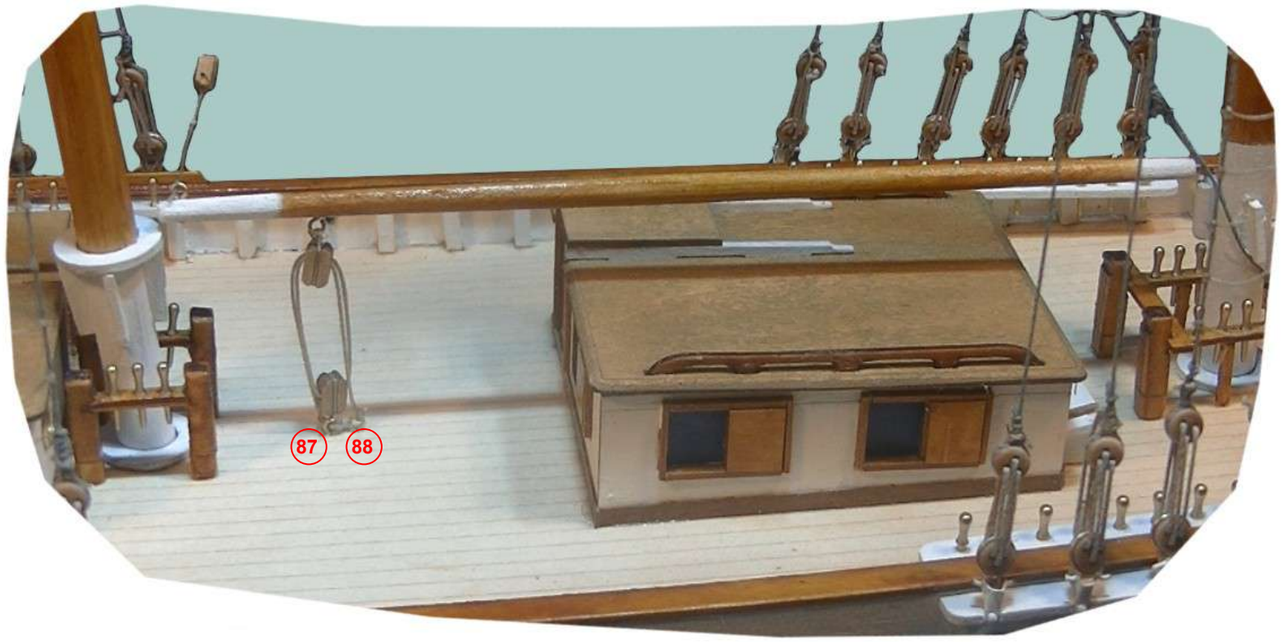
BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 94

10.8 Staysail Boom

Retrieve the staysail boom previously assembled. Trial fit the boom goose neck into the goose neck saddle previously fitted to the foremast - once satisfied glue the goose neck in position. Reeve the two blocks together using cord H as shown - start at point 87 eye pin and terminate at point 88 eye pin.



10.9 Main boom

Retrieve the main boom previously assembled. Fit boom in place on boom rest as shown. Identify the parrel beads P154 - fit beads to length of cord G and tie around mast and to boom yoke holes.

BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

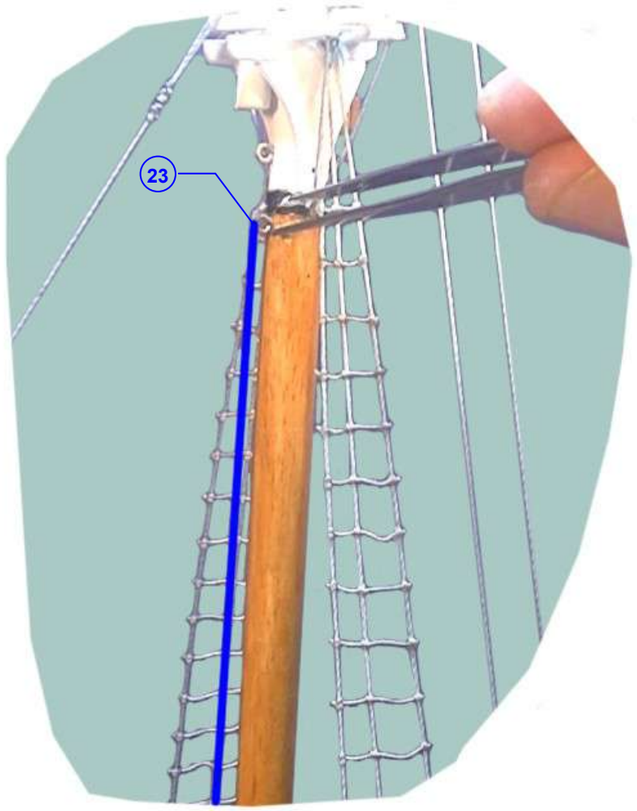
CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

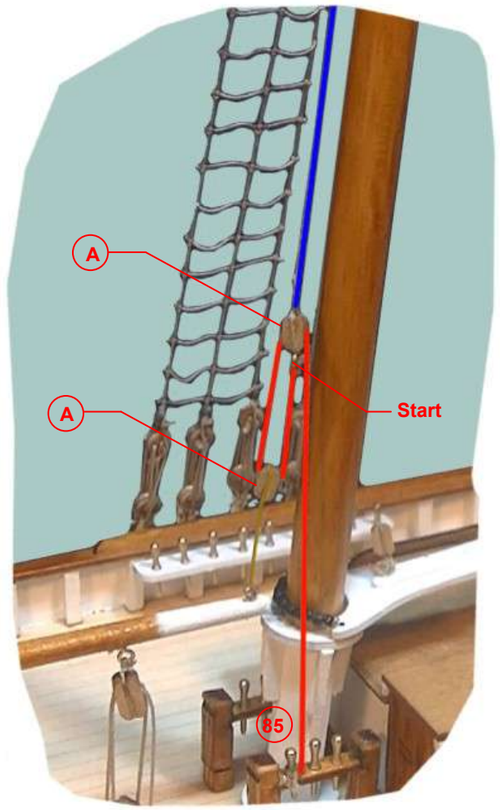
11.0 Running Rigging

The next step is to complete the running rigging. The running rigging includes rigging for the yard lifts, braces and pendants. Completing the running rigging can be complicated and time consuming. However, following the “golden rule” for rigging of working from the centre and lower parts of the model and working up and out trying to avoid difficult and confined spaces, will assist in the process. Also taking your time with this building step will produce a superior looking model. **Cord H P146 is used for the running rigging.**

11.1 Staysail Boom Topping Lift

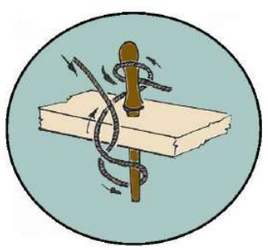
Identify block A - fit an eye pin to one end. Attach cord H to this block and tie-off at point 23 as shown. To reeve blocks start at the eye pin and progress as shown - terminate at point 85 on main mast fife rail as shown.





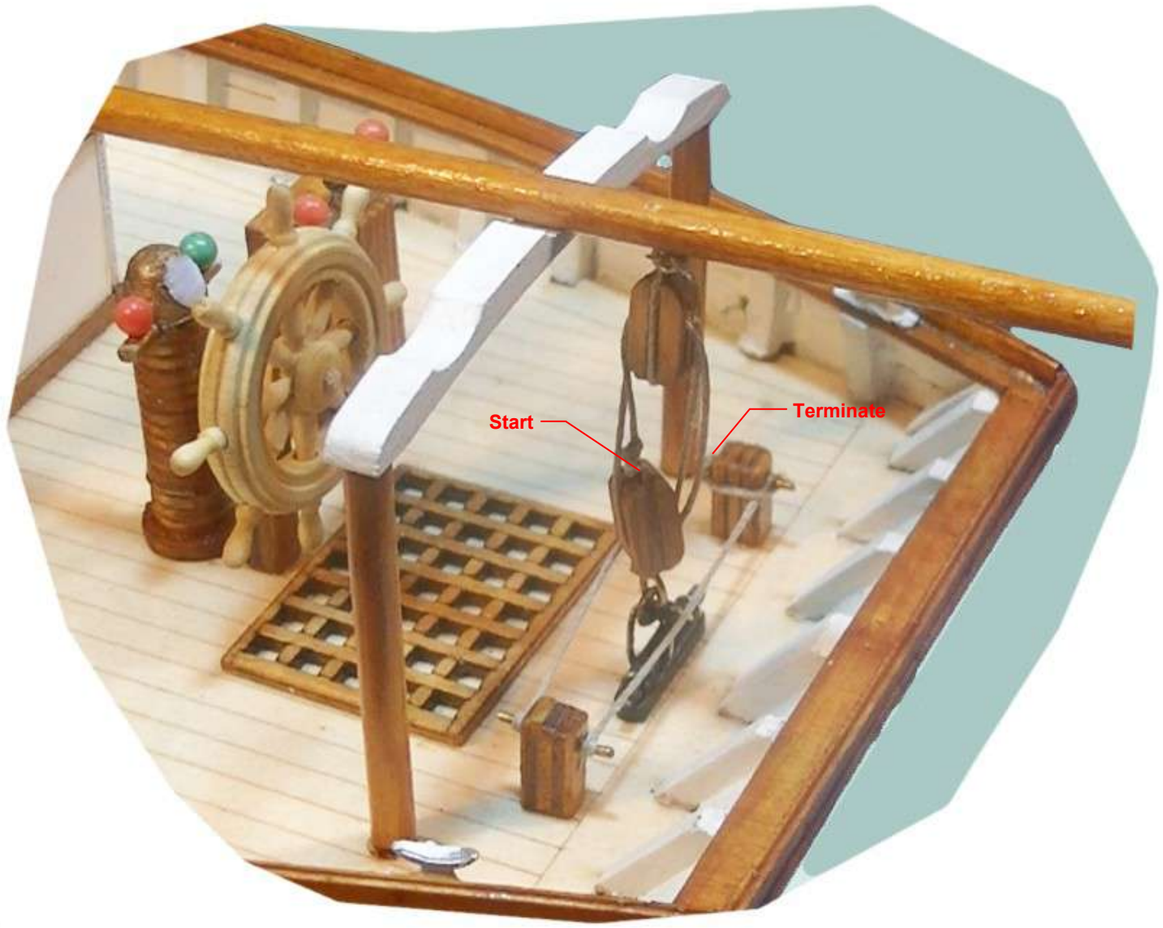
BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K



11.2 Mainsheet

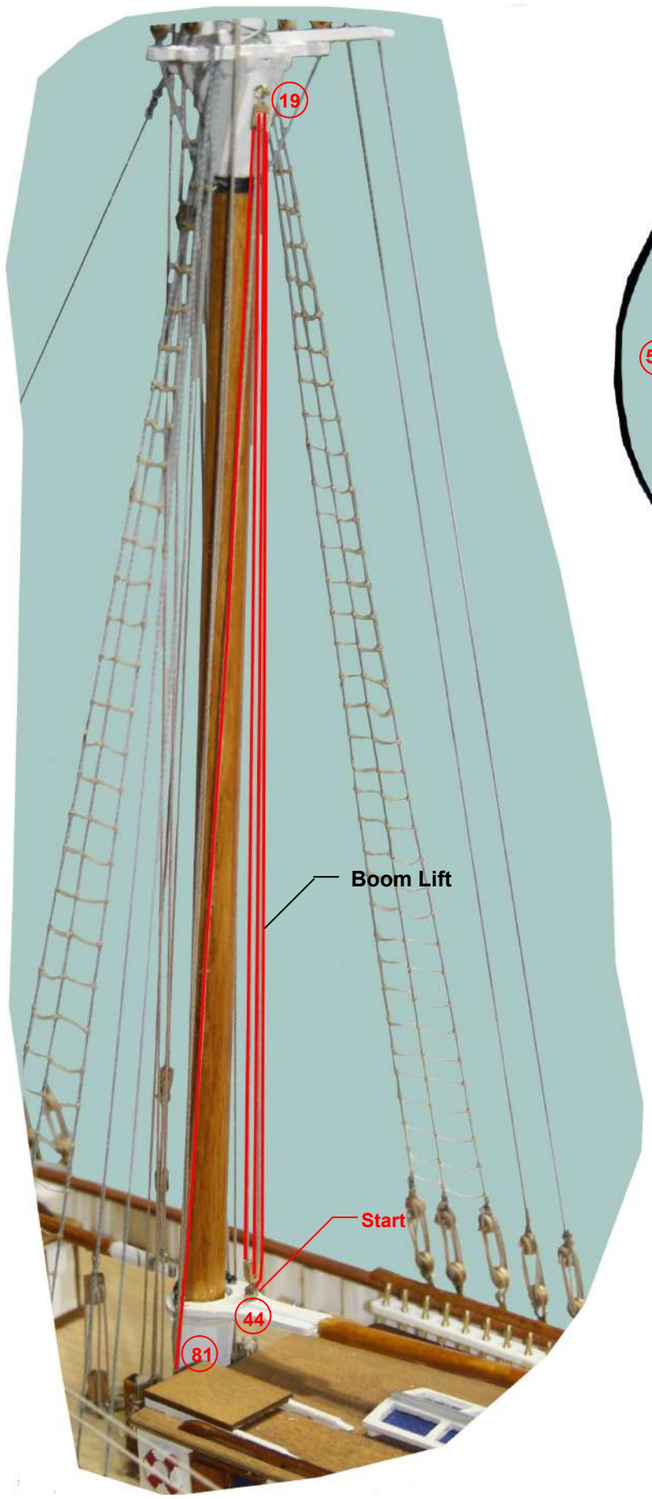
Rig the blocks as shown - start at eye pin attached to block attached to boom buffer. Terminate by running cord between posts as shown.

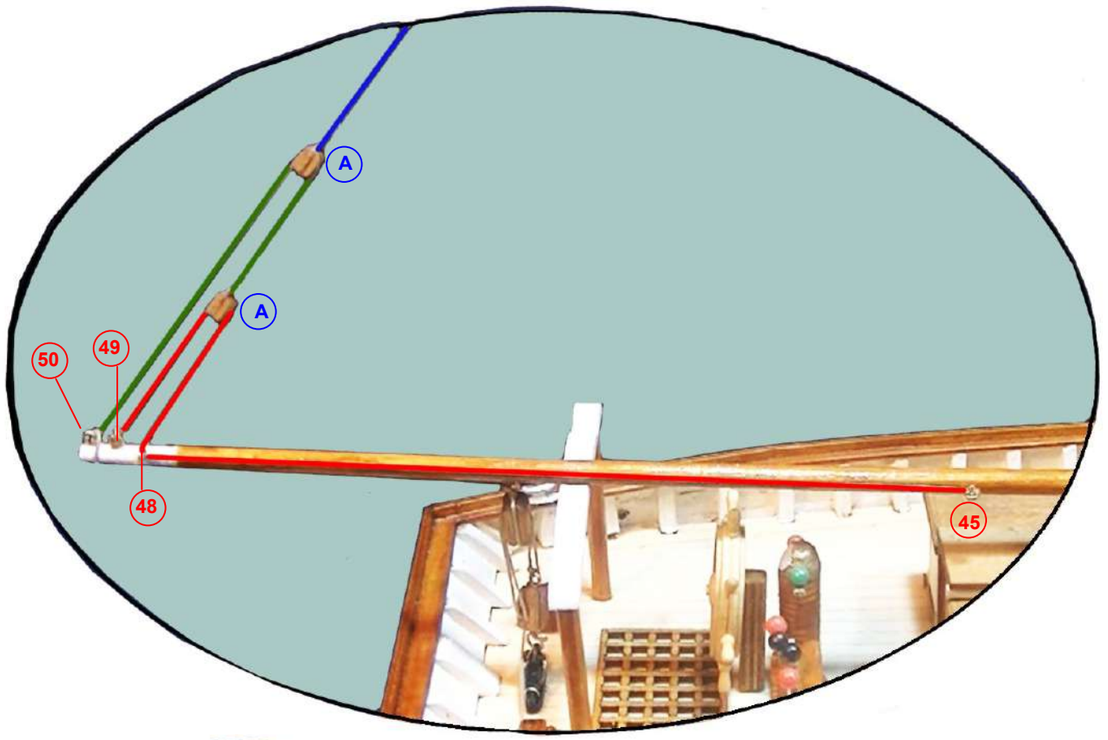


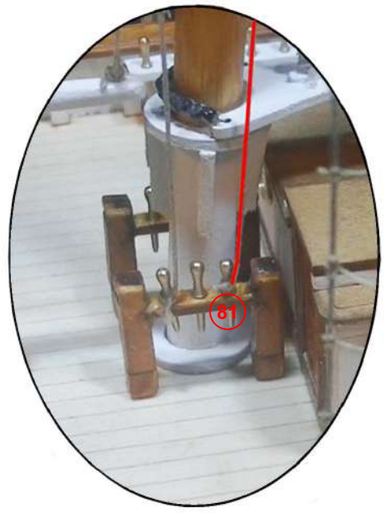
Brigantine
MATTHEW TURNER
SHEET 96

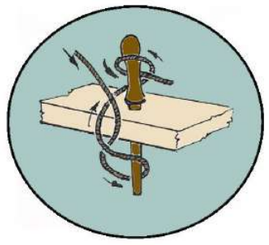
11.3 Main Boom Lift and Topping Lift

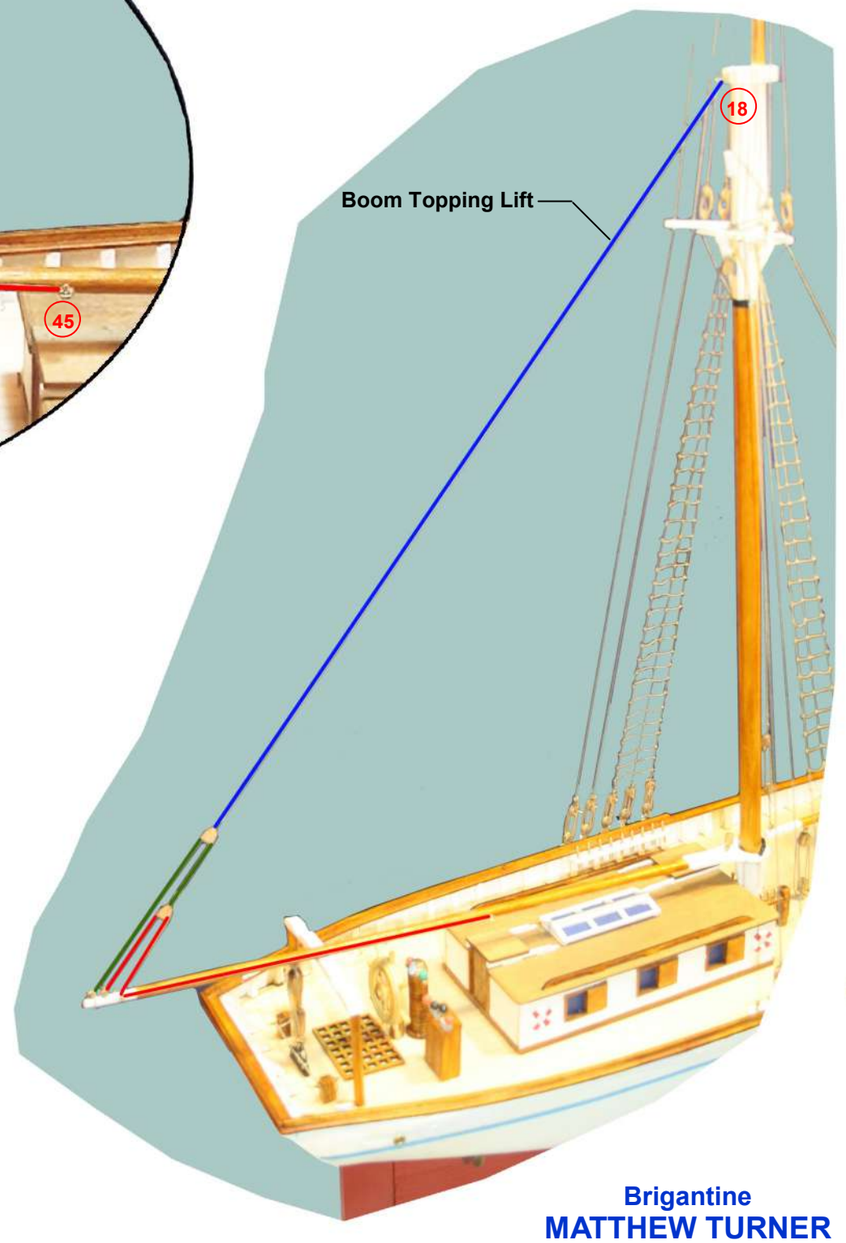
To rig the boom lift start at point 44 on the boom yoke - rig to block at point 19 - terminate at point 81 on port side main mast fife rail.
To rig the boom topping lift first run a length of cord from point 18 - attach block A to the end of this cord as shown. Next attach block A to a length of cord and run through the first block and terminate at point 50 as shown. Next run a length of cord from point 49 through the second block and back through eye pin 48 and terminate at point 45 on the main boom as shown.











BLOCK KEY			
Size	1 hole	2 hole	3 hole
5mm	A	—	—
5mm	—	B	—
7mm	C	D	E
10mm	—	F	—

CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

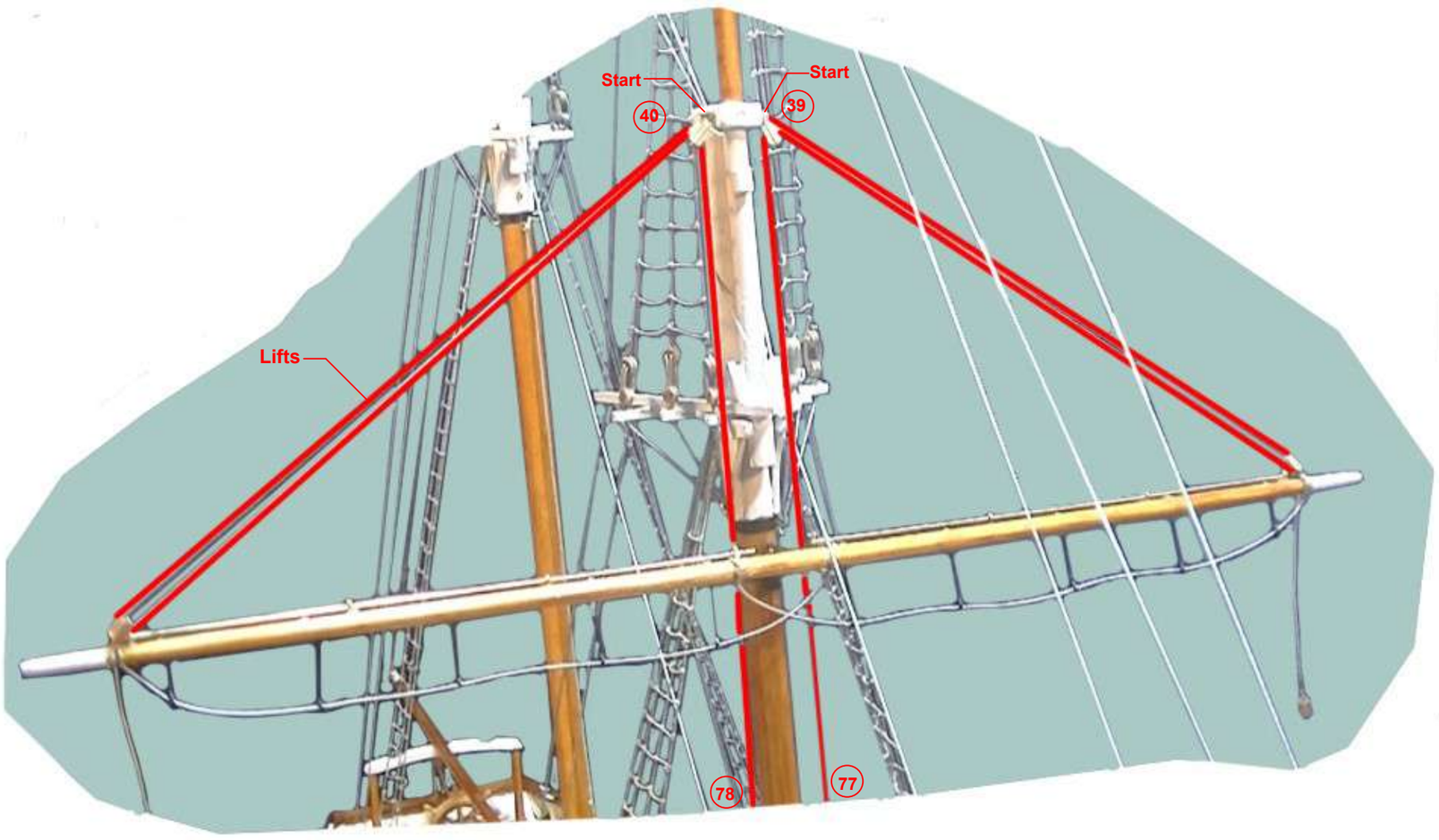
Brigantine
MATTHEW TURNER
SHEET 97

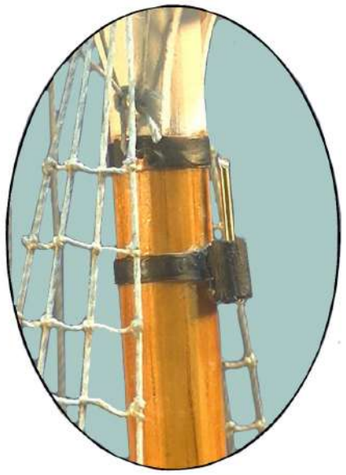
11.4 Yards

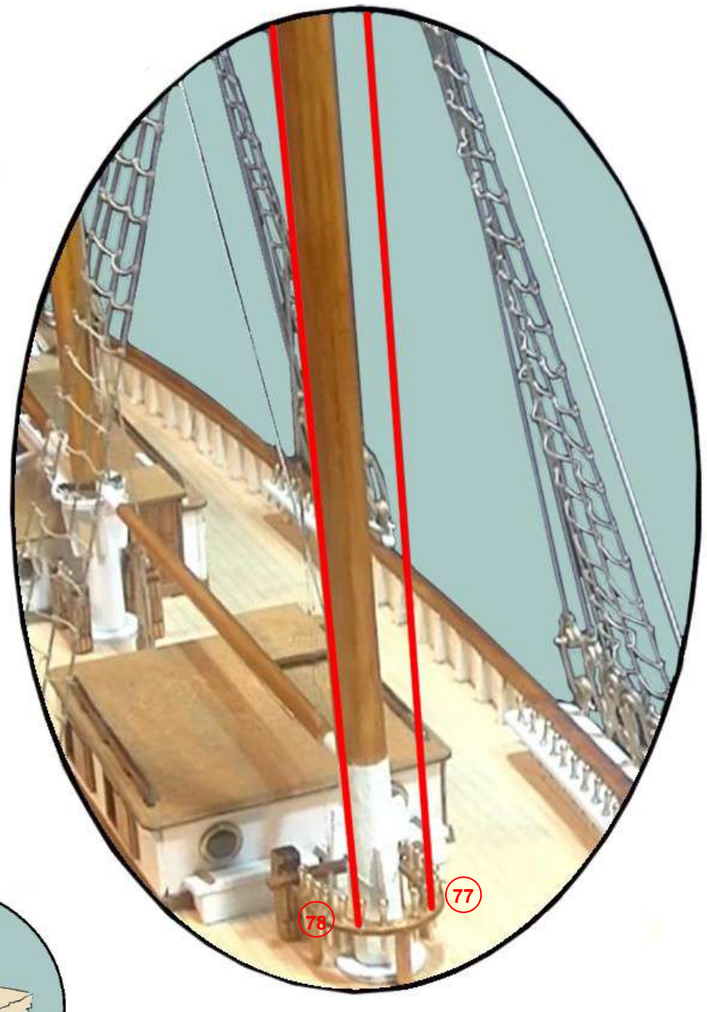
11.4.1 Main Yard - Lifts

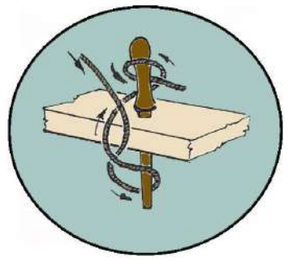
Retrieve the main yard previously made. Identify the 1mm brass rod P134 - cut a 15mm length and glue into the main yard hinge as shown. Fit the main yard truss onto the brass rod. Apply glue to the joint - once dry snip-off excess brass rod.

Rig the lifts as shown starting at points 39 & 40 and terminating at belaying points 77 & 78 on the foremast fife rail as shown.





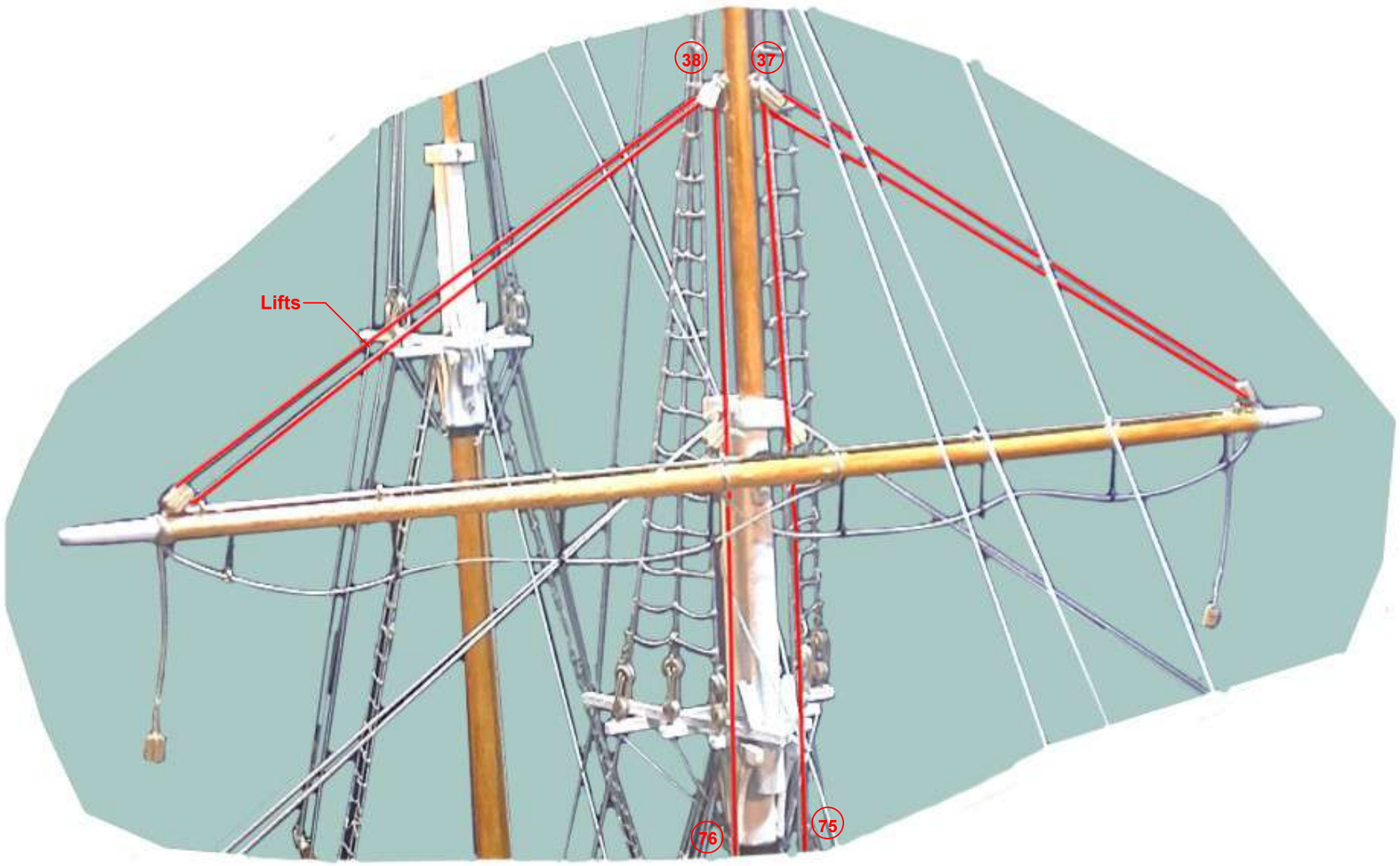


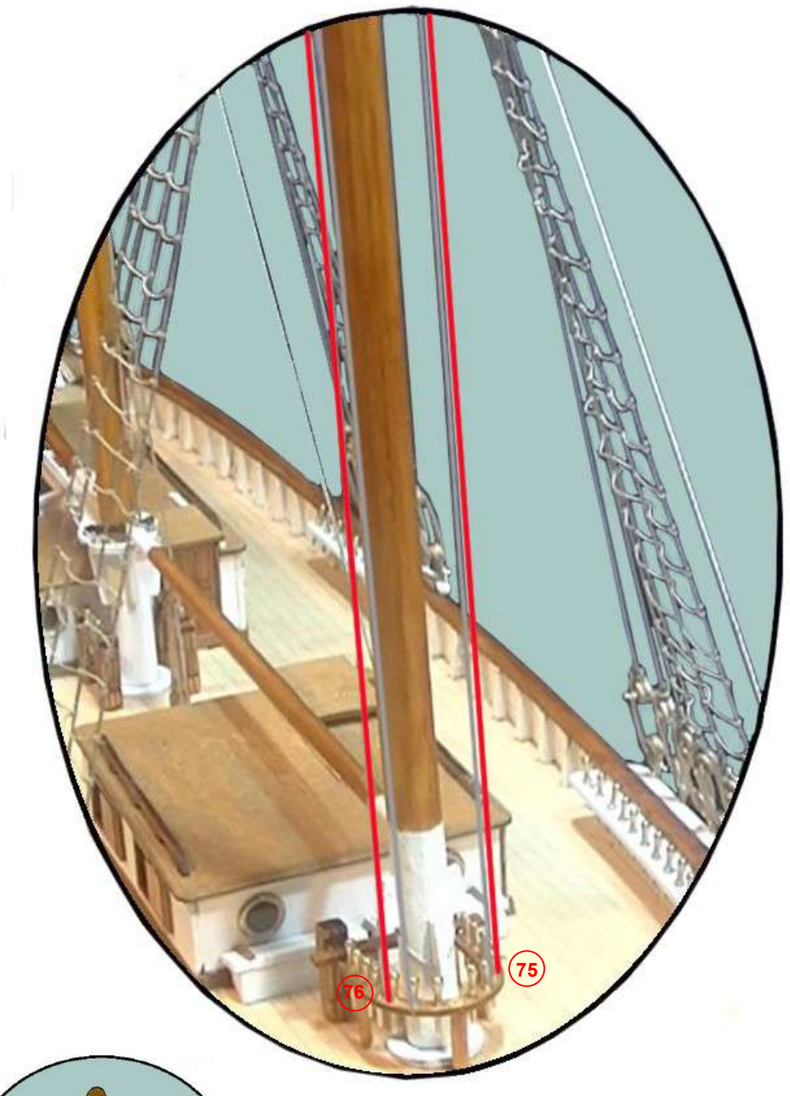


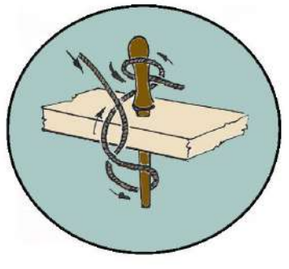
Brigantine
MATTHEW TURNER
SHEET 98

11.4.2 Lower Topsail Yard - Lifts

Retrieve the lower topsail yard previously made. Fit the brass rod to the topsail yard hinge and fit the topsail yard as previously done for the main yard.
Rig the lifts as shown starting at points 37 & 38 and terminating at belaying points 75 & 76 on the foremast fife rail as shown.



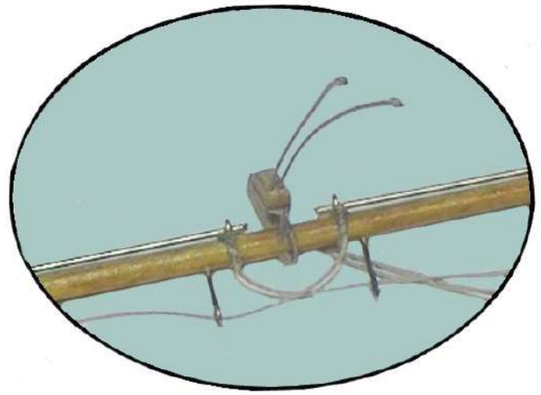


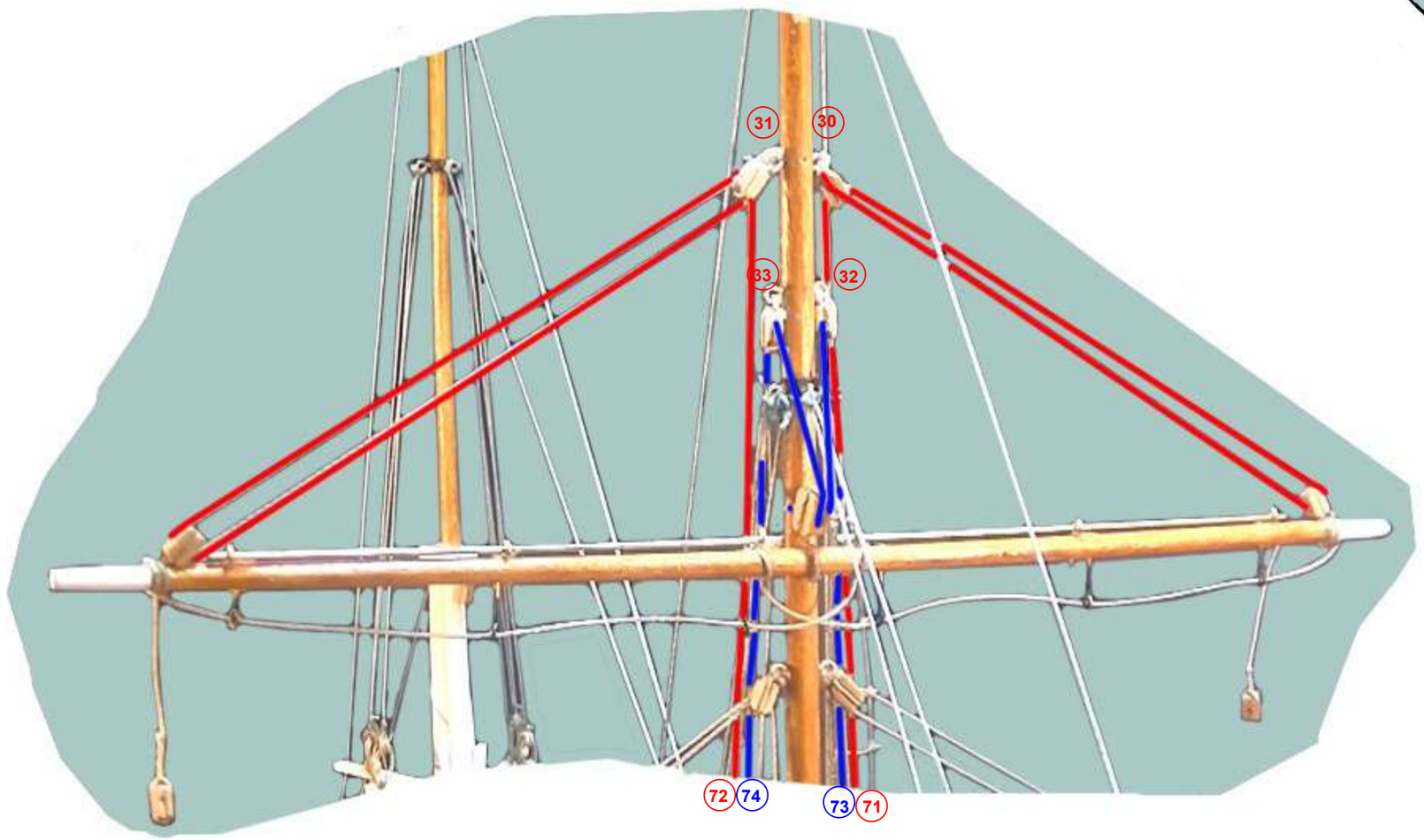


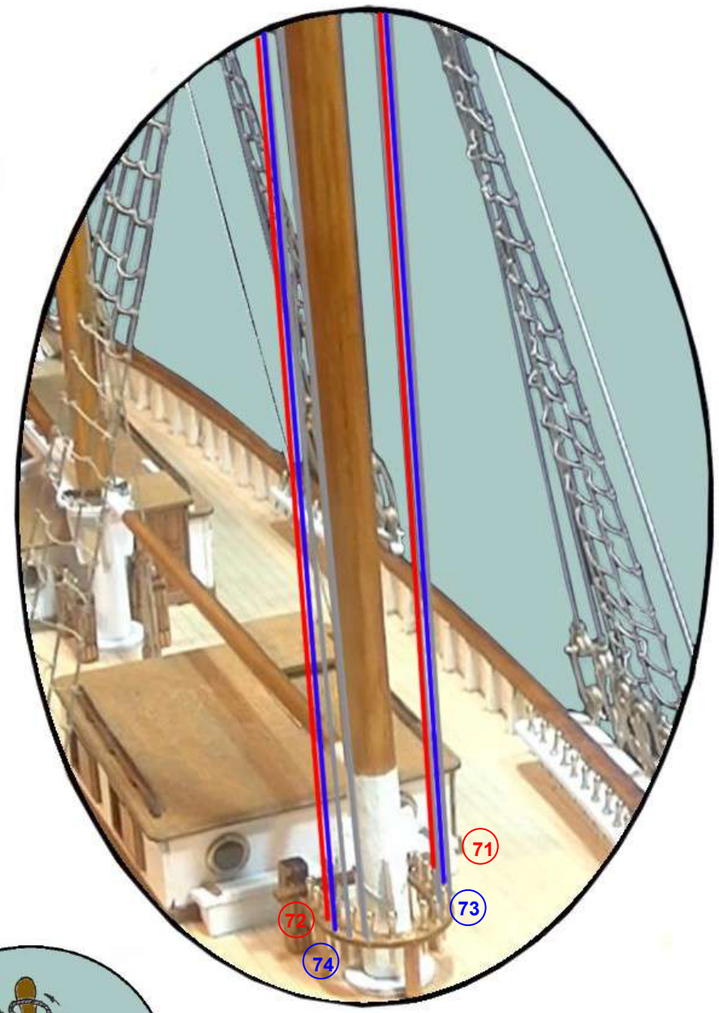
Brigantine
MATTHEW TURNER
SHEET 99

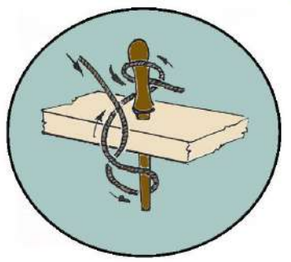
11.4.3 Upper Topsail Yard - Lifts

Retrieve the upper topsail yard previously made. Trial fit the yard fitting the pin into point Z. Remove yard. Cut 2 lengths of cord to run from the yard block up to points 32/33 and down to foremast fife rail - add a little extra cord length. Tie a knot in one end of each of these cords and feed through from the back of the block holes as shown. Fit yard back in place and apply glue to hold in place.
Start by rigging from the yard block - blue lines - rig as shown terminating at belaying points 73 & 74 on the foremast fife rail as shown.
Next start to rig at points 30 & 31 and terminate at points 71 & 72 on the foremast fife rail as shown.





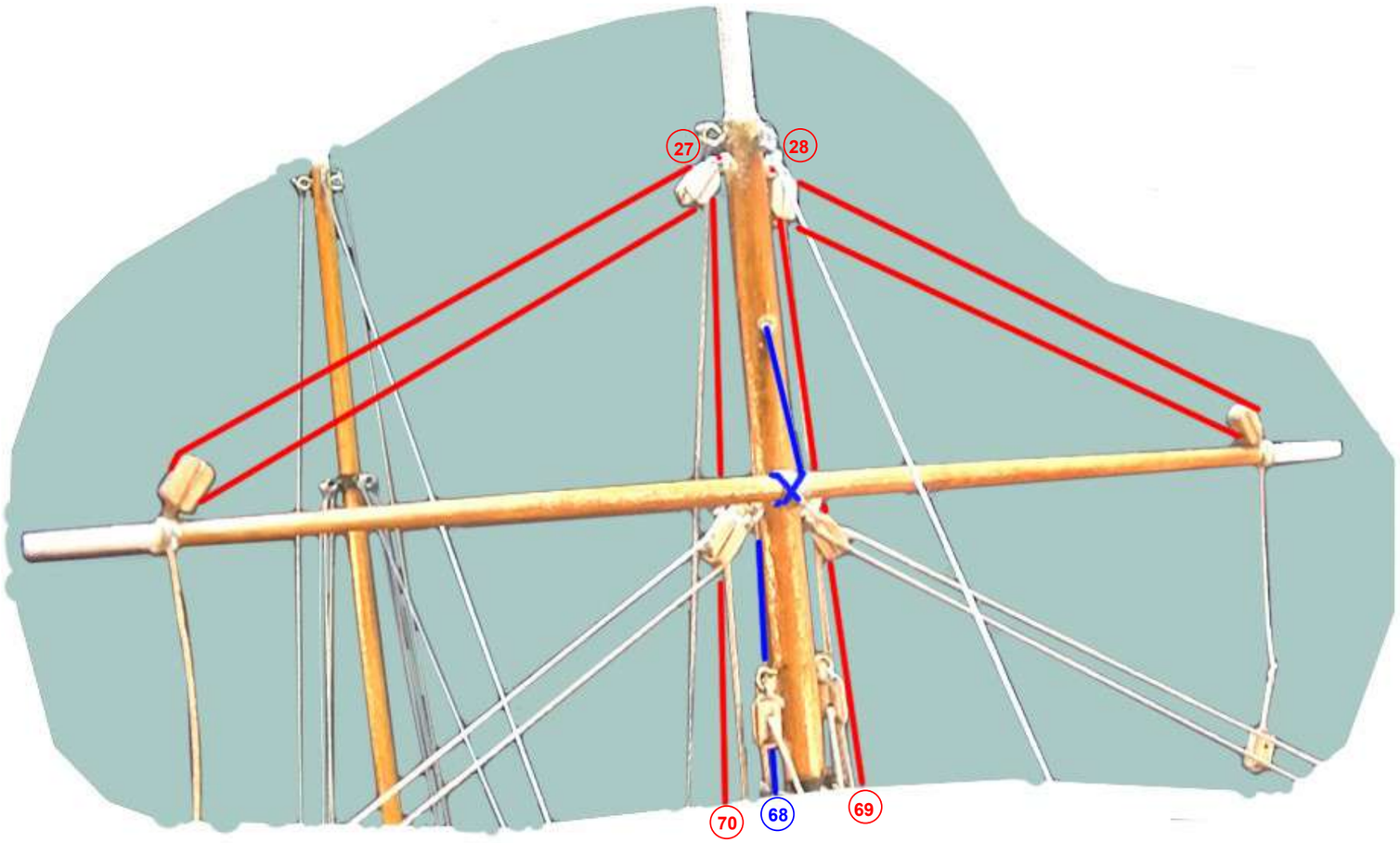


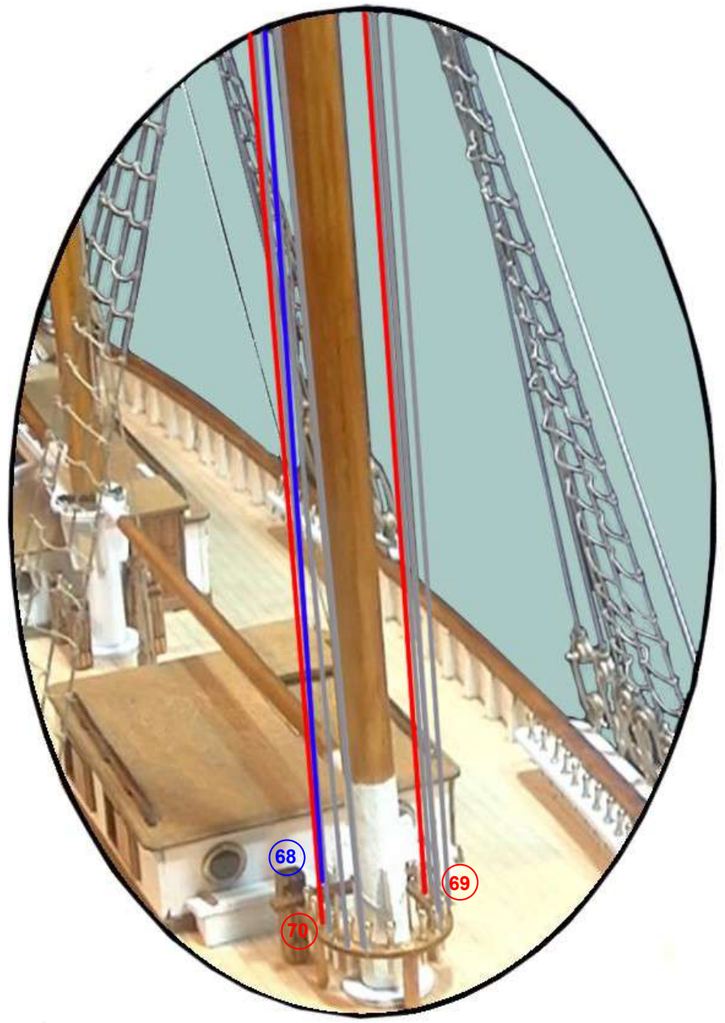


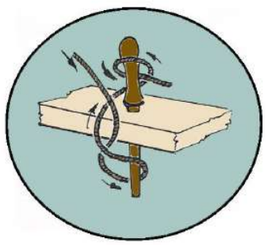
Brigantine
MATTHEW TURNER
SHEET 100

11.4.4 Topgallant Yard—Lifts

Retrieve the topgallant yard previously made. Trial fit the yard fitting the pin into point Y. Cut a length of cord to run from the yard and through point X and down to pin rail - add a little extra cord length. Remove yard. Make a sling to attach the cord to the yard. Fit yard back in place and apply glue to hold in place.
Start by rigging from the centre lift - blue lines - rig as shown terminating at belaying points 68 on the foremast fife rail as shown.
Next start rig at points 27 & 28 and terminate at points 69 & 70 on the foremast fife rail as shown.



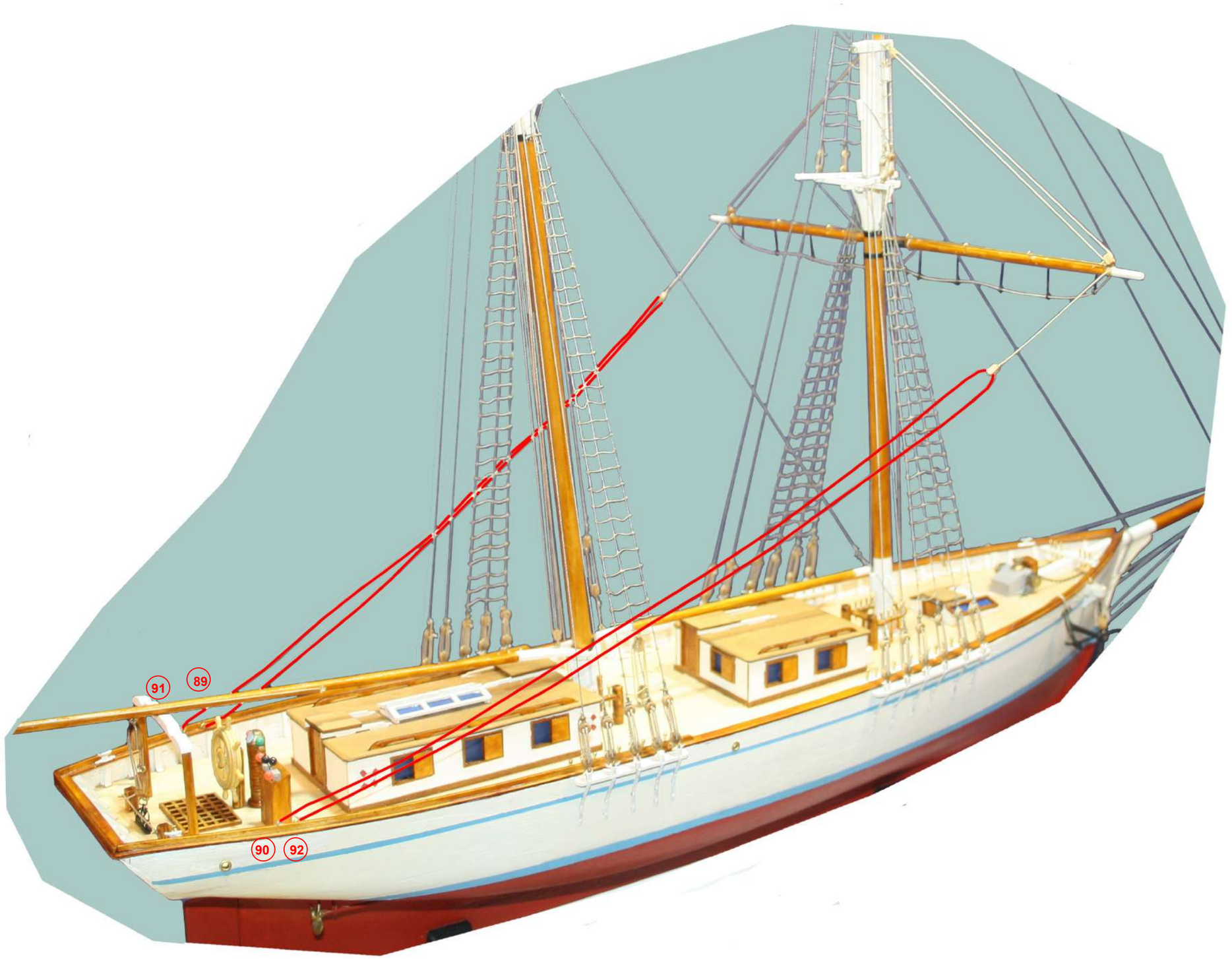




Brigantine
MATTHEW TURNER
SHEET 101

11.4.5 Main Yard - Braces

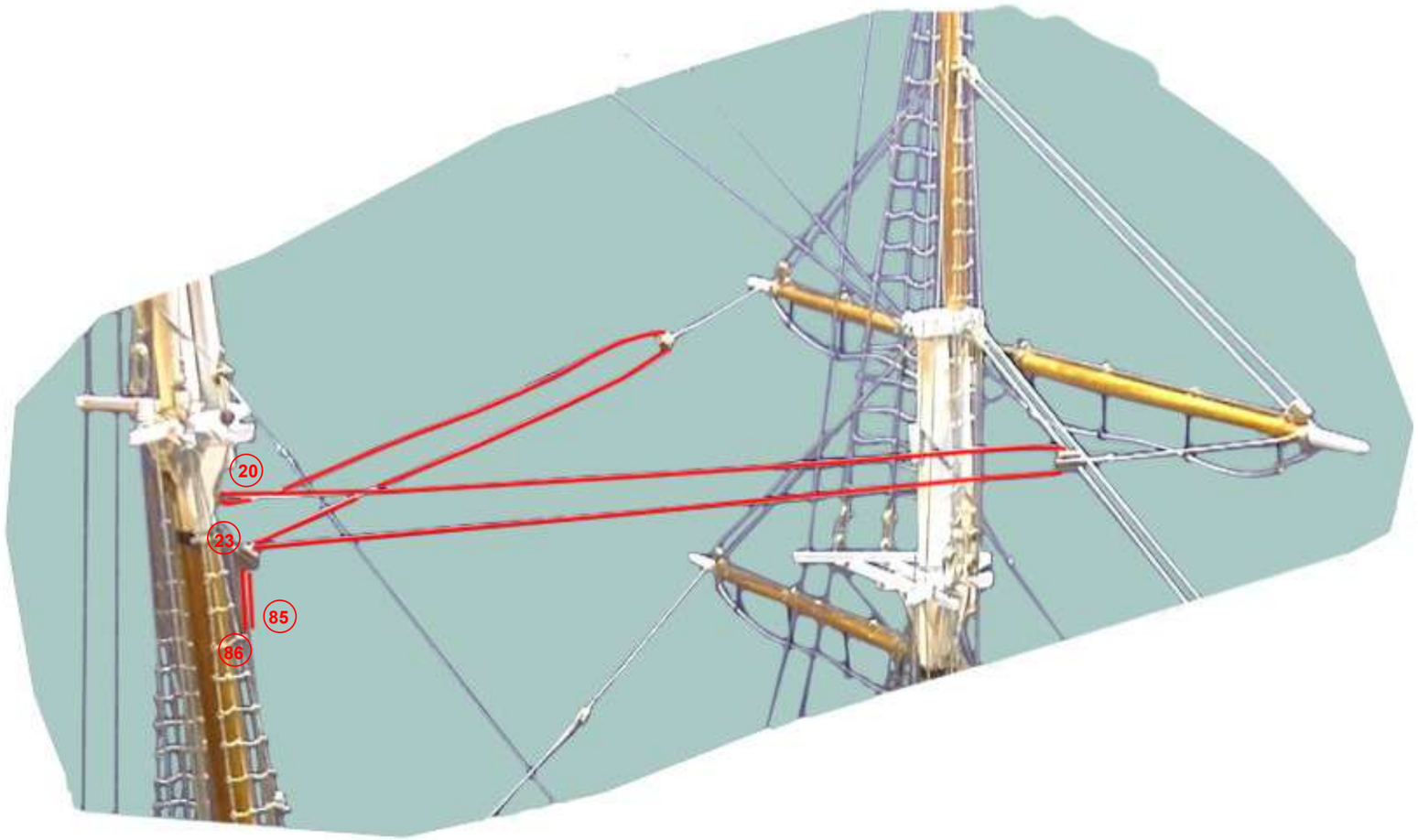
Start to rig from points 90 & 91 - run cord to the main yard pendants and terminate at points 89 & 92 as shown

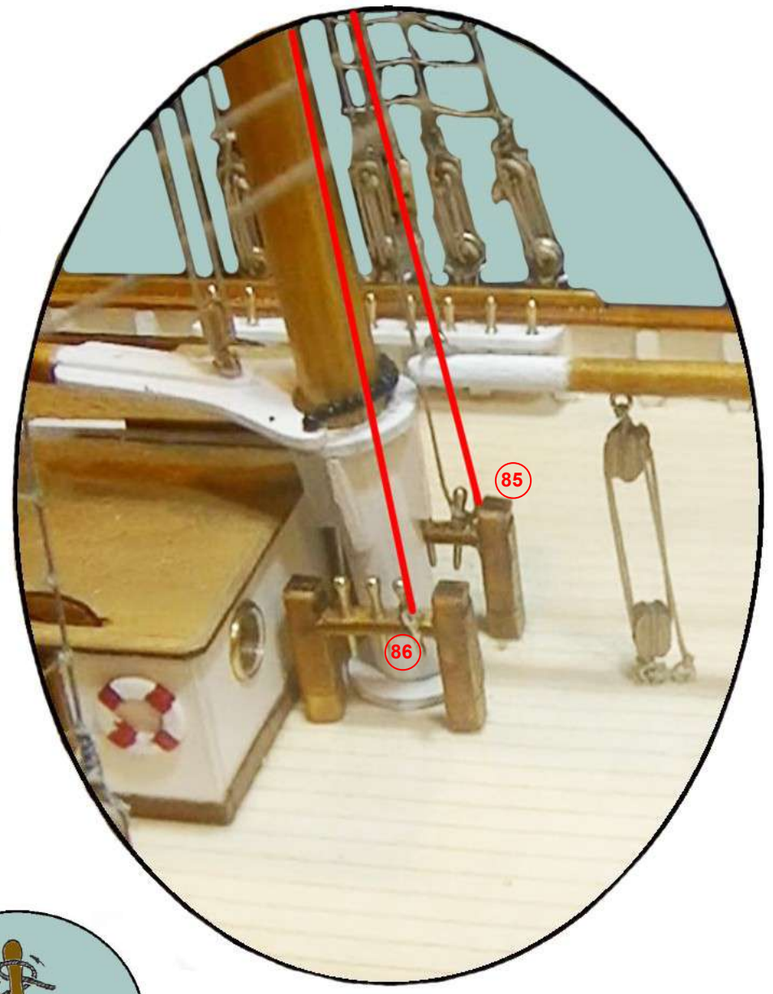


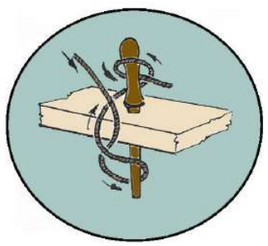
Brigantine
MATTHEW TURNER
SHEET 102

11.4.6 Lower Topsail Yard - Braces

Rig from point 20 on main mast - run cord to the lower topsail yard pendants then to block at point 23 and terminate at points 85 & 86 on the main mast fife rail as shown.



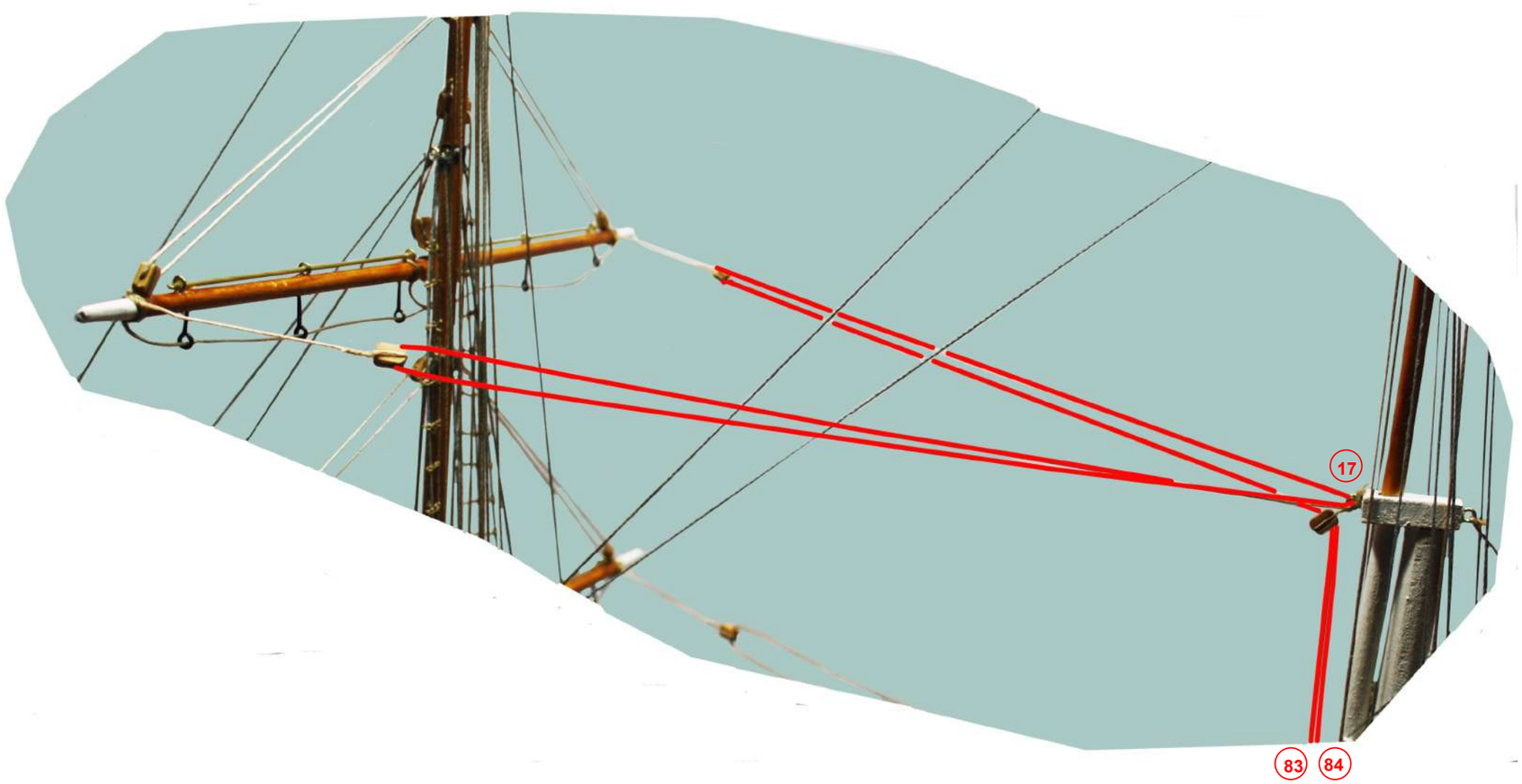


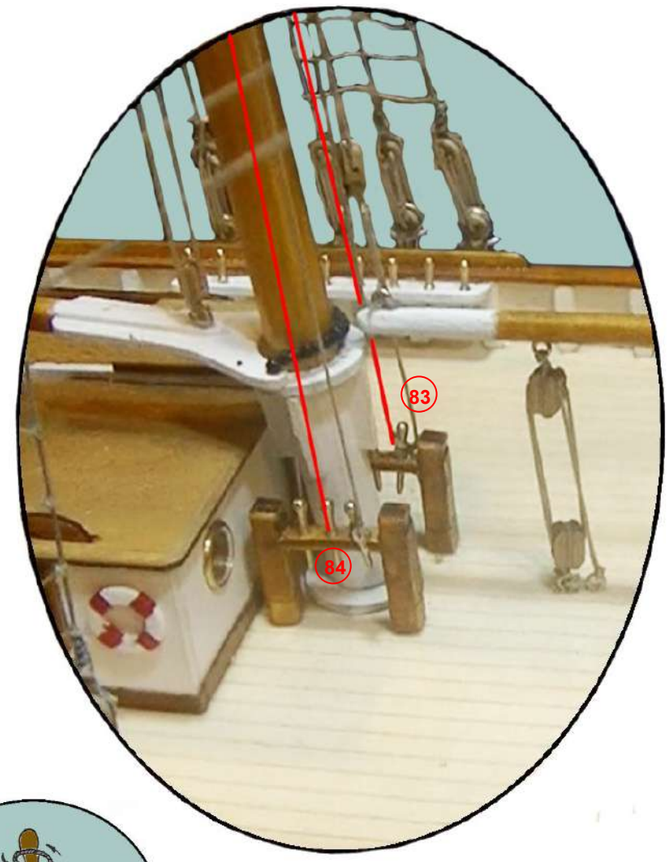


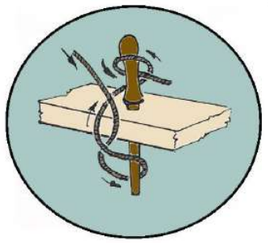
Brigantine
MATTHEW TURNER
SHEET 103

11.4.7 Upper Topsail Yard - Braces

Rig from point 17 on main mast - run cord to the upper topsail yard pendants then to block at point 17 and terminate at points 83 & 84 on the main mast fife rail as shown.



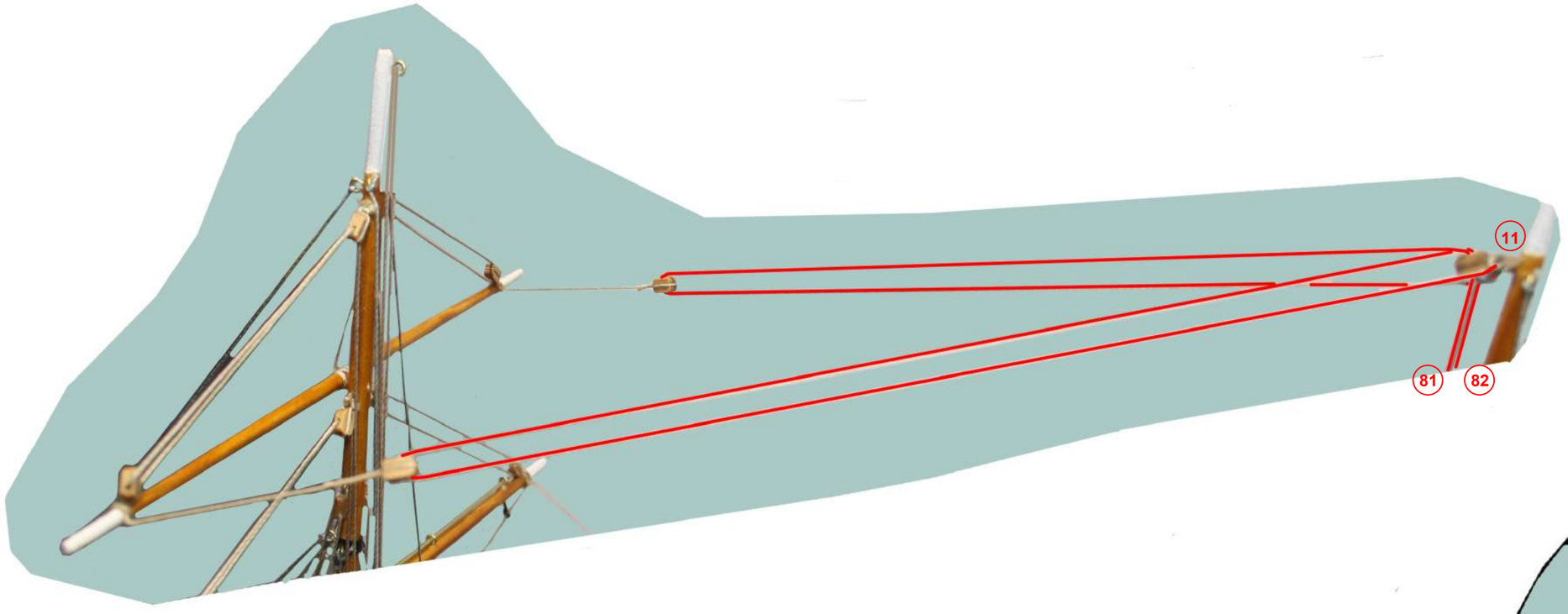


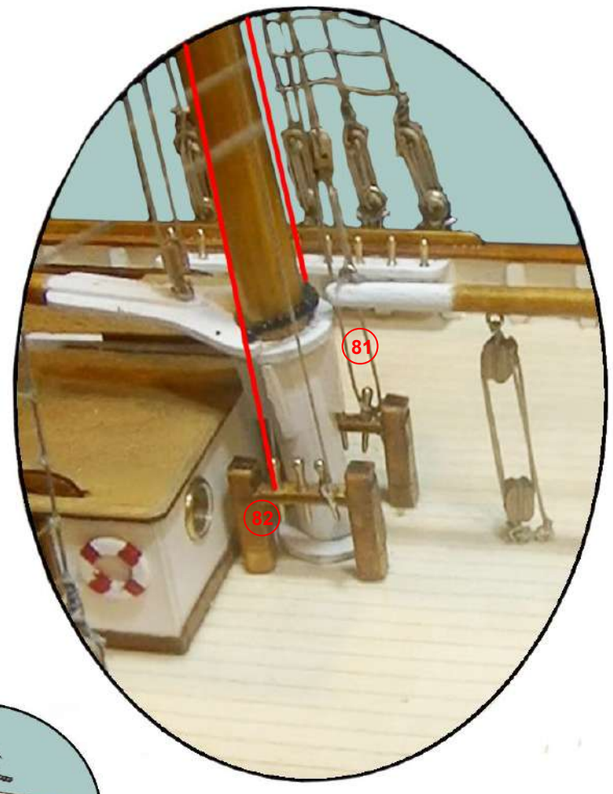


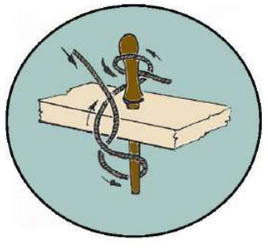
Brigantine
MATTHEW TURNER
SHEET 104

11.4.8 Topgallant Yard - Braces

Rig from point 11 on main mast - run cord to the upper topgallant yard pendants then to block at point 11 and terminate at points 81 & 82 on the main mast fife rail as shown.





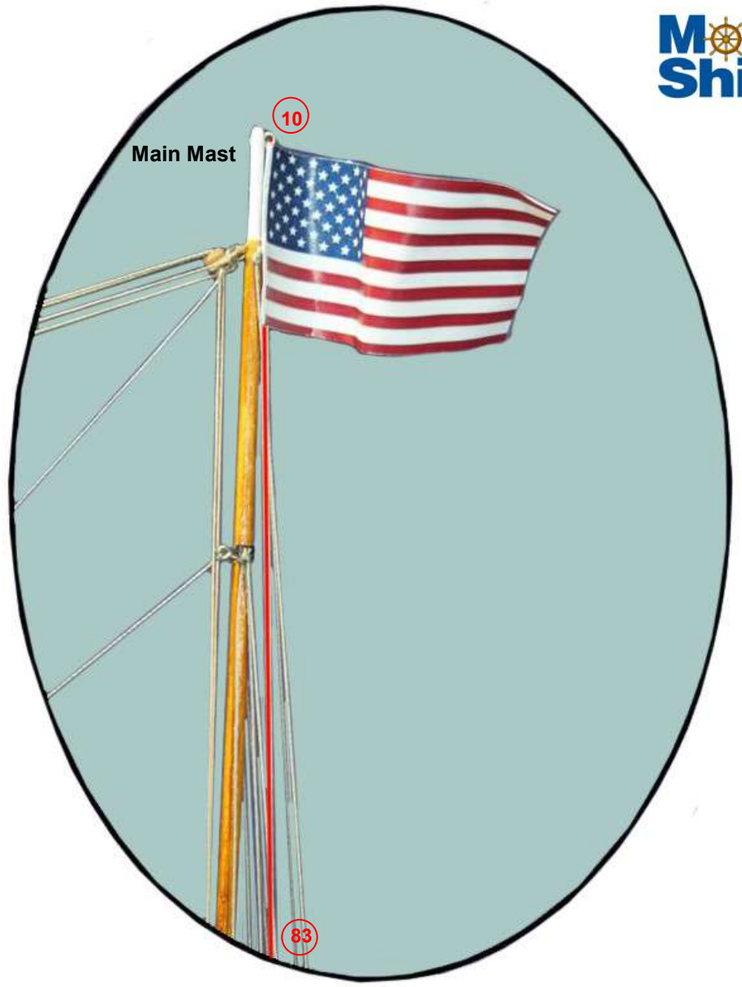


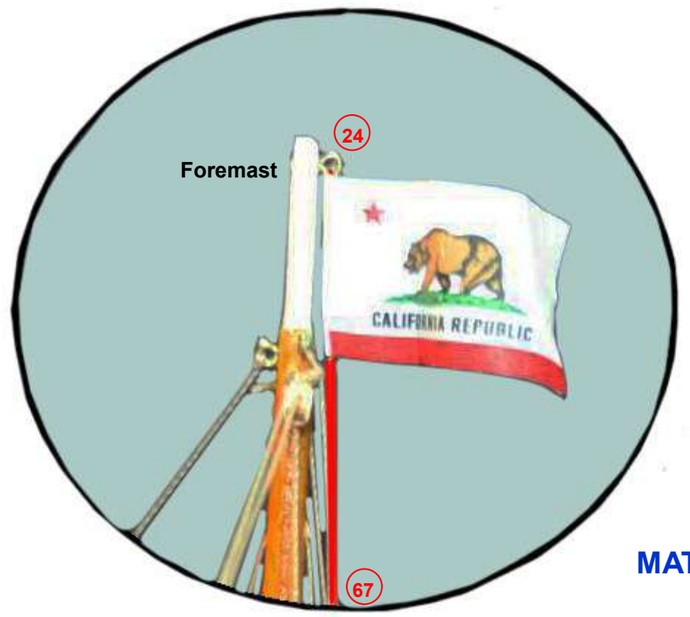
Brigantine
MATTHEW TURNER
SHEET 105

11.4.9 Flags

Identify the flag set P156. To create the effect of wind shaping the flags follow the steps below.

1. Select a paper based glue and aluminium foil.
2. Cut a flag from the set and apply the glue to the reverse side. Cut a piece of foil slightly larger than the size of the flag.
3. Lay the flag face up onto the foil - centrally locating the flag on the foil. Press firmly down on the flag to remove any air bubbles.
4. Use scissors to trim-off excess foil around the outer edge of the open flag.
5. Cut a length of cord to go from the relevant mast top to the pin rail as the flag staff.
5. Apply glue to the foil surface and fold around the flag staff - allow time for glue to dry.
6. Once glue has dried tie the flag staff with flag to the relevant mast as shown. Run flag staff to identified belaying point as shown.
7. Once flag is in position shape the flag to give the effect of blowing in the wind as shown.





Modellers Shipyard

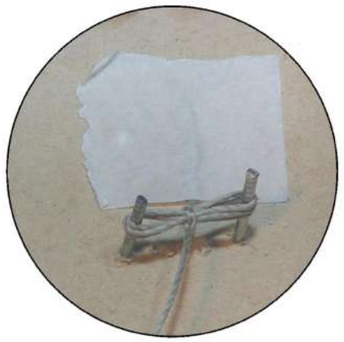
Brigantine
MATTHEW TURNER
SHEET 106

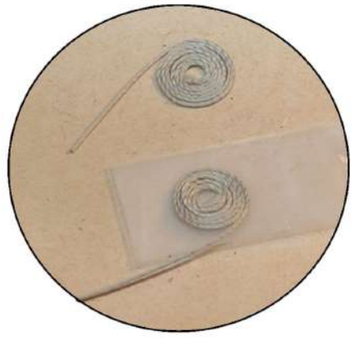
11.4.10 Rope Coils

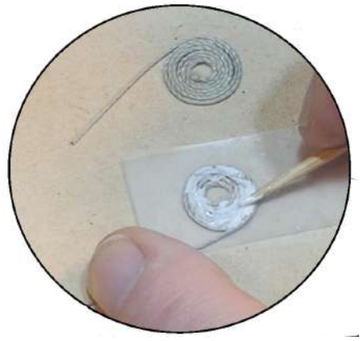
Make rope coils to be placed at the various belaying points on the fife rails and deck as shown.
To make fife rail rope coils use two nails 15mm apart. Cut a length of cord H - tape one end down as shown - wind the remaining length 4 times around the nails as shown - tie-off and apply a dab of glue to the knot.

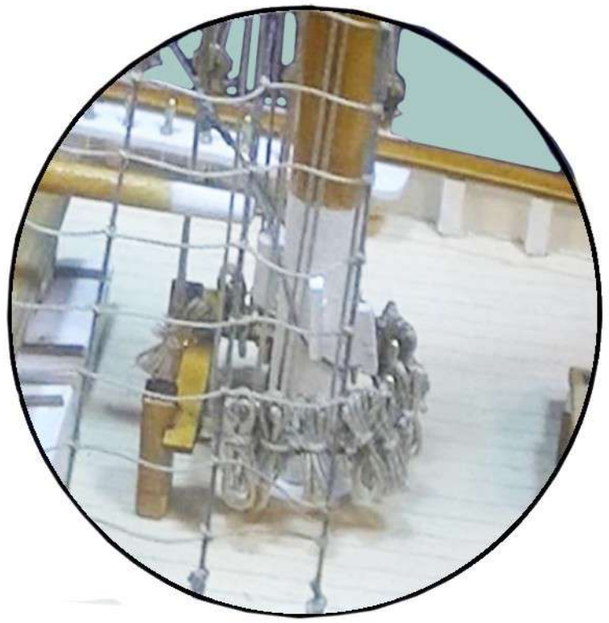
To make deck rope coils place a length of clear adhesive tape on the bench - fold ends over and stick to the bench. Cut a length of cord and using tweezers start by placing one end of the cord in the centre and carefully wind the cord around on itself as shown. Lightly smear glue over the side of the coil - once the glue is dry carefully remove from the adhesive tape.

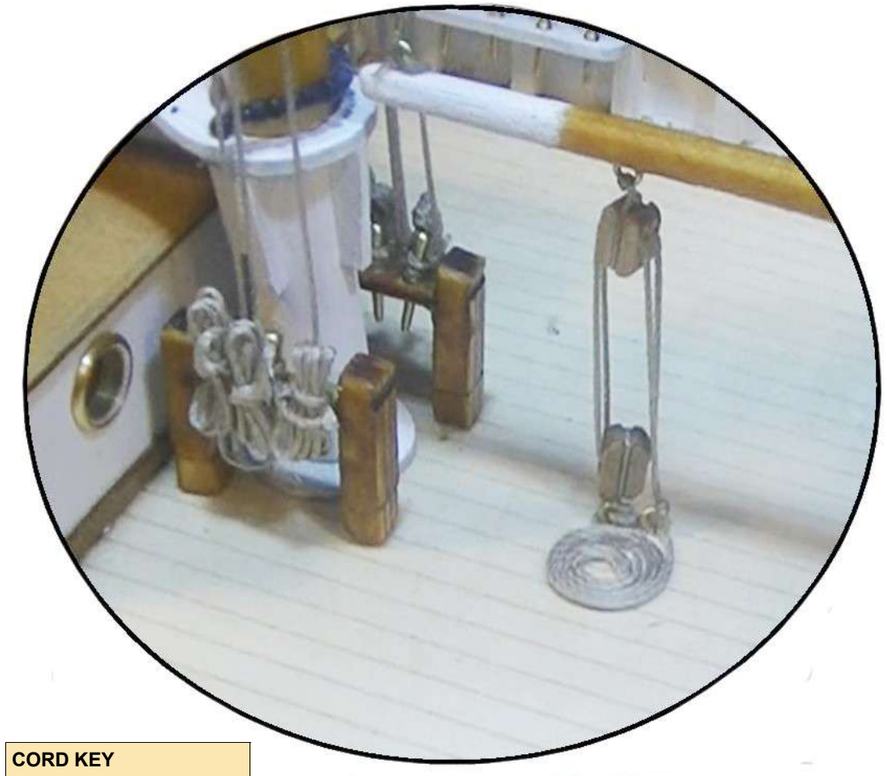
Use a glue gun to fix the coils to the pin rails and other belaying points as shown. Use glue to fix the deck coils is place as shown.











CORD KEY		
Size	Grey	Silver
0.25mm	G	—
0.50mm	H	J
0.70mm	—	K

Brigantine
MATTHEW TURNER
SHEET 107

11.4.11 Completed Model

Look carefully over the instructions, photos & drawings 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.

You might consider a display case which will protect your model from dust and accidental damage.

Brigantine
MATTHEW TURNER
SHEET 108