AUSTRALIAN COLONIAL SERIES WOODEN MODEL KIT

COLONIAL KETCH MARY BYRNE 1826

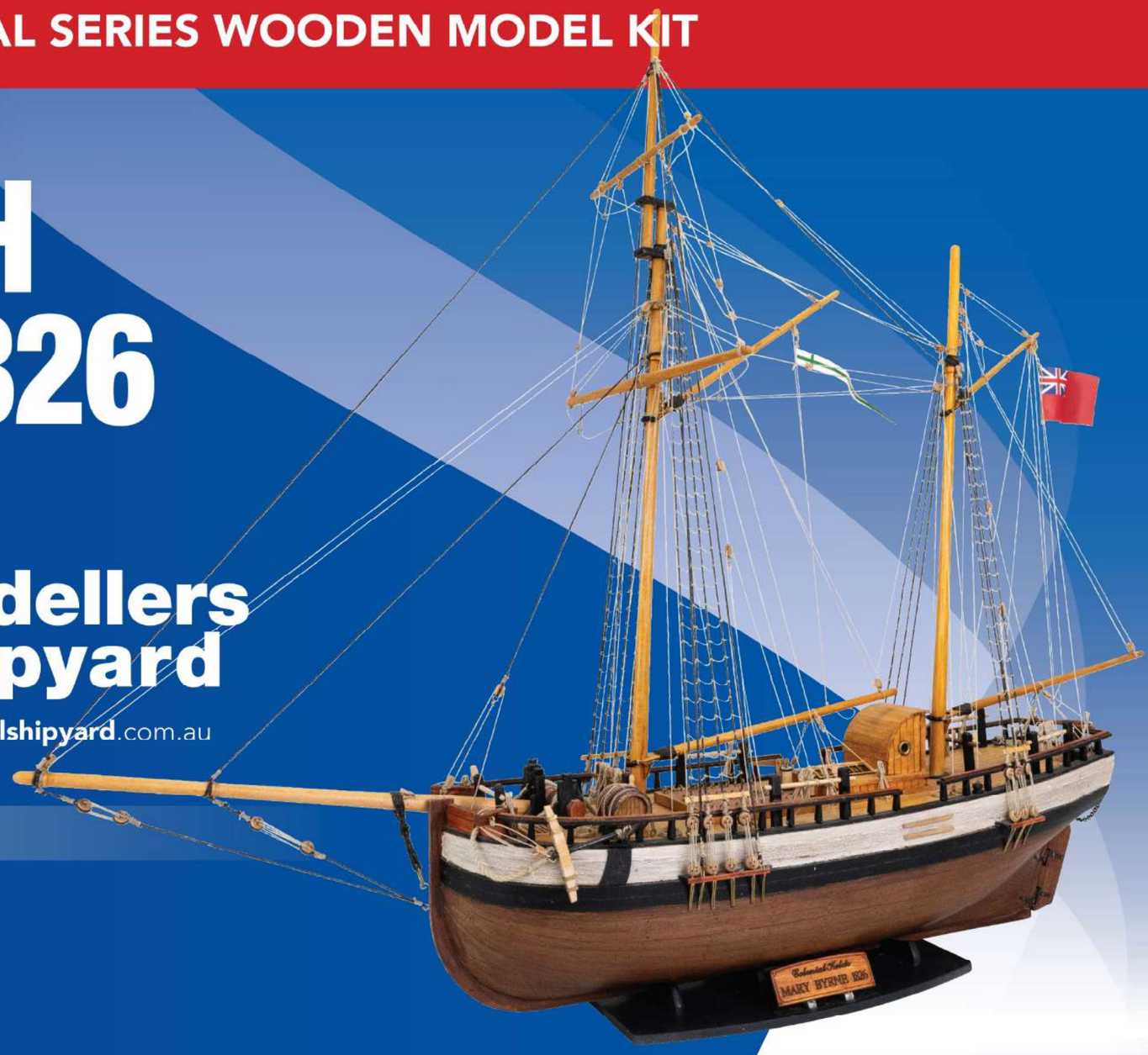
SCALE 1:48

Modellers Shipyard

www.modelshipyard.com.au

LENGTH: 590mm WIDTH: 195mm HEIGHT: 490mm

ITEM CODE: KTMS1013



BUILDING INSTRUCTIONS

Version 3.0

1.0 Introduction

Modeller's Shipyard is proud to present another wooden model ship in our Australian colonial vessel series. We are the only manufacturer of wooden model ships in Australia.

Our model of the colonial ketch *Mary Byrne* is based on a typical river & coastal ketch that sailed in Australian waters during the early nineteenth century.

The *Mary Byrne* model is double planked on bulkhead construction with laser cut plywood. The kit comes complete with all timber, rigging cord and fittings. All parts and fittings are of the highest quality.

2.0 Historical Notes

Ketches were river & coastal traders brought to the colonies of Australia by Europeans in the early nineteenth century that evolved into designs that suited Australian coastal & river waters. The vessels had two masts and a simple sets of sails so they could be managed by crews of three seafarers**.**

Ketches were integral to Australia's early maritime history. They connected the city and country before the advent of road and rail. The ketch is quite manoeuvrable in light winds and with a shallow draught they were well suited to negotiate the coastal rivers to transport farm products, grain and minerals to the city and shipping goods and supplies to isolated river and coastal communities along the extended coast of east and south eastern Australia.

The ketch *Mary Byrne* is named after a young Irish girl. In 1826 Mary Byrne was sentenced in Dublin to seven years & transported to the colony of New South Wales from Dublin. Her crime was stealing a lace handkerchief. Mary's mother Jane appealed in writing to the local authorities to save her daughter on the grounds that she was an only child and her father had died. This was all to no avail. Mary was transported on the *Lady Rowena*, which left Dublin in January 1826 and arrived in Sydney in May. The ship carried 102 females from Ireland, most transported for 7 years for minor crimes.

Upon arrival in Sydney Mary was assigned to Mr Still, at Bunkers Hill as a servant. The Sydney Gazette reported that Mary had an argument with a fellow worker in the kitchen which resulted in the police being summoned. Her employer Mrs Still came to her defence saying she was a church going lass and engaged to a policeman. Mary, again, found herself in trouble when another employer refused to pay her and Mary confronted the woman demanding her wages. This time, Mary received 3 months in the Female Factory at Parramatta. There is no doubt Mary was a feisty lass, for upon sentencing Mary was heard to state that she didn't care as she'd just have to sweep a few floors.

Mary eventually set-up house in the Rocks area of Sydney with John Burke, himself a convict who was issued with a ticket of leave. John Burke was a blacksmith, by trade but did serve some time as a police officer. The 1828 census shows that Mary and John had a daughter called Margaret, but sadly there is no further evidence of her existence. In about 1832 they had a son called John, who went on to marry Mary Coe at St Mary's church in 1856. Mary Coe too, was descended from convicts.

We next hear of Mary Byrne, when she was admitted to the Sydney General Hospital in May 1842. She died soon after of Erysipelas, which was also written up in the Sydney Gazette. The government records of Mary's autopsy state that she had a "visitation from God". Mary died, a convict, when she was just 36 years of age. Mary Byrnes descendants lived in The Rocks area of Sydney for well over 100 years and continue to live in Australia today.

The *Mary Byrne* model is dedicated to Mary Byrne and her descendants.

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 thoroughly before commencing construction. While reading these instructions, familiarise yourself with the contents of the kit.

2. Parts are identified as, for example P25 - means Part No 25.

3. Few, if any, parts can be simply glued in place without some preparation. Always dry fit parts and if necessary 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
   - Hull Planking
   - Deck & Deck Furniture
   - Masts & Yards
   - Rigging

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

Colonial Ketch
MARY BYRNE
1826
SHEET 1

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

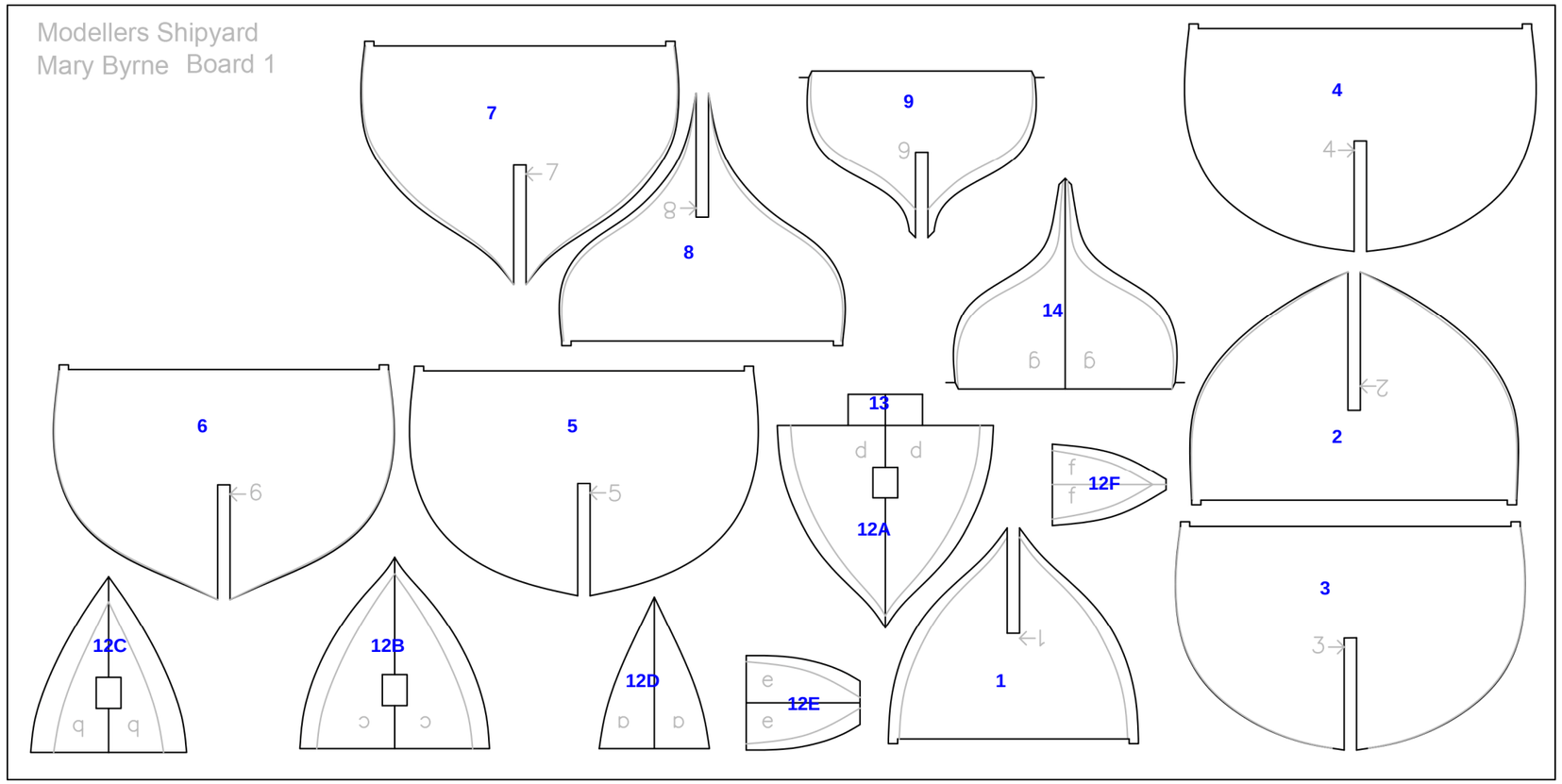
Part No	Description	Quantity	Location
1-9	Bulkheads	9	Board 1
10	Keel	1	Board 2
11	Deck	1	Board 3
12A-F	Bow Filler Blocks	12	Board 1
13	Bow Filler Blocks Keys	2	Board 1
14	Transom Filler Blocks	2	Board 1
15	Basswood 2x5x400mm	50	Timber stock
16	Keel	1	Board 2
17	Stem Post	1	Board 2
18	Stem Post	1	Board 2
19	Teak 0.6x5x400mm	60	Timber stock
20	Limewood 1.5x6x400mm	4	Timber stock
21	Display Base	1	Board 2
22	Display Supports	8	Board 2
23	Name Plate Supports	2	Board 2
24	Fence Base	1	Board 3
25	Stanchions	52	Board 4
26A-B	Fence Tops	4	Board 3
27A-C	Rudder	3	Board 2
28	Tiller	1	Board 2
29	Rudder Hinges	3	Parts Card 2
30	Nails - Brass	Pkt	Parts Card 2
31	Main mast channels	2	Board 3
32	Mizzen mast channels	2	Board 3
33	Eye pins 3 x 10mm	Pkt	Parts Card 2
34	Rings 3mm	Pkt	Parts Card 2
35	Cleats	6	Board 4
36	Block - 4mm 1 hole - A	36	Parts Card 2
37	Block - 5mm 1 hole - B	16	Parts Card 2
38	Block - 5mm 2 hole - C	5	Parts Card 2
39A-E	Hawse	8	Board 3
40	Cargo hatch coaming	1	Board 4
41	Cargo hatch covers	2	Board 4
42	Fore Hatch	1	Board 4
43	Mast heels	2	Board 3
44	Bitt heads	4	Board 2
45	Billboards	2	Board 3
46A	Cathead arm	2	Board 2
46B	Cathead leg	2	Board 2
47	Windless axle	1	Board 4
48	Pawl ring gear	2	Board 4

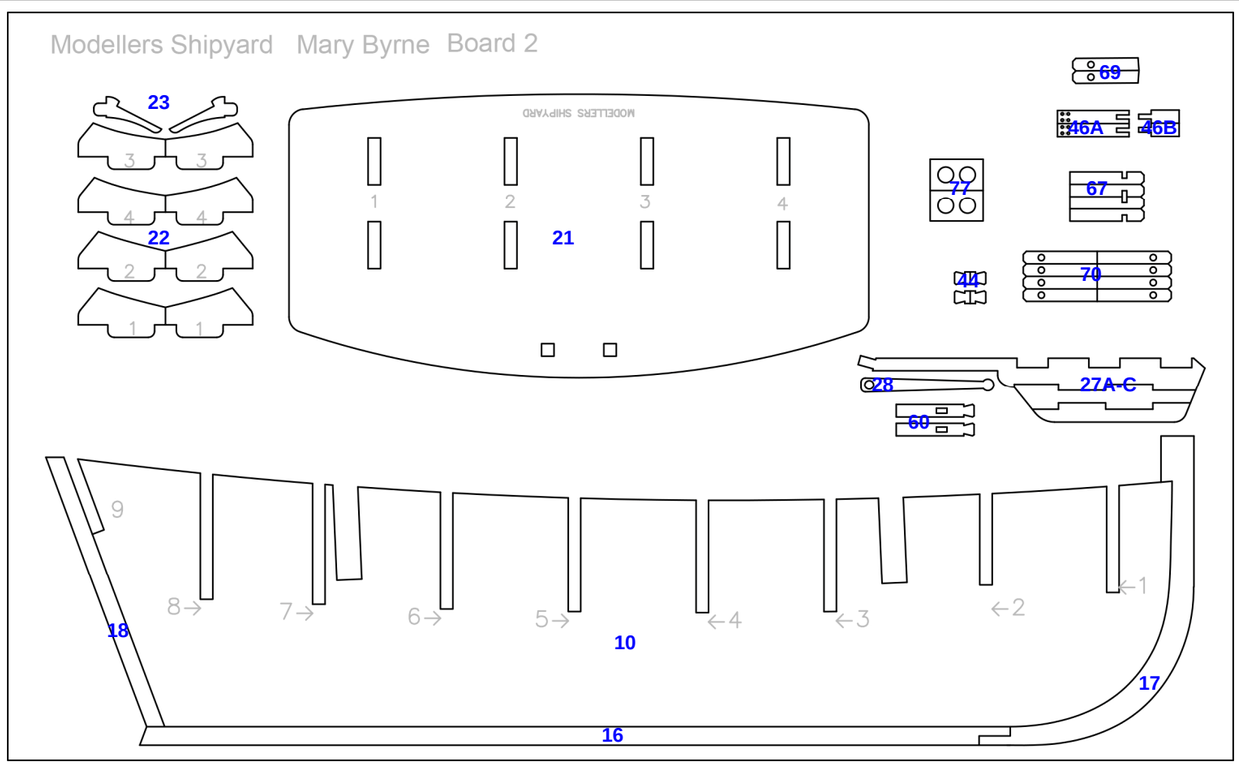
Part No	Description	Quantity	Location
49	Warping head	2	Board 4
50	Warping head end	2	Board 5
51A-B	Spindle - outer	16	Board 3
52	Spindle ends - large	4	Board 3
53A-B	Spindle centre	8	Board 3
54	Spindle ends - small	2	Board 3
55	Spindle face	4	Board 3
56	Axle spacer	2	Board 4
57	Carrick bitts	2	Board 4
58	Cheeks	2	Board 3
59	Carrick standard	2	Board 3
60	Pawl bitt pins	2	Board 2
61	Pawl bitt standard	2	Board 4
62	Chain 3mm x 250mm	1	Parts Card 2
63A-J	Companionway	14	Boards 3 & 5
64	Roof slats	8	Board 3
65	Trim Covering	4	Board 5
66	Eyelets	4	Parts Card 2
67	Pin rail bitts	4	Board 2
68	Pin rails	2	Board 3
69	Fore fife rail bitts	2	Board 2
70	Mid-ship & Aft fife rail bitts	8	Board 2
71	Pumps	2	Parts Card 2
72	Dowel 2mm x 250mm	1	Timber stock
73	Dowel 4mm x 400mm	1	Timber stock
74	Dowel 5mm x 500mm	1	Timber stock
75	Dowel 6mm x 200mm	1	Timber stock
78A	Dowel 8mm x 330mm	2	Timber stock
76B	Dowel 8mm x 250mm	1	Timber stock
77	Mast caps	2	Board 2
78	Boom yokes	2	Board 3
79	Gaff yokes	2	Board 3
80	Boom Rests	2	Board 3
81	Boom rest supports	6	Board 3
82	Eye pins 3.5 x 20mm	6	Parts Card 2
83	Gammoning blocks	3	Board 3
84	Wire - brass - 1mm x 50mm	1	Parts Card 2
85	Cord - 0.25mm Fawn - E	1	Parts Card 1
86	Cord - 0.5mm Fawn - F	1	Parts Card 1
87	Cord - 1.0mm Black - G	1	Parts Card 1
88	Anchor rope 2mm	1	Parts Card 1

Part No	Description	Quantity	Location
89A-B	Fence top capping	4	Board 5
90	Anchors	2	Parts Card 2
91A	Barrel 1	2	Board 4
91B	Barrel 2	2	Board 3
91C	Barrel 3	2	Board 4
91D	Barrel 4	2	Board 3
91E	Barrel 5	2	Board 3
91F	Barrel 6	2	Board 5
91G	Barrel key	1	Board 4
91H	Barrel stand	1	Board 3
92	Deadeyes 5mm	32	Parts Card 2
93	Wire - brass - 0.5mm x 1.5m	1	Parts Card 2
94A	Channel capping - main mast	2	Board 5
94B	Channel capping - mizzen mast	2	Board 5
95A	Lanyard strips - main mast	2	Board 5
95B	Lanyard strips - mizzen mast	2	Board 5
96	Parrals	Pkt	Parts Card 2
97	Hull steps	4	Board 3
98A	Flag - Red Ensign	1	Sheet 75
98B	Flag - Mary Byrne Pennant	1	Sheet 75
99	Name plate	1	Board 3

Colonial Ketch
MARY BYRNE
1826
SHEET 2

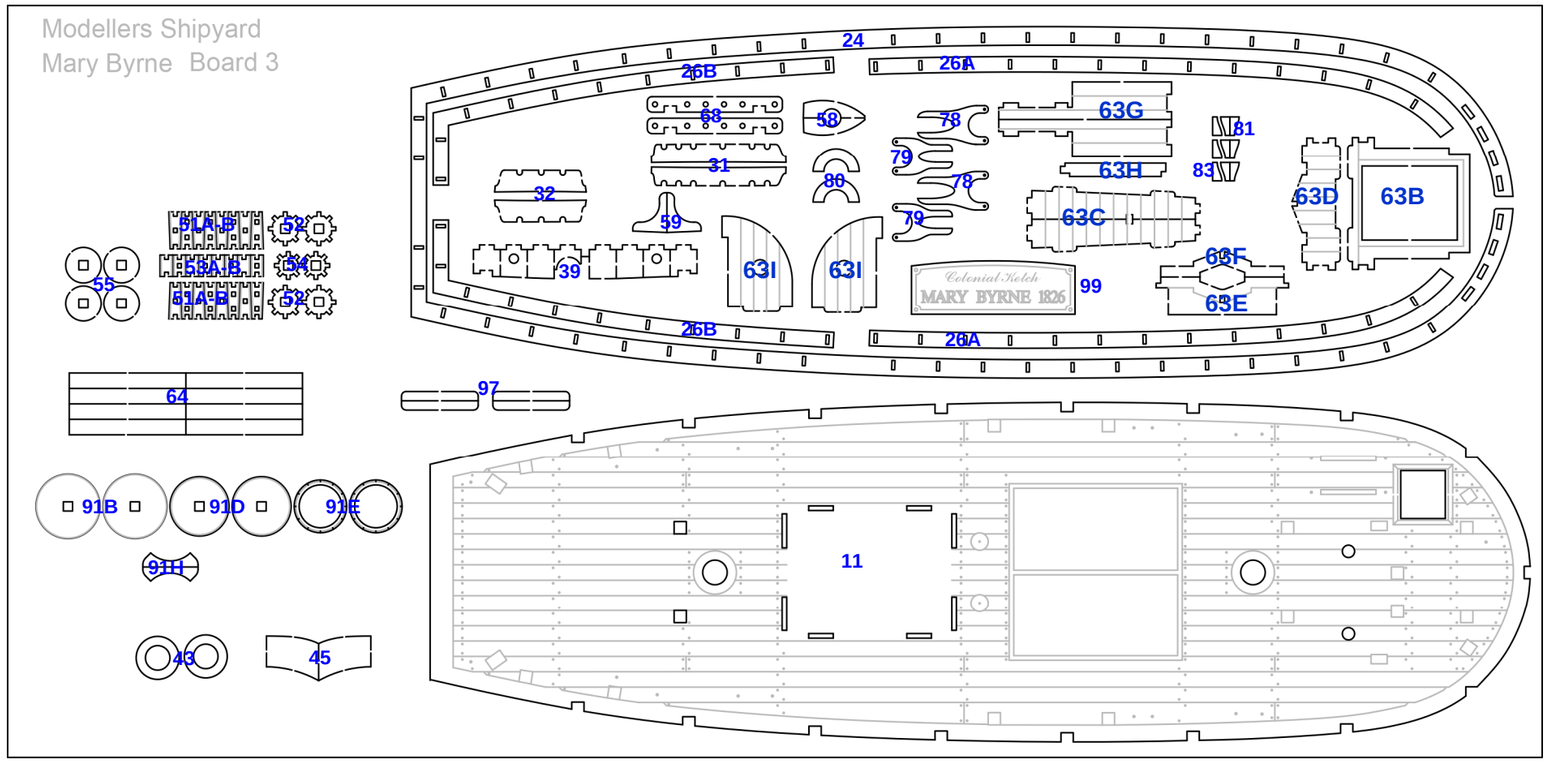
5.0 Boards

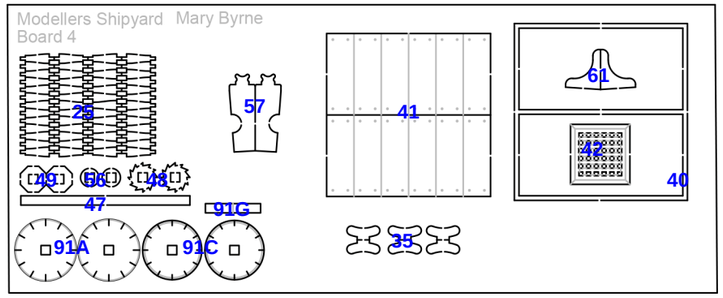


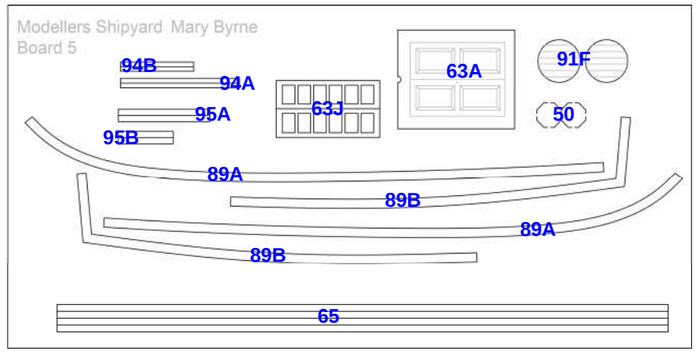


Colonial Ketch
MARY BYRNE
1826
SHEET 3

5.0 Boards continued

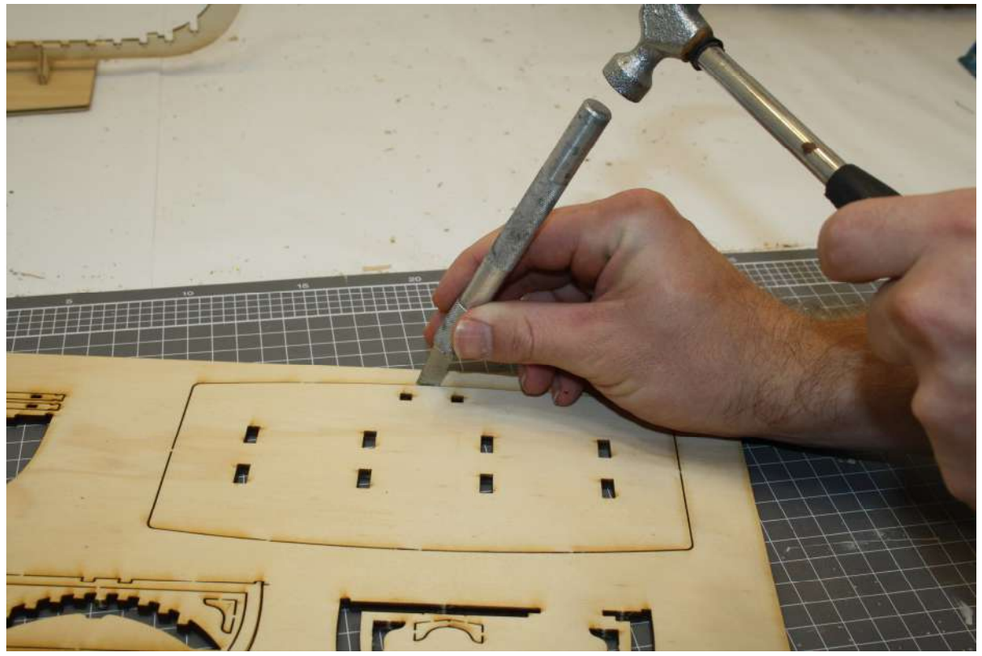






5.1 Removing Parts from Boards

Use a chisel knife blade and a pointed blade knife to cut the tabs holding the parts in place on the laser cut boards - cut the tabs on both sides of the board - take care when performing this task.



5,2 Selected Finish

Shellac (French polish) is used on the model presented - you may wish to use other finishes as desired. A cotton bud and/or a soft cloth is used to apply the finish.

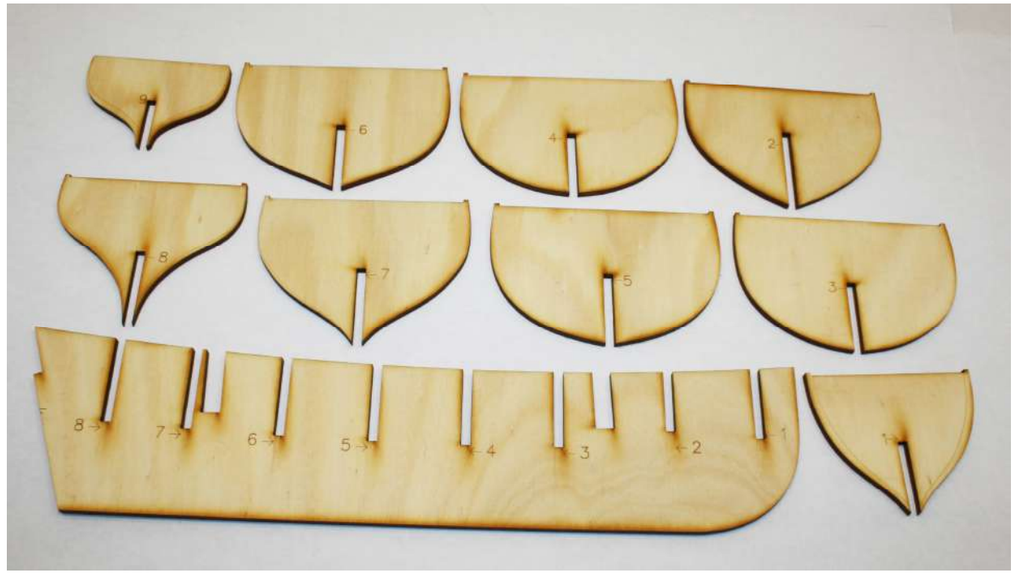
Colonial Ketch
MARY BYRNE
1826
SHEET 4

6.0 Hull Construction

6.1 Keel & Bulkheads

Identify the bulkheads P1 - P9 and the keel P10. Notice bulkheads P1, P2, P6, P7, P8 and P9 have laser score lines along their edges. These are the pre-fairing lines which allow for the bulkheads to be faired before fixing to the keel.

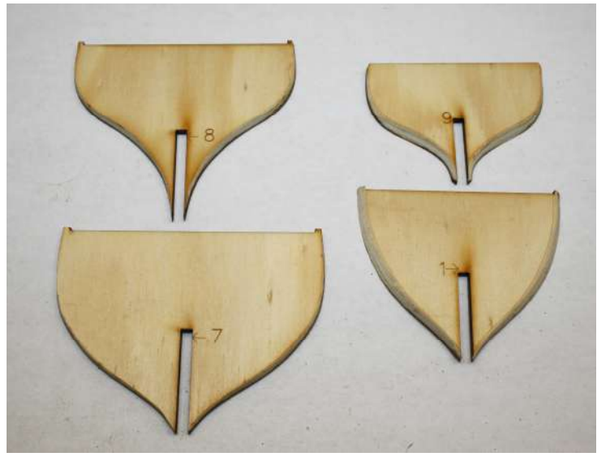
Notice also on each bulkhead there is an arrow along with arrows on the keel at each bulkhead slot - when the bulkheads are fitted to the keel the two arrows will align when the bulkhead is fitted correctly.

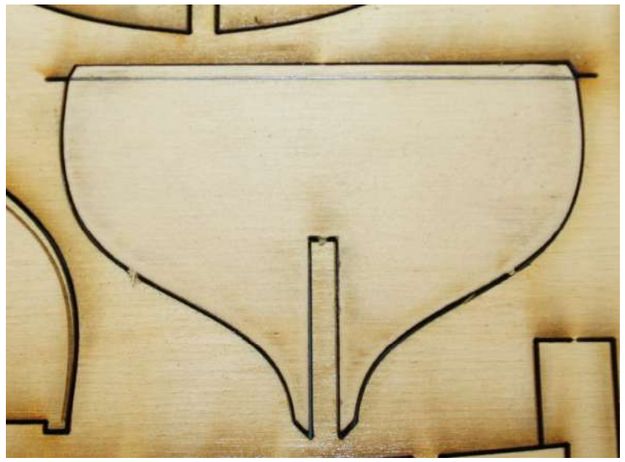


6.2 Shape Bulkheads

Use a grinding tool and a sanding block to chamfer the bulkhead edges from the score line to the opposite face edge. Bulkheads P2 & P6 will only need a minor chamfer. Note the angle of the chamfer will change as you progress along the bulkhead edge.

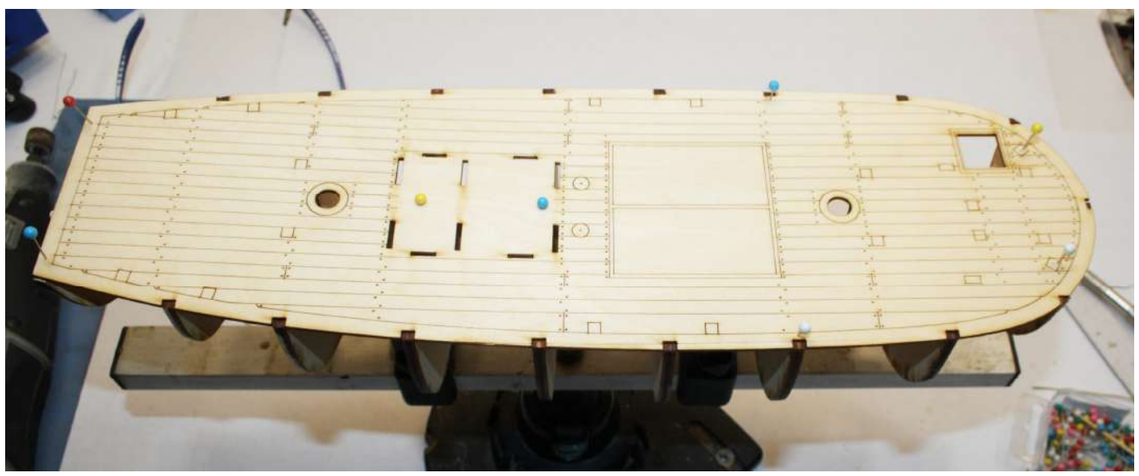
Take bulkhead P9 and place it face down back in its location on Board 1. Using the cut lines in the board draw a straight line across the top of the bulkhead as shown. Next create a chamfer from this pencil line to the other face edge.





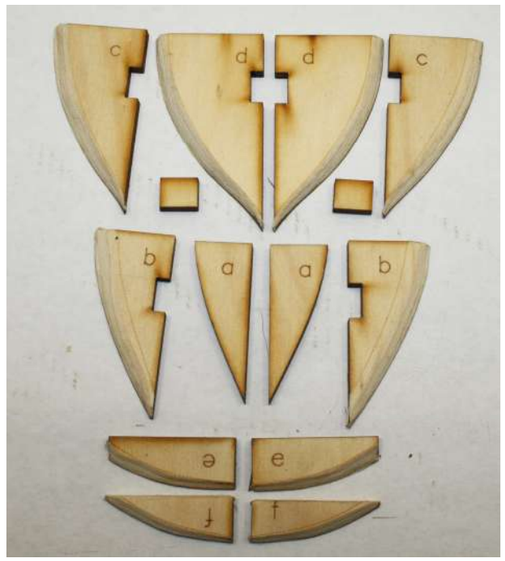
6.3 Assemble Keel & Bulkheads

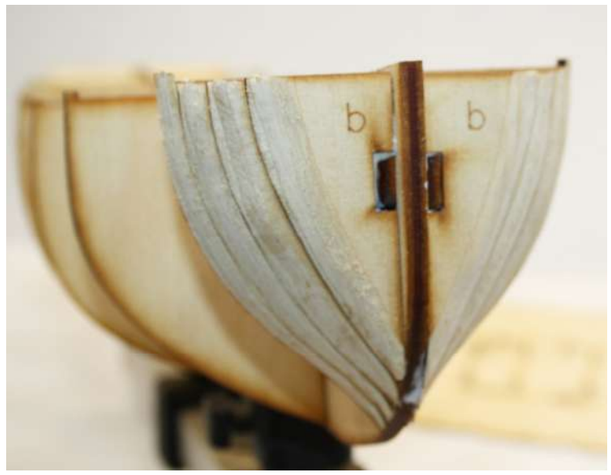
Dry fit the bulkheads into their respective keel slot - make sure when fitting each bulkhead the arrow aligns with the arrow on the keel. Do not force the bulkhead into its slot - it should be firm but not tight - if needed use a small flat file to fractionally adjust the slot width. Identify the deck P11. Trial fit the deck in place - fractionally adjust as required. Remove deck. Remove each bulkhead and then glue each back in place using white wood glue.
Remove any excess glue with a damp cloth/damp cotton bud. Fit deck back in place - do not glue deck in place - the deck will hold the bulkheads square to the keel while the glue sets. Use map pins to temporarily hold the deck in place. Once the glue has set remove the deck.

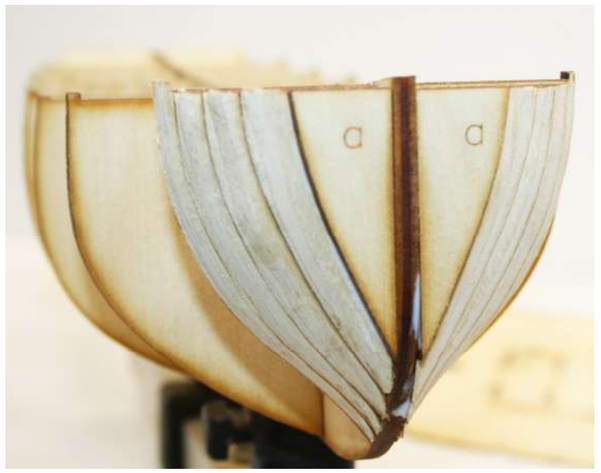


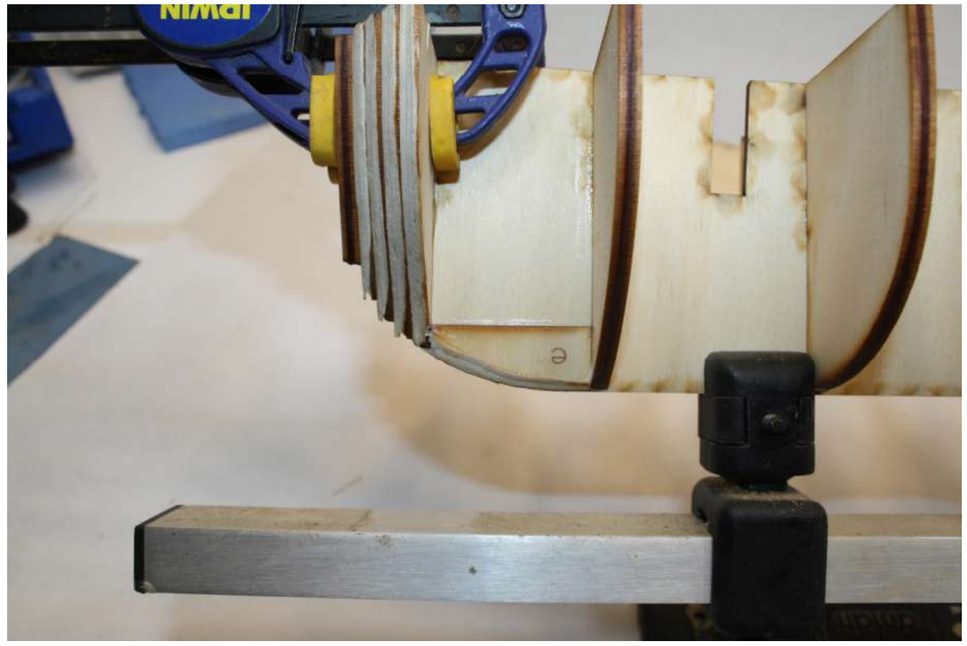
6.4 Bow Filler Blocks

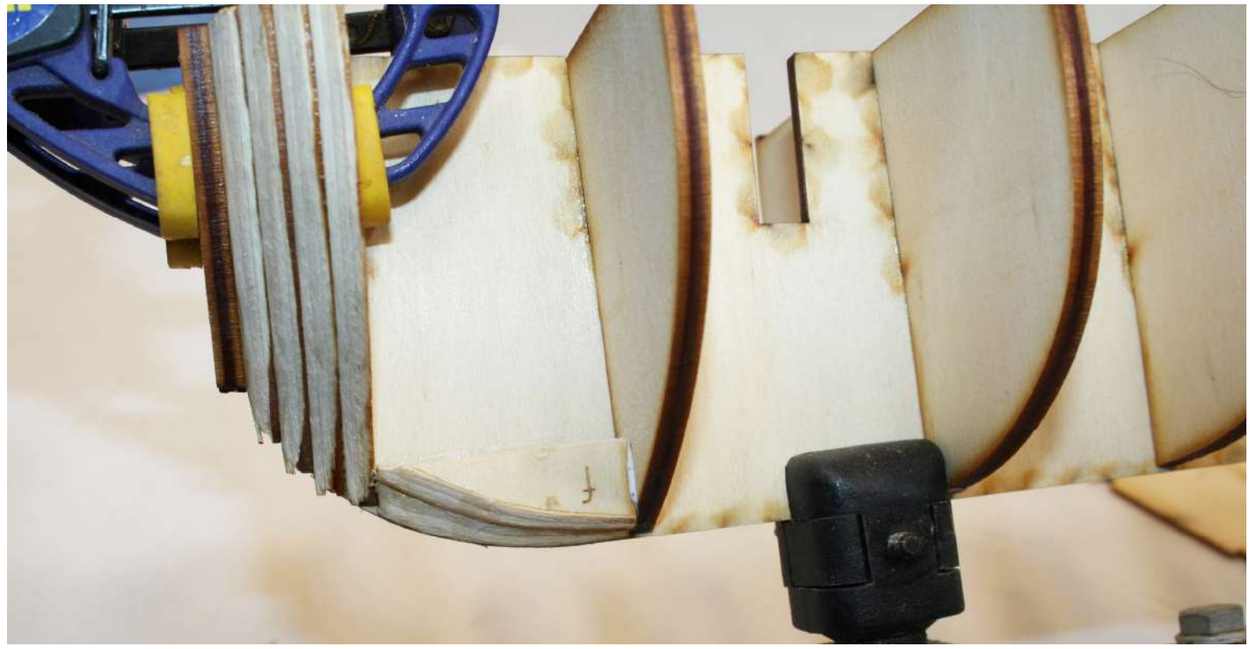
Identify the bow filler blocks are P12A-F and the key is P13. Filler blocks provide an area for gluing the planks at the bow. Use a grinding tool and a sanding block to chamfer the filler blocks edges from the score line to the opposite face edge. Note the angle of the chamfer will change as you progress along the filler block edge. Glue filler block 12A in place against bulkhead 1 and the keel - fit the keys P13 in place - make sure to position the filler blocks flush with the top of bulkhead 1. Continue to glue filler blocks 12B to 12D in place - use clamps to hold the blocks in place while the glue sets as shown. Glue filler blocks 12E in place between bulkheads 1 and 2 - align with the base of the keel as shown. Glue filler blocks 12F in place between bulkheads 1 and 2 over the top of 12E as shown. Set aside to allow glue to set.







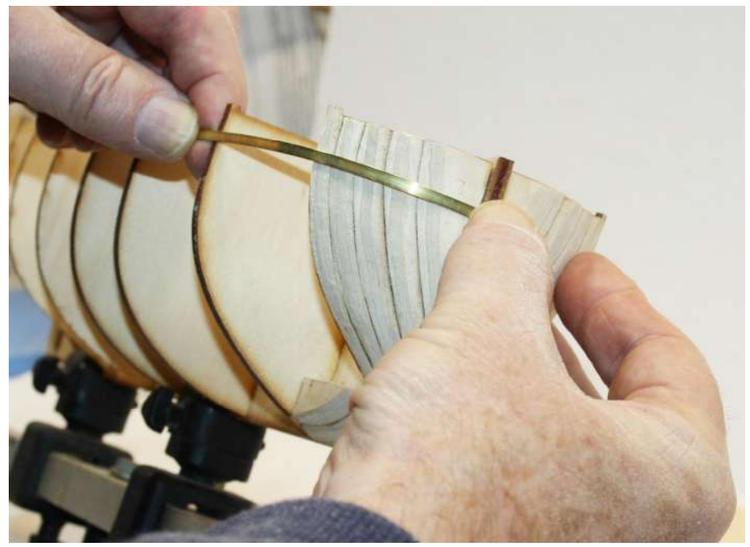




Colonial Ketch
MARY BYRNE
1826
SHEET 6

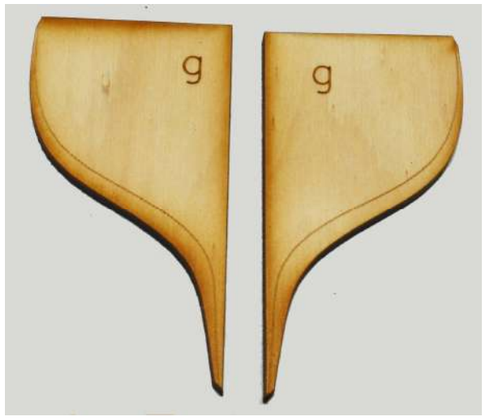
6.5 Fairing the Filler Blocks

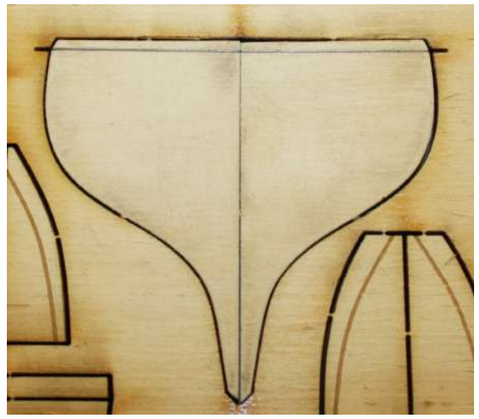
Use a grinding tool and sanding board to shape filler block 12D as shown - avoid touching the keel. Use a brass strap or similar to check its lay across the filler blocks - fractionally adjust as required to ensure there is a smooth curvature across the blocks.

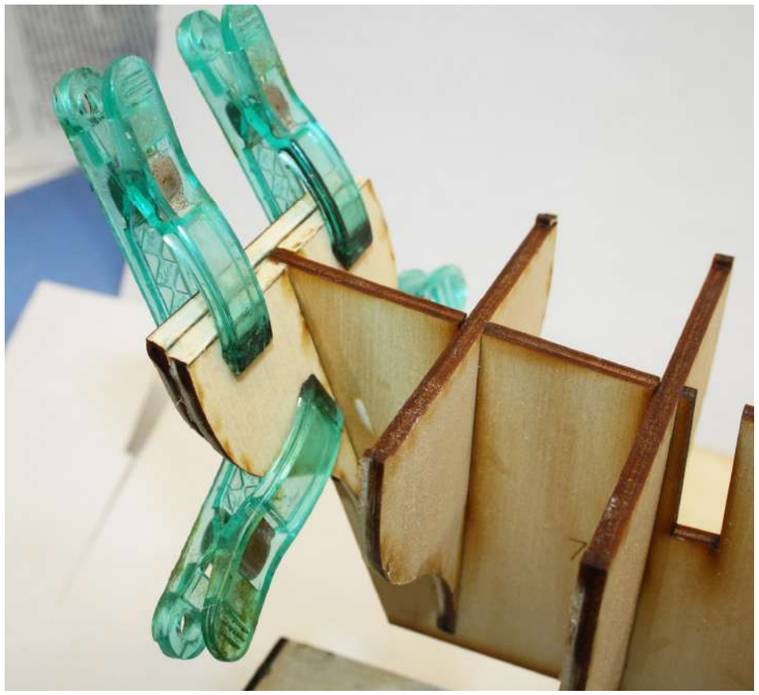


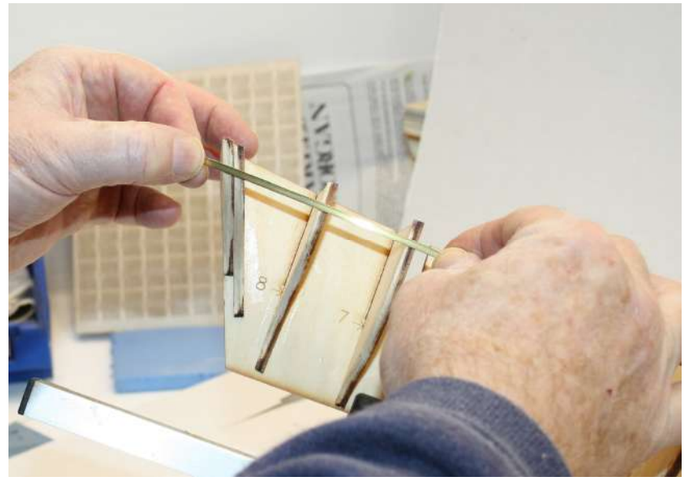
6.6 Transom Filler Block

Identify the transom filler blocks P14 - chamfer the edges from the score line to the opposite face edge. Place the blocks face down back in its location on Board 2. Using the cut lines in the board draw a straight line across the top of the blocks as shown. Next create a chamfer from this pencil line to the other face edge across the top of the blocks. Glue the filler blocks either side of the keel against bulkhead 9 making sure they are flush with the top of the bulkhead - clamp in place as shown until glue has set. Use a brass strap or similar to check its lay across the filler blocks and bulkheads - fractionally adjust as required to ensure there is a smooth curvature across the blocks and bulkheads.





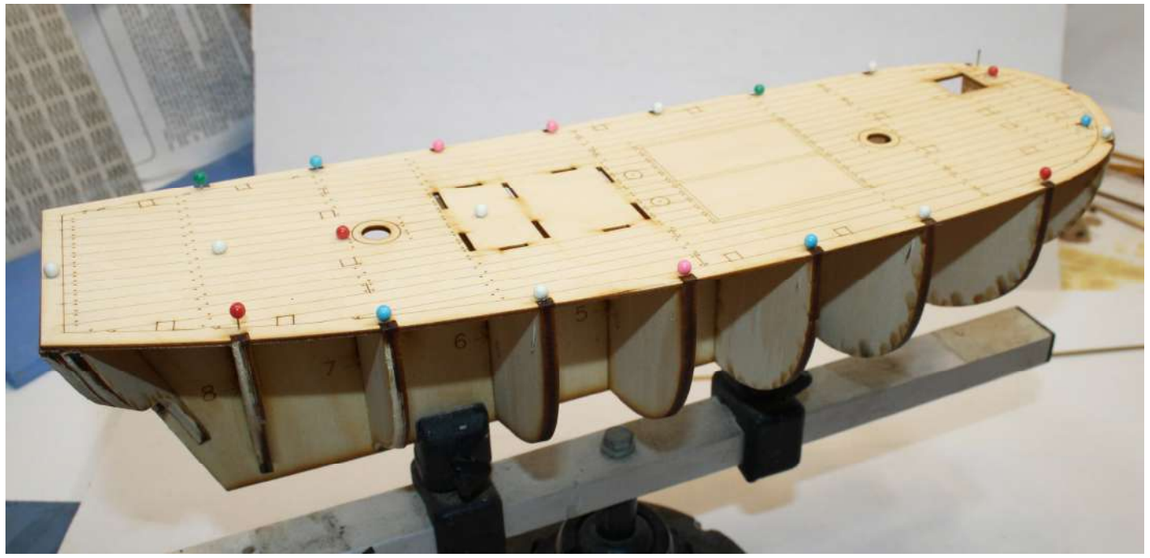


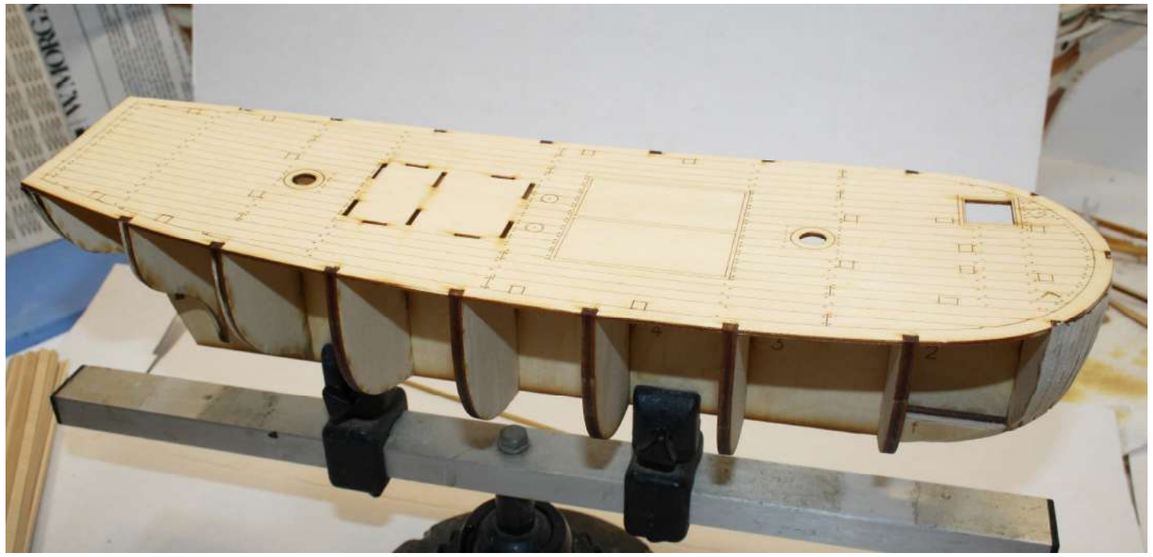


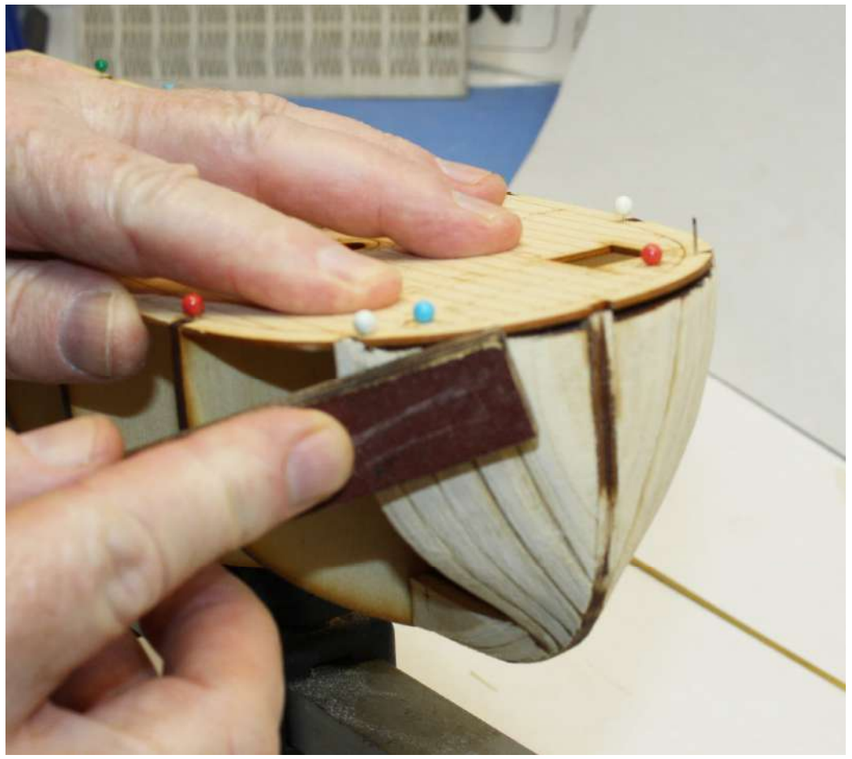
Colonial Ketch
MARY BYRNE
1826
SHEET 7

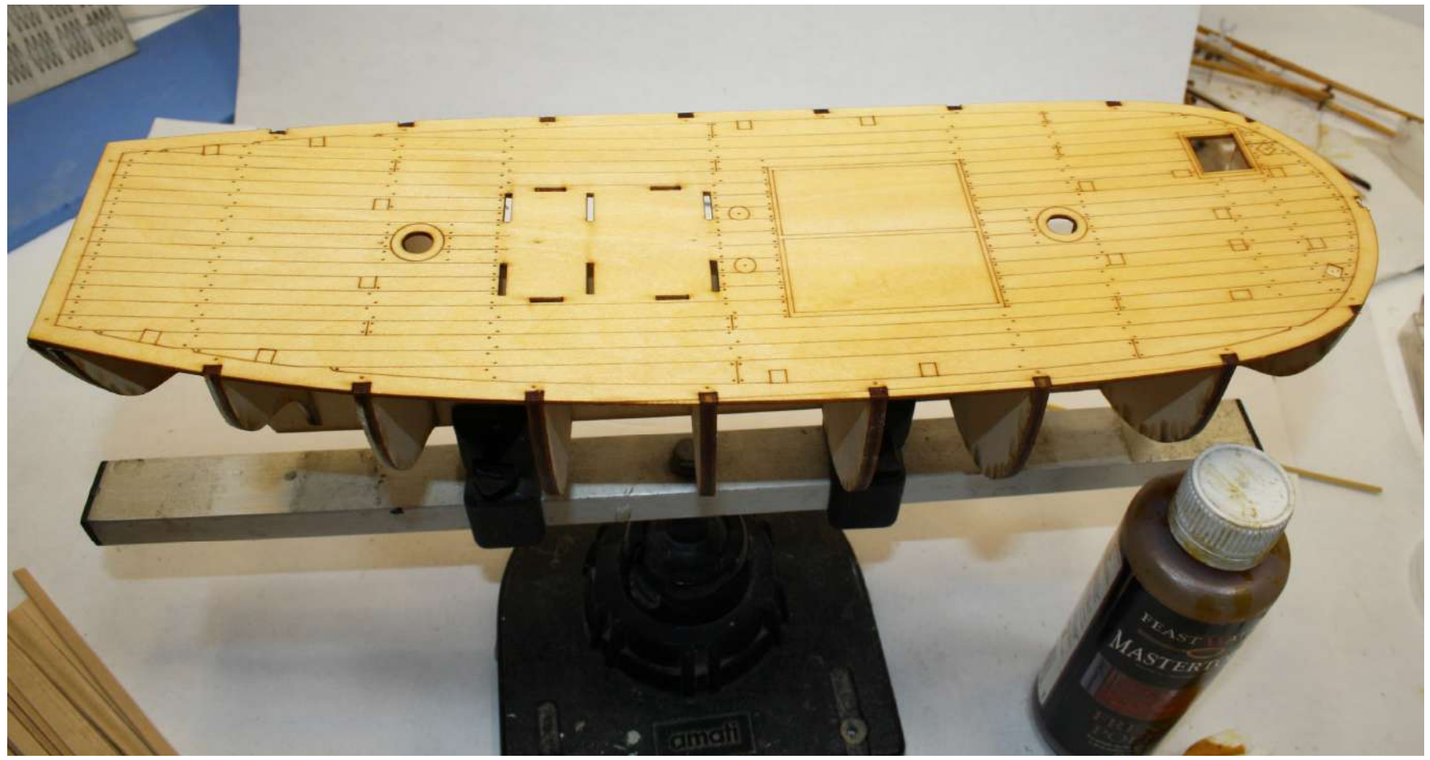
6.7 Fitting the Deck

Apply glue to the tops of the bulkheads, filler blocks and keel - fit the deck in place and use map pins to hold the deck in place while the glue sets. If needed use a sanding board to fractionally adjust the bow filler blocks to follow the curve of the deck at the bow as shown. Once glue has set remove the map pins. Apply a diluted coat of shellac to the deck if desired. Once dry apply a couple of spray coats of a clear matt polyurethane finish to protect the deck.





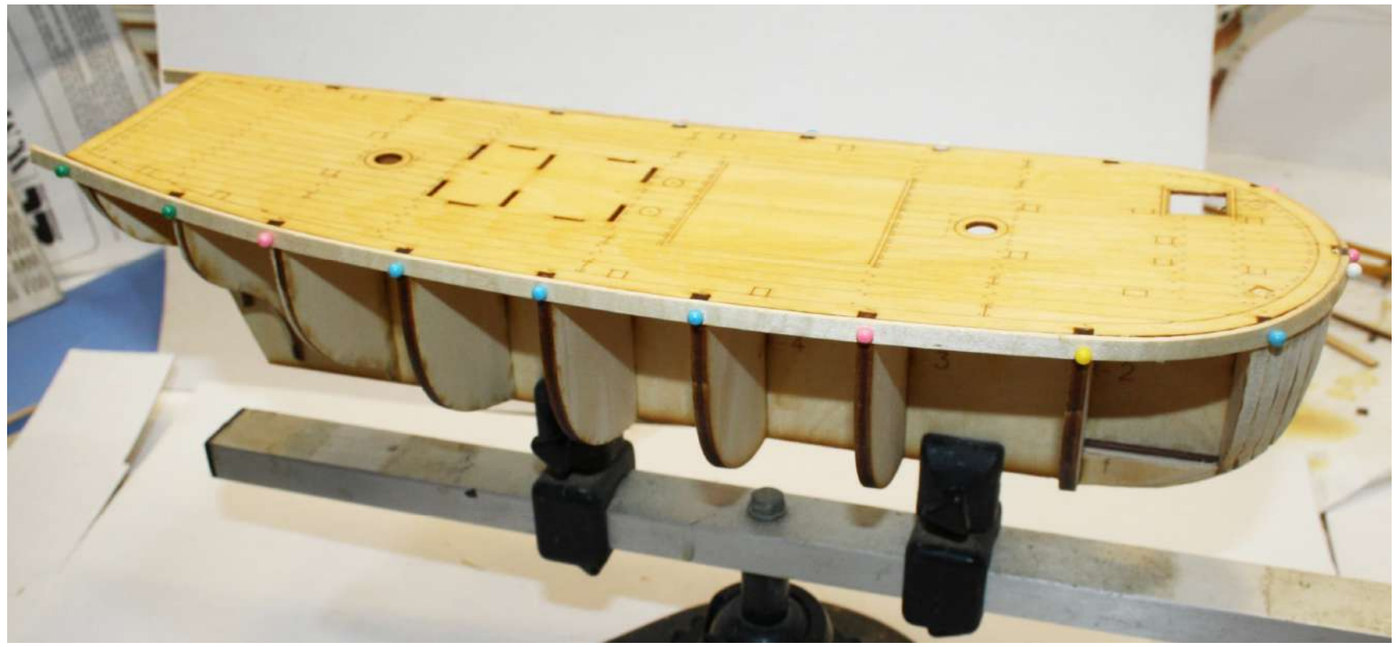




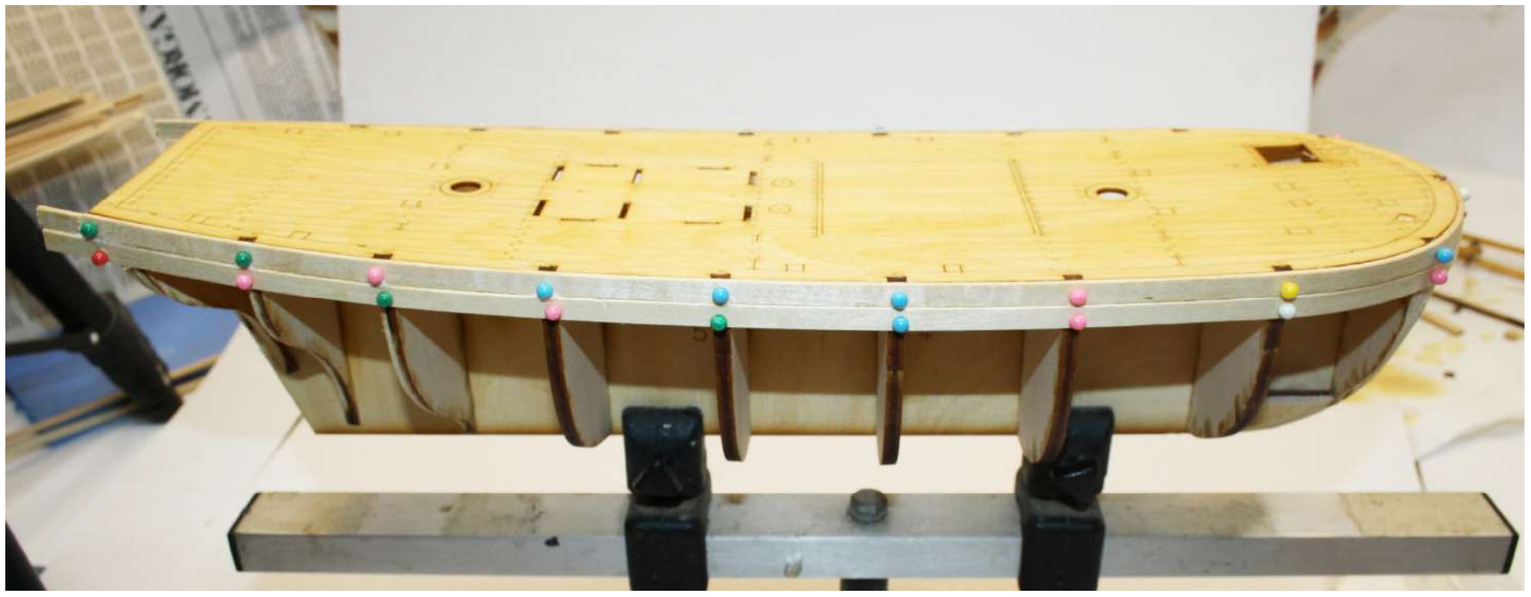
Colonial Ketch
MARY BYRNE
1826
SHEET 8

7.0 Hull Planking - First Layer

Step 1 Identify the basswood 2x5x400mm P15. Trial fit one plank by laying it along the hull level with the deck - cut the plank long enough for some overhang at the stern. Lay the plank along the hull marking with a pencil where the plank starts to wrap around the bow - use a hand held plank bender to gently crimp the plank from this point towards the bow - trial fit the plank in place - repeat the crimping process until the plank fits easily without stress around the bow across the bow blocks. Once satisfied apply glue to the bulkheads and pin the plank in place as shown. Repeat for the other side of the hull. Make sure the planks at the bow are a mirror image of each other and that the keel slot remains exposed and clear of planking and glue.



Step 2 Place a second plank in place immediately below the first plank - as well as applying glue to the bulkheads apply glue to the under-edge of the first plank - this will add strength to the finished hull. Do this for the rest of the planking. Make sure to remove any excess glue before it sets with a dampened cotton bud or cloth. These first two planks will not need to be tapered.



Colonial Ketch
MARY BYRNE
1826
SHEET 9

Step 3 Deadwood Area

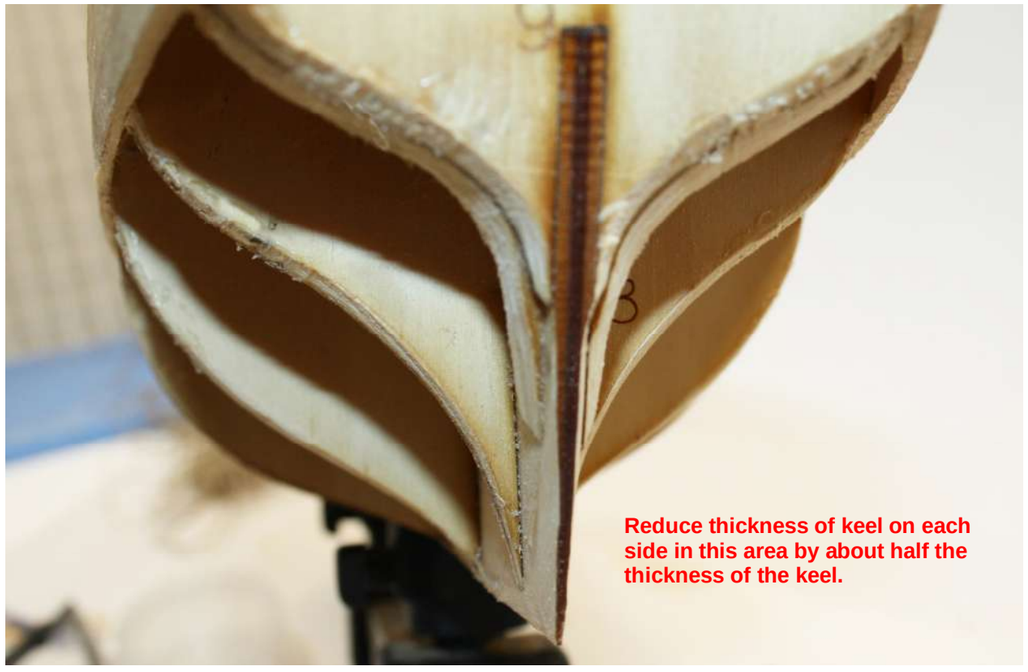
The area between the bottom edge of the keel and the bottom of the bulkhead frames at the stern is known as the **deadwood area**. The deadwood area will be planked with two layers of planking consistent with the rest of the hull. The stern post and rudder however will only be planked with the second layer of planking. So when the stern post and rudder are eventually fitted you need to ensure there is a consistent thickness between stern post, rudder and the stern area of the keel.

The keel, stern post & rudder are all 4mm plywood. The stern post and rudder will be planked with 0.5x5mm teak P18. However the keel in the deadwood area will be planked with the first layer of planking - 2mm thick (on each side) and then planked with the second layer of planking. Clearly, if no adjustment is made when the stern post and rudder are fitted there will be a significant discrepancy between the thickness of the stern area of the keel and the stern post and rudder. To ensure there is consistency of thickness between the stern post, rudder and the hull in the deadwood area there is the need to ensure that when the first layer of planking is fixed in place the total thickness does not exceed the thickness of the stern post/rudder post.

To achieve this you will need to take two steps.
Step 1. Before fitting the first layer of planking reduce the thickness of the keel in the deadwood area by approximately 1mm on each side - i.e. reduce the keel thickness by about half in the deadwood area.
Step 2. Once the **first layer of planking** has been fitted then reduce the thickness of this planking by approximately 1mm on each side as well - fractionally adjusting to meet required thickness.

This will then reduce the total thickness of the keel and first layer of planking in the area to be 4mm thick thus meeting the requirement for consistency of thickness. This will ensure that when the second layer of planking is fitted there will be the same thickness between the keel, stern post and rudder.

Use a pencil to mark the deadwood area as shown on both side if the keel. Use a grinding tool and sanding block to shape the deadwood area as shown.



Step 4 Garboard Planks

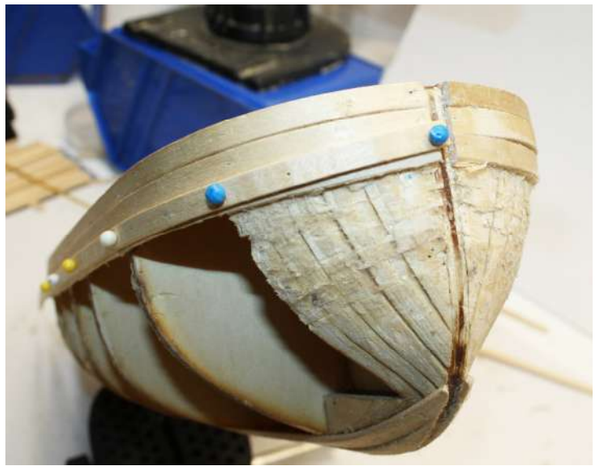
The garboard planks are fixed in place across the bulkheads and run adjacent to the keel. Trial fit a basswood plank P15 as shown - once satisfied apply glue to the bulkhead points on contact and pin and clamp the plank in place as shown - remove any excess glue. Do not taper this plank. At the bow-keel point trim-off the overhang of the plank as shown so the keel remains exposed. Repeat for the other side of the hull. Next fix a second plank in place immediately adjacent to the garboard plank on both sides of the hull.

Step 5 Completing the first layer of planking

There are many ways to plank a hull - the method presented below is but one approach.

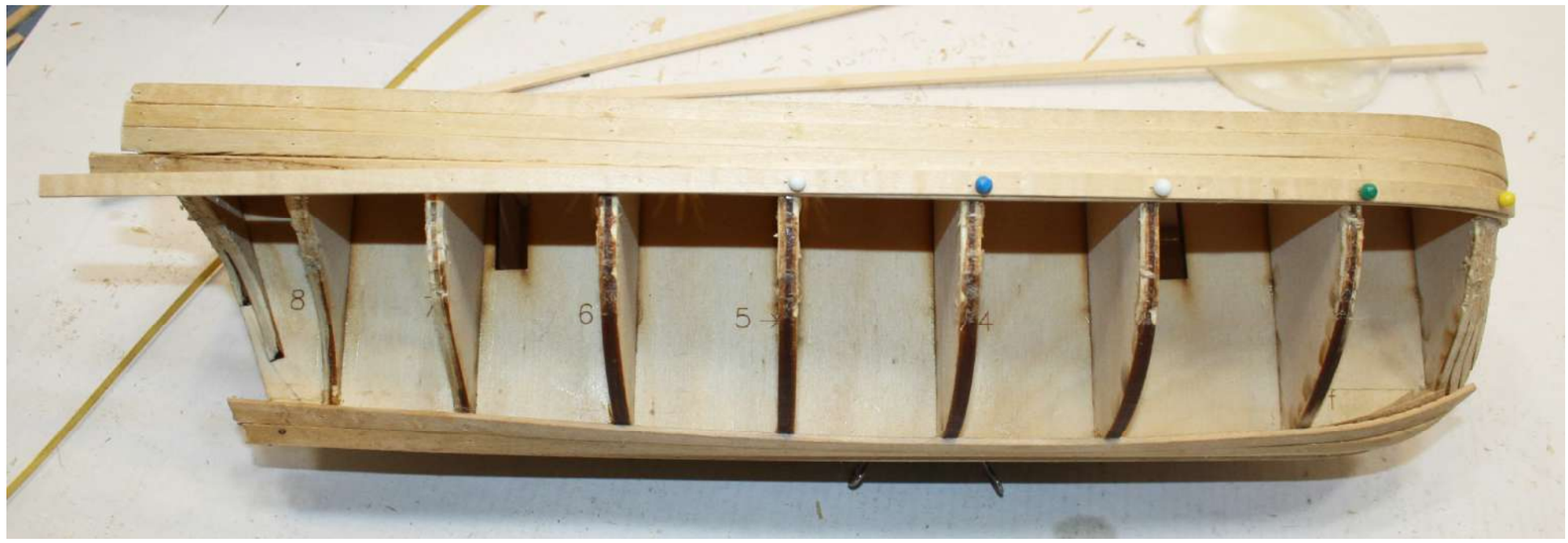
We will be completing the first layer of planking by fitting and gluing planks in place and then making **directional changes** to the previously fitted plank - this is an iterative process whereby you are in effect tapering the planks on the hull. Follow the technique as presented below.

Fit and glue in place a third plank immediately below the second plank fitted - use map pins to hold the plank in place while the glue sets. Once set remove the map pins. Then take a plank - this is a **guide plank** - use a plank bender to place a curvature at the bow end - lay the guide plank **over the top of the third plank** - pin in place at mid-ship and push the plank into place at the bow and stern - allow the plank to follow its natural course - you will see this plank will ride up at the bow. Mark with a pencil the area of the third plank exposed. Use a snap-blade knife to fractionally remove this area. Repeat for the other side of the hull.



Step 5 Continued

Fit and glue in place immediately below the tapered plank another plank. Then repeat the previously presented steps as you progress with the planking down the hull. You will notice as the planks move down and under the stern area they will start to be twisted - use the hand held plank bender to crimp the planks at an angle to ease the tension in the plank.



Colonial Ketch
MARY BYRNE
1826
SHEET 12

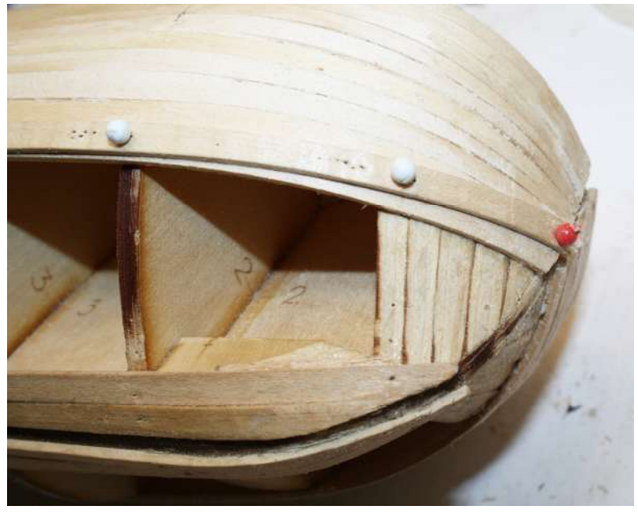
Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull. You will start to see the planks at the stern area ride up over the previous plank - the same as at the bow. Apply the same approach to remove this unwanted area of the plank.

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

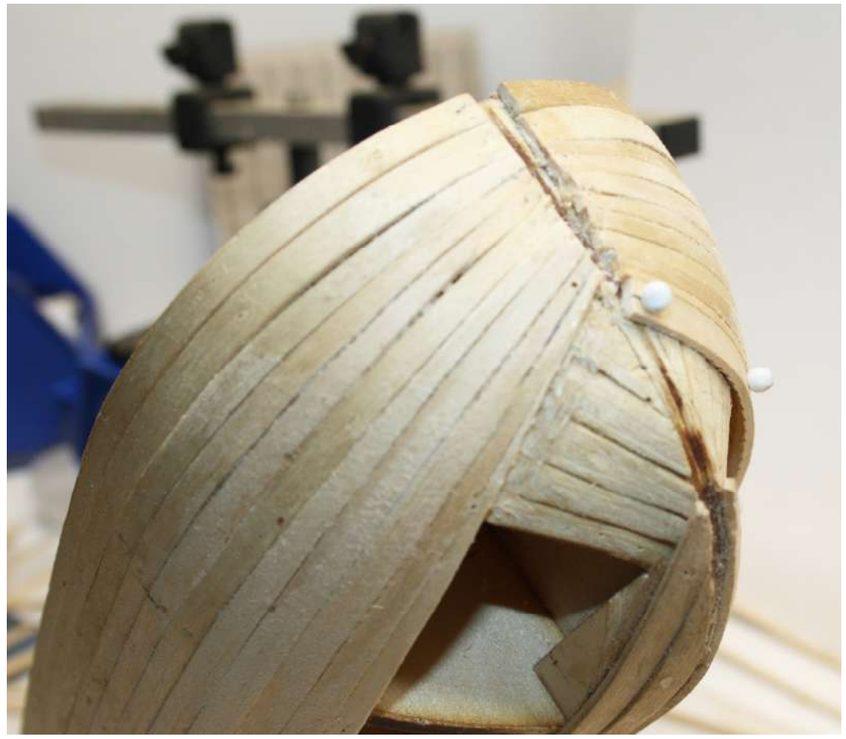
Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

Colonial Ketch
MARY BYRNE
1826
SHEET 15

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.



Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.



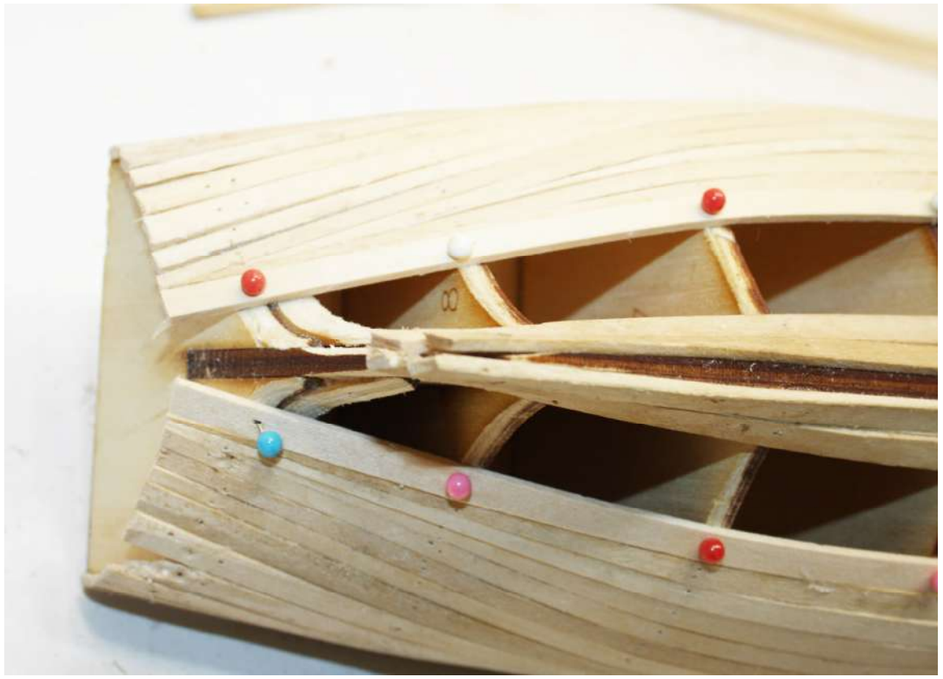
Colonial Ketch
MARY BYRNE
1826
SHEET 17

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

Colonial Ketch
MARY BYRNE
1826
SHEET 19

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.



Colonial Ketch
MARY BYRNE
1826
SHEET 20

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull. Photos showing the closing of the gap.

Colonial Ketch
MARY BYRNE
1826
SHEET 21

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

Step 5 Continued
Repeat the previously presented steps as you progress with the planking down the hull.

Step 5 Continued

To close the gap spile a plank into the remaining gap. Take a plank and shape a point at one end as shown - this will be the spile plank. Mark the point on the hull planking where the plank adjacent to the garboard plank and the last plank fitted touch toward the bow with a pencil. Lay the spile plank in place with the point at the pencil mark - lay the plank along the hull and pin in place as shown. Use a pencil to mark out where this plank fits - use a snap-blade knife to remove the unwanted plank area so as the spile plank will fit into the slot made as shown. Fit, glue and pin in place the spile plank as shown

Step 5 Continued
To finish the hull planking use off-cuts of the planking to shape wedges to fit into the gaps remaining. Shape, trial fit and then glue and pin in place as shown

Step 5 Continued

To finish the hull use a water based wood filler - apply the wood filler to the hull to fill-in any gaps - mix a small amount of water with the filler and work it into the hull - allow to fully dry then sand the hull repeatedly - continually checking for any gaps or raised areas. Continue the process until you are satisfied.

Colonial Ketch
MARY BYRNE
1826
SHEET 26

8.0 Stern Post, Keel and Stem Post

Identify the keel P16, stem post P17 and stern post P18 .Trial fit the keel and stem post in place - using a small file clean the gap along the keel and fractionally adjust to accept the parts.
Once satisfied glue and pin the stem post in place followed by the keel. Lastly, trial fit the stern post in place - once satisfied glue in place as shown. Once glue has set use a cloth to apply an antique brown acrylic paint to the parts as shown.

9.0 Planking the Transom

The next step is to plank the transom. Identify the 0.6x5mm teak strips P19. To glue the planks in place use a non-drip contact type adhesive. The contact glue is applied to both surfaces - the planks and the transom area. First, take a few of the teak planks and lay them flat on a piece of paper - use a small flat paint brush to apply an even coat of the glue to one face of the planks - set aside to allow the glue to dry. Next, apply the glue evenly across the transom area - allow to dry. Once both glued surfaces are touch dry cut and fit the teak plank in place across the transom as shown. Press each plank firmly in place - take care with the plank placement. Once complete use a pointed knife blade to remove and plank overhang and lightly sand.





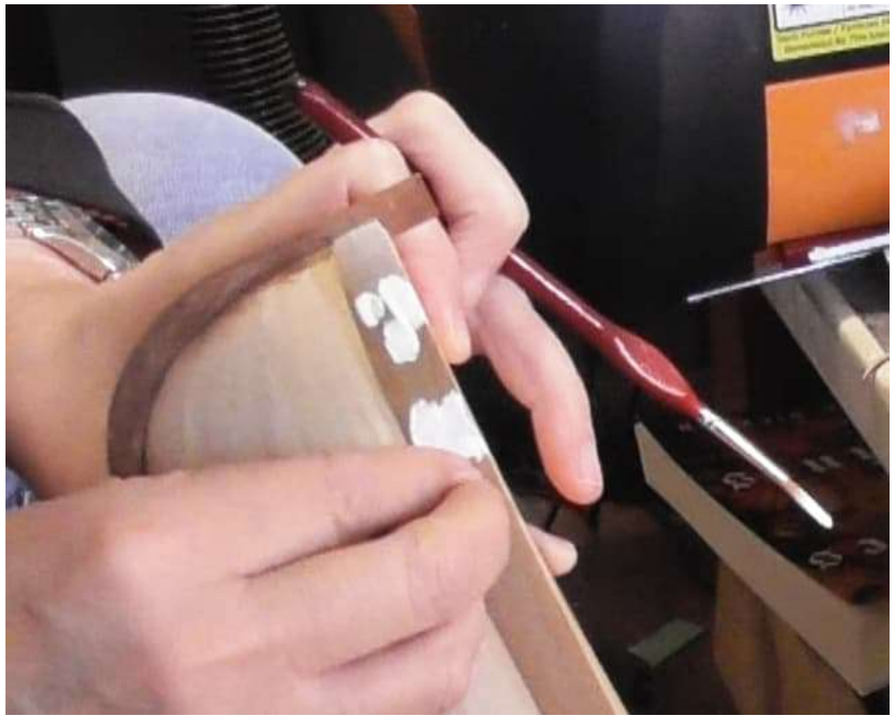
9.1 Hull Planking - Second Layer

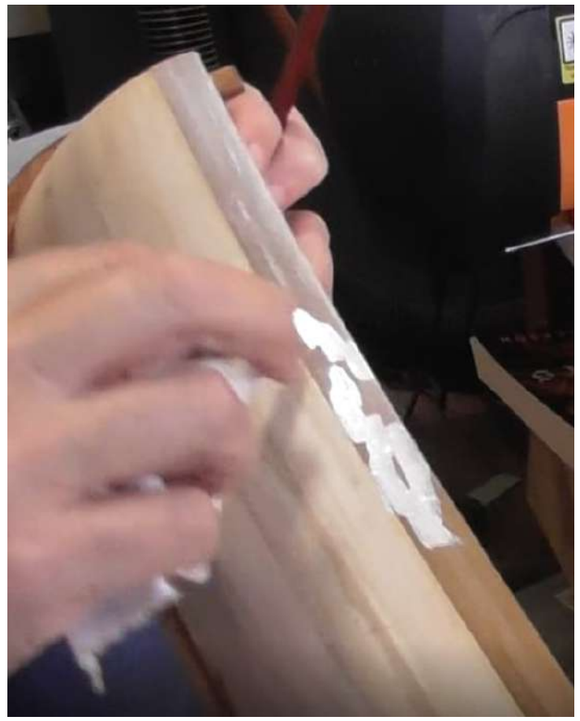
Completing the second layer of hull planking is largely a repetition of the process for completing the first layer but with the added advantage of having a solid foundation on which to work. Use the 0.6x5mm teak strips P19. To glue the planks in place use a non-drip contact type adhesive using the technique presented above. Fix a plank along the hull flush with the top of the deck on both sides of the hull. Fix a second plank in place immediately below the first plank - note a directional change may be required for these planks - apply the same technique as presented for the first layer of planking. Next fix a third plank immediately below the second plank fitted. Use a short length of 8mm dowel to run over the planks to remove any air bubbles under the planks.



9.1 Hull Planking - Second Layer - Limewash Effect

For these three planks apply antique white acrylic paint to the planks as shown - paint dabs of the paint as shown and use a soft cloth to work the paint into the planks and evenly spread the paint along the planks. Continue the process along the length of the planks on both sides of the hull. This will give an aged lime wash effect to the planks. Set hull aside to allow paint to dry.





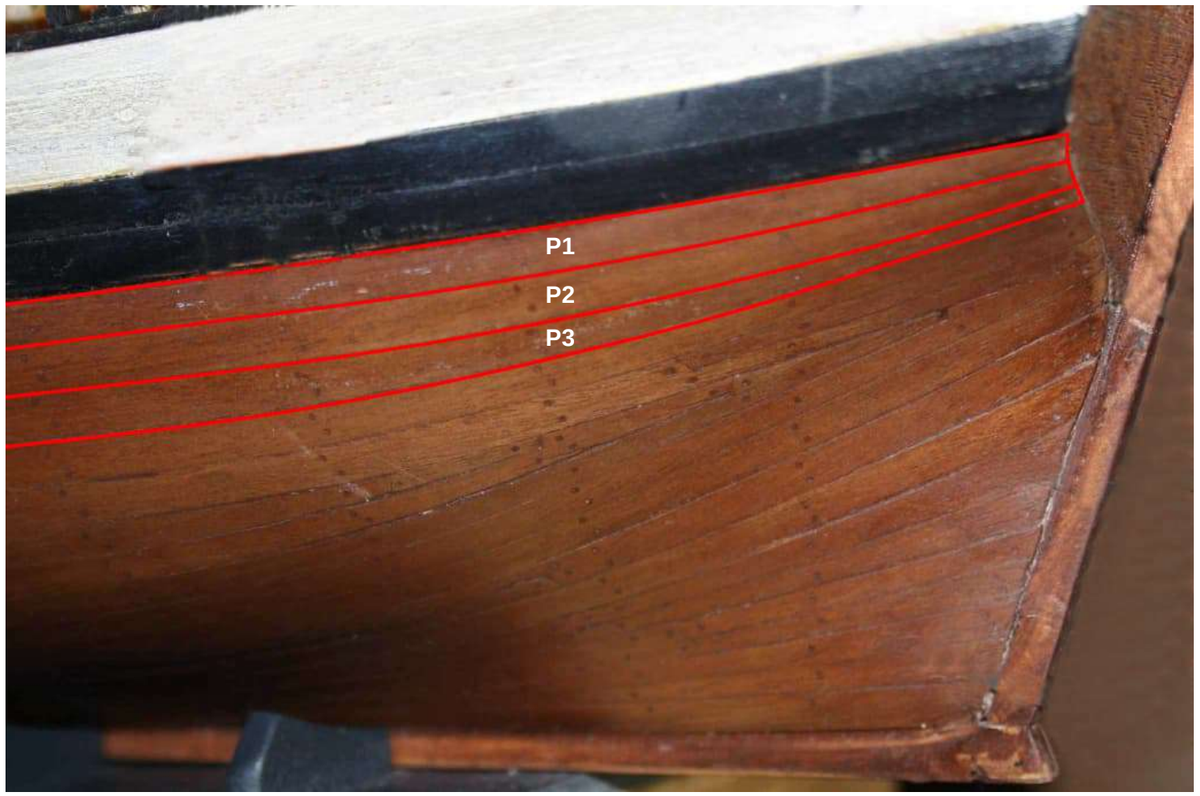
9.2 Hull Planking - Second Layer - Wales

Identify the 1.5x6mm limewood P20 - these will be used to make the wales. Take one length and using a plank bender shape one end to fit around the hull bow immediately below the lime washed planks - trial fit and fractionally adjust the curvature to ensure a snug fit. Once satisfied use antique black acrylic to paint the plank as shown. Shape a second plank and repeat. Glue these two planks in place either side of the hull using the non-drip contact type adhesive apply the technique as previously presented. Press each wale firmly in place. Shape two more wale planks, paint and fix in place immediately below the first wale on both side of the hull. Make sure the wales are symmetrical as shown. Trim-off any excess wale length at stern - paint ends.. Lightly sand the wales and repaint.

9.3 Hull Planking - Second Layer - Band 1

Continue the second layer planking below the wales using the teak planks P19.Band 1of the planking will be three planks. Take a plank and lay it along the hull immediately below the wale - allow it to run its natural course - you will find the plank will start to lay over the lower wale towards the bow - mark this point on the plank and wale with a pencil - transfer this point to the other side of the hull. Use a pointed blade knife to taper/remove the top side of the plank - trial fit the plank in place as shown - fractionally sand the top side of the plank so that is fits snugly against the bottom of the wale - once satisfied glue the plank in place running it along the hull against the underside of the wale - this is P1. Repeat for the other side of the hull.

Cut and shape another plank P2 to be fitted immediately below P1 - mark where the plank wants to lay over the wale and P1 - taper/remove the unwanted to top edge - fractionally sand top side of the plank to fit against the first plank P1 and the wale. Glue this plank in place running it along the hull against the underside of P1 as shown. Repeat for the other side of the hull. Press the planks firmly in place. Next, place a third plank P3 along the hull - mark where it starts to ride over P2 at the bow and stern areas - taper the plank from these points to the end of the plank removing the top unwanted area. Trial fit the plank in place - fractionally adjust width to achieve a snug fit - once satisfied glue P3 in place as shown. Repeat for the other side of the hull.



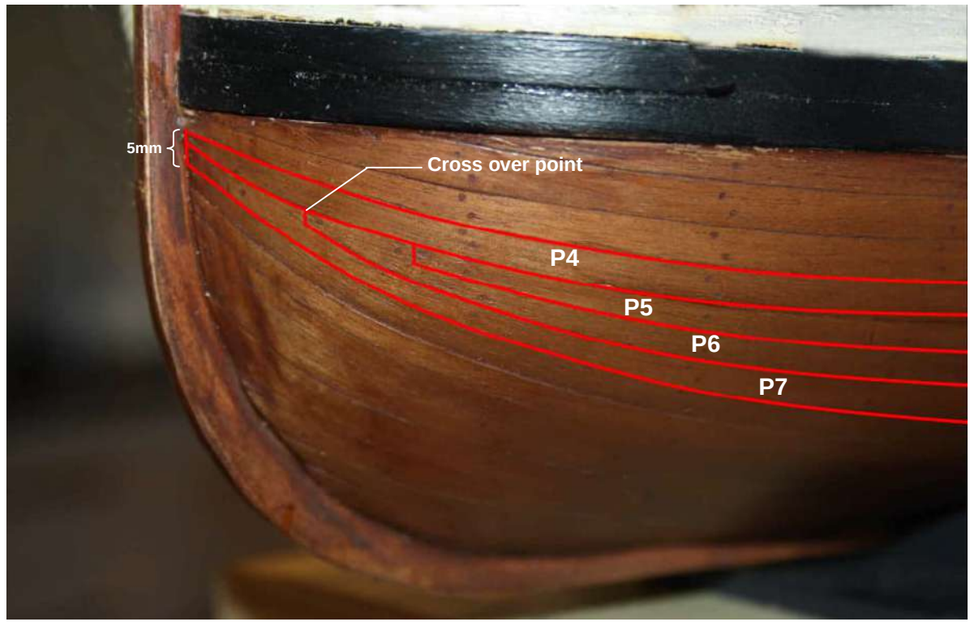
9.4 Hull Planking - Second Layer - Band 2

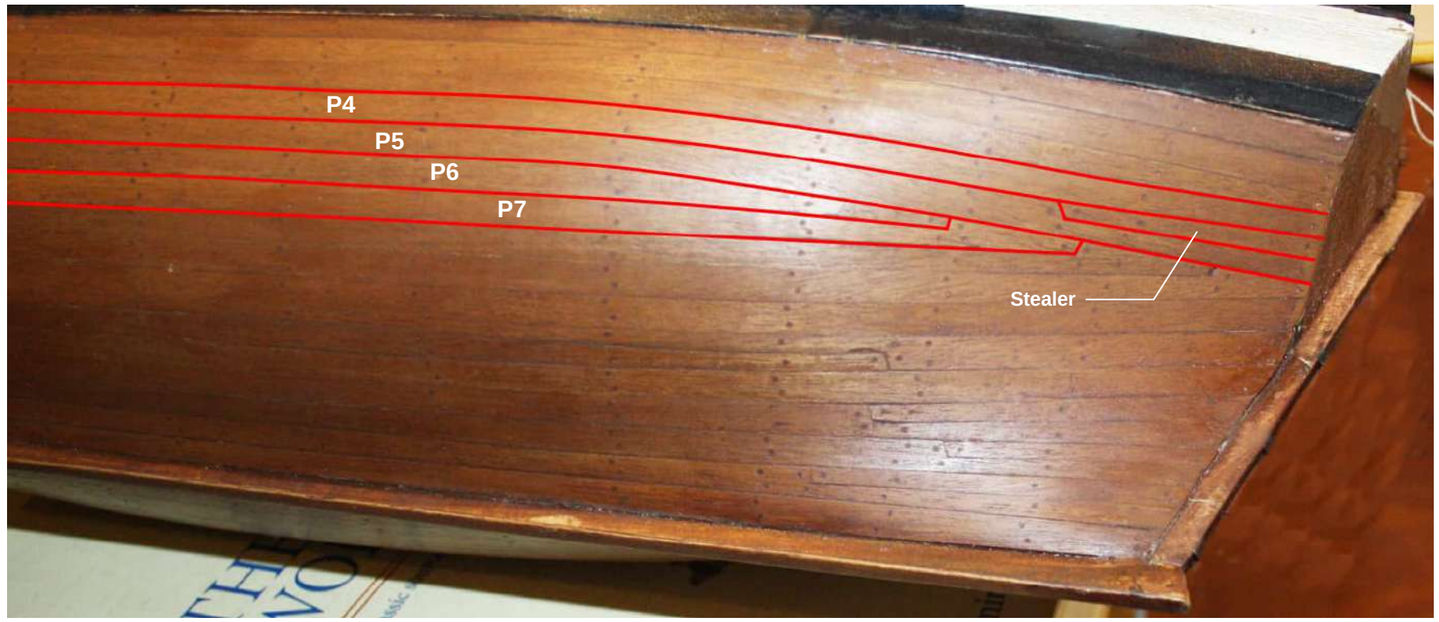
Band 2 will consist of four planks. Cut 4 x 80mm lengths of the teak planking P19. At the mid-ship area temporarily place the 4 planks along the hull immediately below P3 as shown - pin the 4th plank in place as shown - this will create a gap of approximately 20mm at the mid-ship area. Remove the three unpinned planks leaving the 4th pinned plank in place as shown. Lay another plank immediately below the pinned plank allowing the plank to run its natural course both fore and aft - you may want to temporarily pin this plank in place - make a pencil line along the top edge of this temporary plank both fore and aft as shown. Once the line is drawn remove the temporary plank and draw a pencil line under the 4th pinned plank to complete the band line. You will notice that while the width of the band is approximately 20mm at the mid-ship area, at the bow and stern ends the width of the band is less. This means to fit four planks into these area the planks have to be tapered. There are many ways to achieve this - the approach presented in the following sheets is but one method to plank the hull - you may choose to use another method.

9.4 Hull Planking - Second Layer - Band 2 - continued

At the bow the gap between the top and bottom pencil lines of Band 2 will be approximately 5mm. Take a plank P4 and lay it along the hull immediately below P3 - allow it to run its natural course over the hull both fore and aft. At the bow this plank will want to lay over P3 - mark where it starts to ride over P3 - taper the plank from this point to the end of the plank removing the top unwanted area. Trial fit the plank in place - fractionally adjust width to achieve a snug fit. At the stern allow P4 to run its natural course to the transom - this plank will not need to be tapered. Once satisfied glue P4 in place as shown. Repeat for the other side of the hull.

At the bow we are using a technique to reduce four planks to two planks - lay plank P7 along the lower band line - mark where P7 wants to lay over P4 - cross over point - from this point taper the top side of the plank to approximately 3mm at the bow end. At the stern end of P7 shape the plank as shown to a width of approximately 2.5mm at its end - temporarily pin P7 in place.
Take another plank P6 - shape the bow and stern ends as shown - with each end being approximately 2.5mm wide. Lay P6 in place starting at the cross over point allowing it to run its natural course over the hull towards the stern - temporarily pin P6 plank in place.
Take another plank P5 - shape the bow and stern ends as shown - with each end being approximately 2.5mm wide. Lay P5 in place allowing it to run its natural course over the hull towards the stern - temporarily pin P5 plank in place - note a gap will open us between P4 and P5 - a stealer is used to fill this gap.
As P5, P6 & P7 are temporarily pinned in place make fractional adjustment to each if needed to ensure the planks interlock with each other - once satisfied glue each plank in place as shown. Lastly, shape and trail fit a stealer between P4 & P5 as shown.



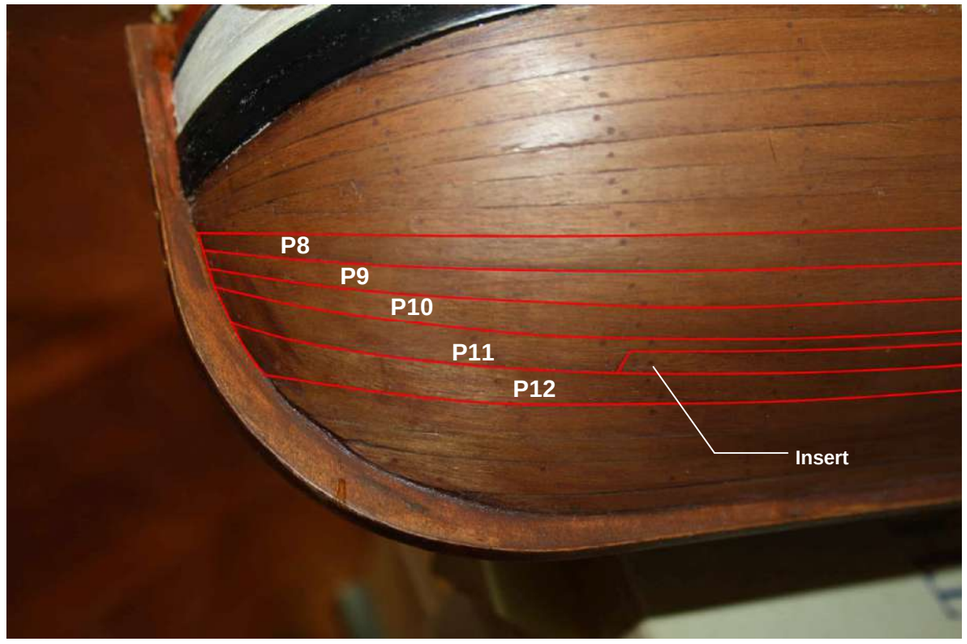


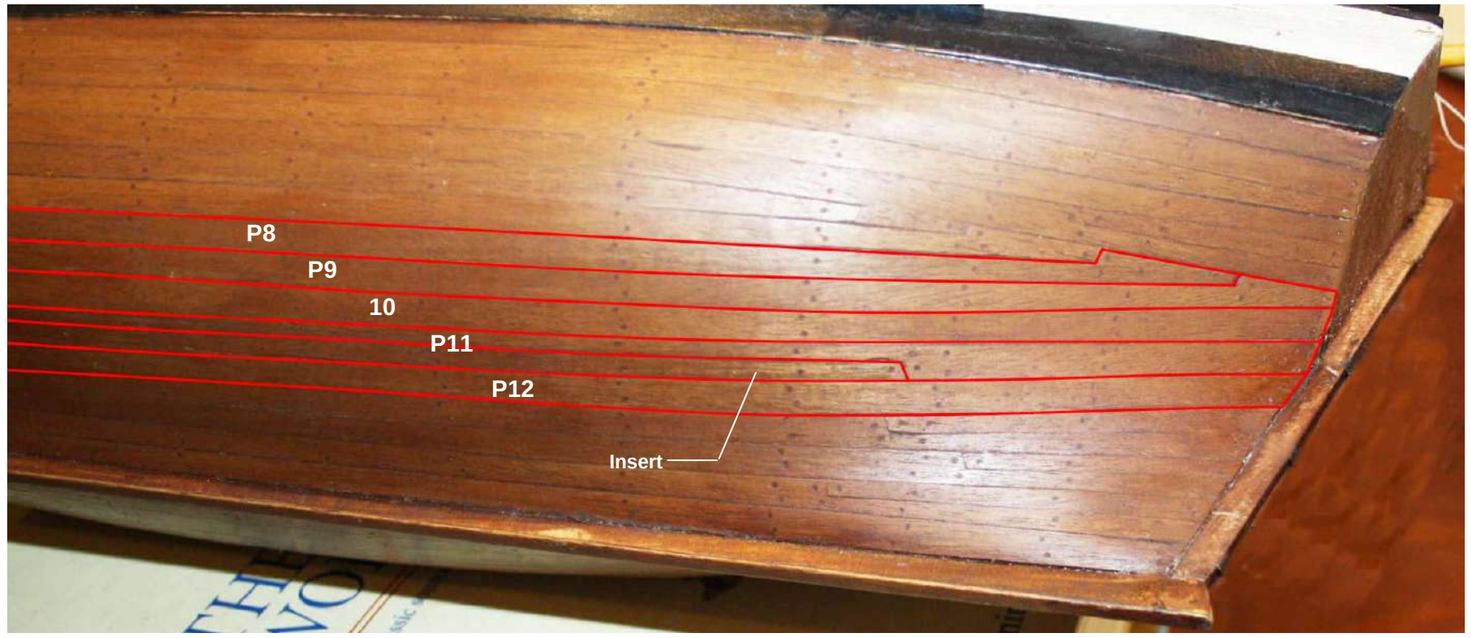
Colonial Ketch
MARY BYRNE
1826
SHEET 33

9.5 Hull Planking - Second Layer - Band 3

Take a plank P8 and lay it along the hull immediately below P7 - allow it to run its natural course over the hull both fore and aft. At the bow this plank will want to lay over P7 - mark where it starts to ride over P7 - taper the plank from this point to the end of the plank removing the top unwanted area. At the stern shape the plank to interlock with P7 as shown - with the end of the plank being approxi-mately 2.5mm. Trial fit the plank in place - fractionally adjust width to achieve a snug fit. Once satisfied glue P8 in place as shown. Repeat for the other side of the hull. Repeat for P9 as shown. Repeat for P10 except at the stern let the plank run its course to the transom as shown. Repeat for P11 except at the stern let the plank run its course to the stern post as shown.

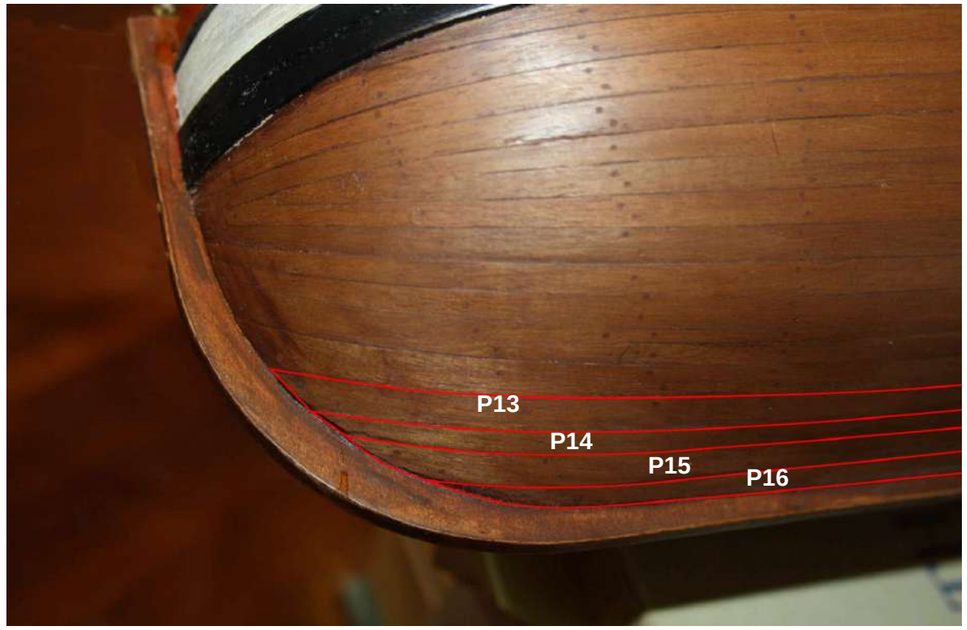
Take another plank P12 and lay it along the hull allowing it to lay flat on the hull. You may notice that a gap opens up between P11 and P12. If this occurs you will need to first glue P12 in position. Then cut a section out of P11as shown - remove any glue residue in the gap. Cut and shape a plank to be inserted into this gap - fractionally adjust as required - once satisfied glue the insert plank in place.

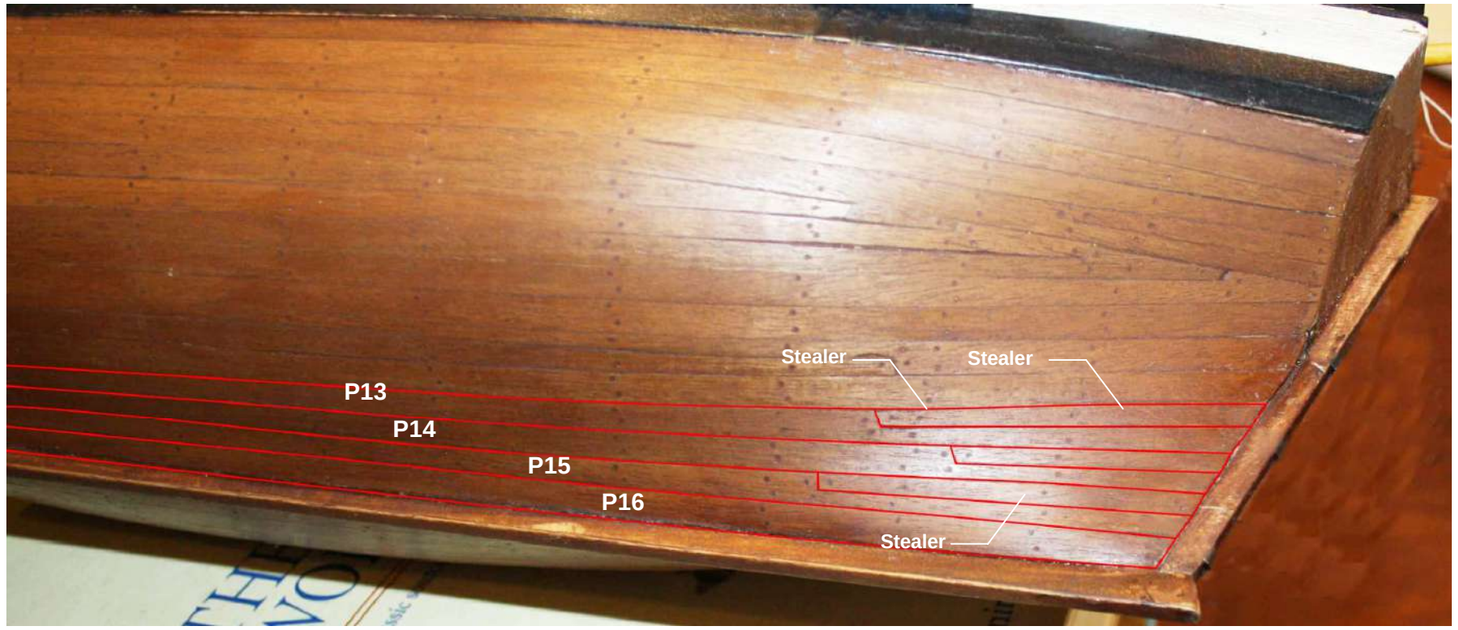




9.6 Hull Planking - Second Layer - Band 4

Shape plank P16 to fit immediately against the keel - fractionally adjust as required - once satisfied glue in place as shown. Next fit planks P13, P14 and P15 in place allowing each to run their respective natural course over the hull - gaps will open up in the deadwood area - glue each plank in place. Next cut and shape stealers to fit into these gaps - cut away some on the planks to accept the stealers as shown.





9.7 Finishing Hull

To finish the hull remove any excess contact glue. Use a soft cloth to apply antique brown acrylic paint working it into the hull - repeat until satisfied then lightly sand the hull with a fine grade sand paper - repeat until satisfied. Lastly, lightly spray the hull two or three times with a clear matt or satin polyurethane finish.

10.0 Deck Fittings & Furniture

The next step is to assemble and fit in position the deck furniture. The deck furniture includes the fence railings, companionway, cargo hatch, pump, winch, forward hatch, fife rails, rudder, tiller, barrel and anchors. The following describes the assembly and placement of each of these items.

10.1 Display Base

Identify the display base P21 and the supports P22. Lightly sand the parts. Notice the support are numbered along with their respective location on the base. Lightly sand the parts. Trial fit each support in its location - once satisfied glue the supports in place. Note the model is aligned with the bow in support 1.

10.2 Fence Base

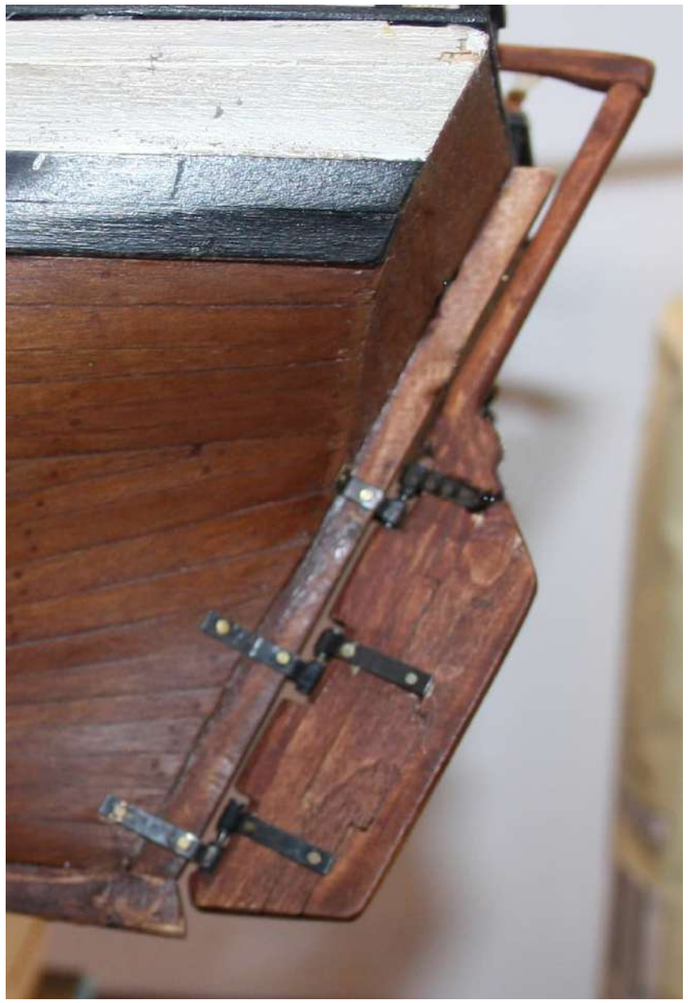
Identify the fence base P24 - carefully and lightly sand the edges. Paint matt black - once dry glue in position as shown.

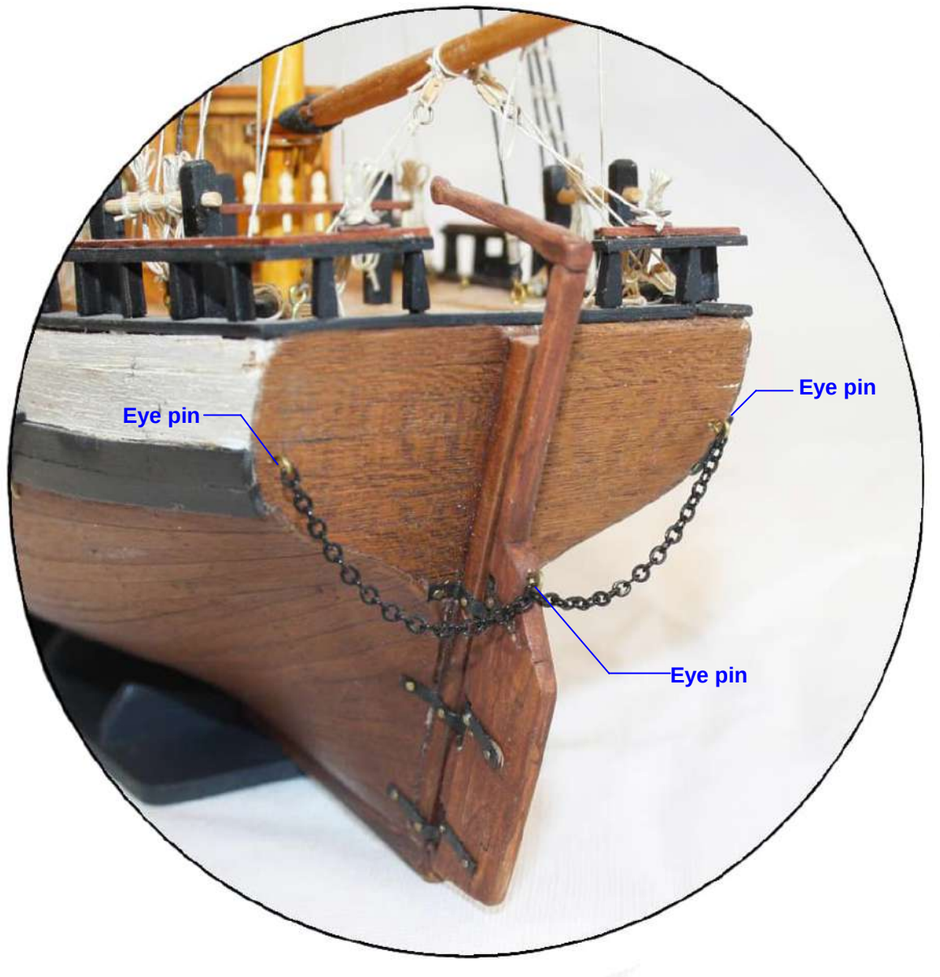
10.3 Rudder

Identify the rudder P27, tiller P28 and rudder hinges P29. The rudder is in 3 parts - glue the parts together - once glue is dry shape the rudder as shown. Fractionally shape the rudder head so it fits the tiller. Shape the tiller as shown. Glue the rudder and tiller together - once glue has set use a cloth to apply an antique brown acrylic paint to the parts as shown. Fit the rudder hinges together - trial fit each into the slots in the rudder - the hinge with the pintal is placed at the top of the slot. Use super glue to attach the arms of the hinges to the rudder post - drill 0.7mm holes into the rudder at the pintal hinges locating holes - super glue nail heads P30 in these holes as cosmetic fixings. Trial fit the rudder with hinges attached to the hull - the arms of the top gudgeon hinge will need to be short-ened to fit onto the base of the transom as shown.

The other gudgeon hinges will need to be adjusted to take the shape of the hull. Once satisfied use super glue to fix the gudgeon hinge arms in place - drill 0.7mm holes into the transom/hull at the gudgeon hinges locating holes - super glue nail heads P30 in these holes as cosmetic fixings. Fix the tiller in place as shown.

For the Rudder chain fix eye pins P33 to the points as shown. Identify the rudder chain P62. Cut lengths of chain and attach to the eye pins and loop between the eye pins as shown.

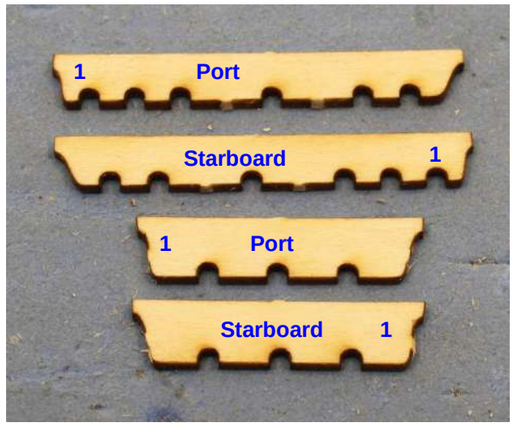


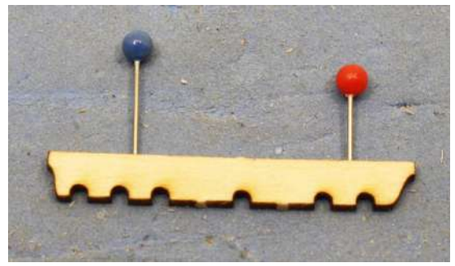


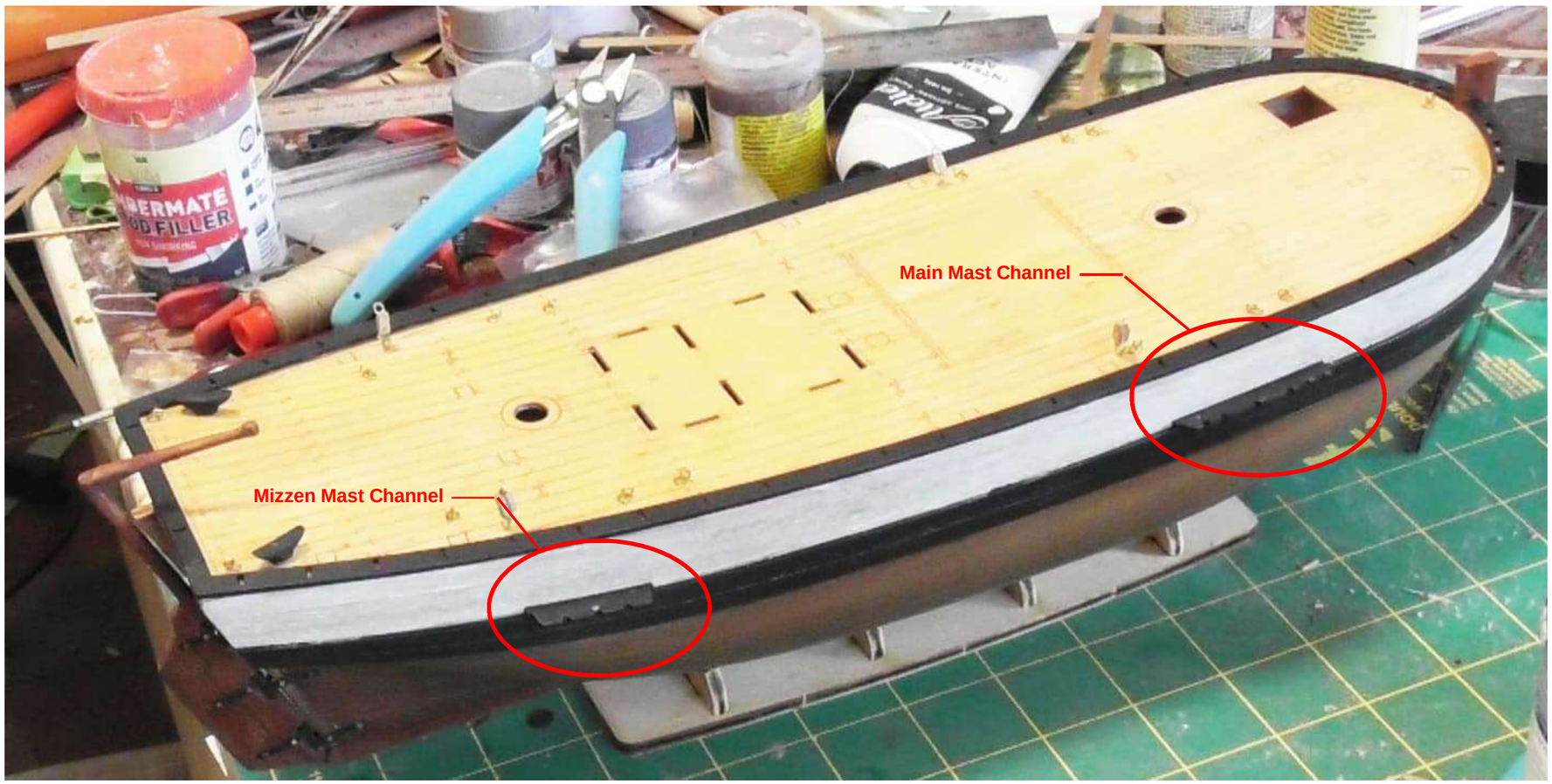
Colonial Ketch
MARY BYRNE
1826
SHEET 37

10.4 Channels

Identify the main mast channels P31 and the mizzen mast channels P32. For each channel drill two 0.6mm holes into the edge that fits against the hull side. Super glue map pins in place - snip off the ends as shown. Each channel rests on the wales. The front indent of each channel is identified as 1 - this indent is aligned with the front of the relevant mast heel - lay a rule square across the deck at the front of main mast heel - use a pencil to transfer this point onto the wale. Repeat for the other side of the hull. Repeat for the mizzen mast. Locate each channel marking on the hull the position of the map pin ends - drill 0.6mm holes at these points. Paint the channels matt black - once paint is dry apply glue to fix each channel in position as shown.



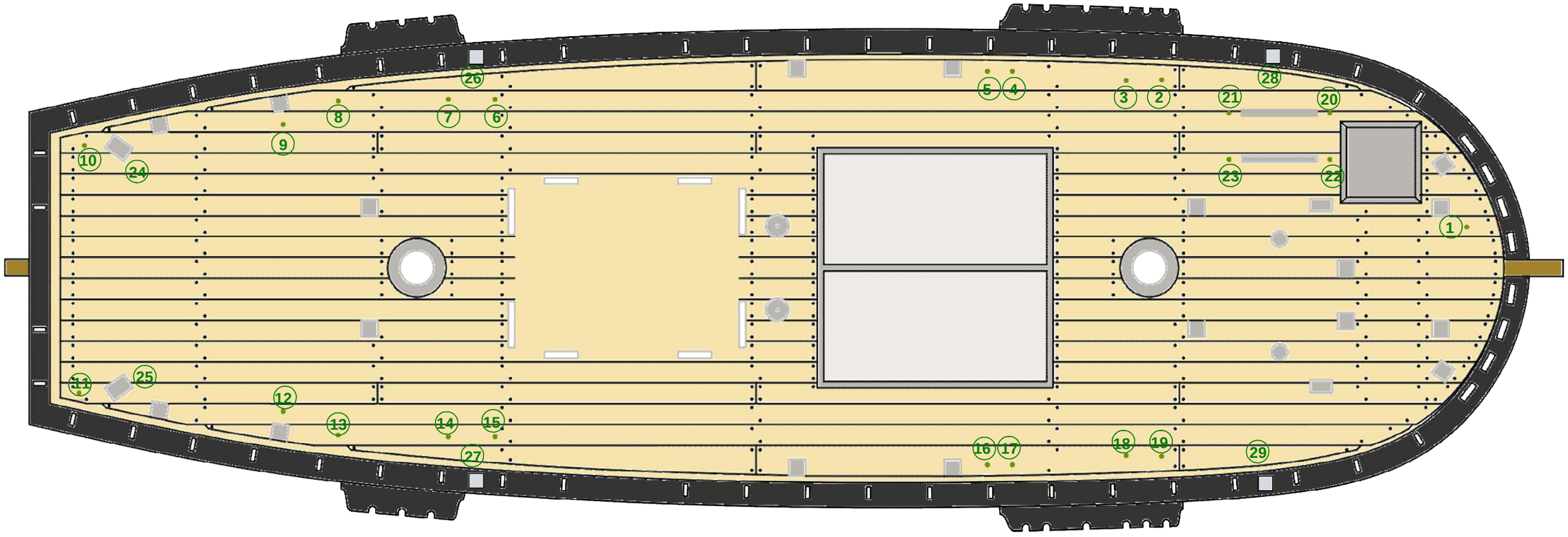




10.5 Deck Fittings

Next fit and fix a range of eye pins, rings, blocks and cleats to the deck. Identify the eye pins P33 - fit and fix eye pins at points 1 to 23 identified by score marks on the deck. Identify the 3mm brass rings P34 - fit a ring to points 1 to 19. Identify cleats P35 - lightly sand to round the edges - fix in place at points 24 & 25. Identify the 5mm 1 hole blocks P37 - attach to points 8 ,10,11 & 13. Identify the bitt heads P44 - shape and paint matt black. Fix each to fence base at points 26,27,28 & 29.

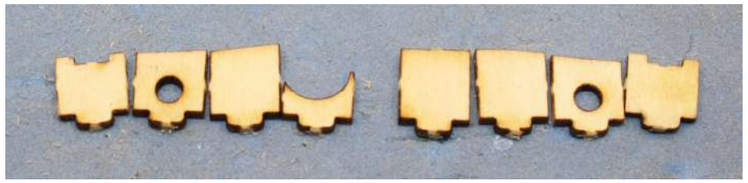
NOT TO SCALE



Colonial Ketch
MARY BYRNE
1826
SHEET 39

10.6 Hawses

Identify the hawse parts P39A-E. The hawse fit around the bow either side of the stem post as shown. Chamfer the edges of adjoining parts to create the curvature required. Trial fit the pieces into the slots in the deck fence base at the bow. Once satisfied glue the pieces in place with glue also applied to the adjoining pieces. Once the glue has set cut short lengths of planking P19 to cover the External face of the hawse - trial fit each in place - once satisfied use contact glue fix each plank in place - use pointed blade knife to trim-off excess planking - cut the bowsprit recess, hawse holes and cathead slots. Repeat for the inner face of the hawse. Lightly sand both internal and external planking. Use a soft cloth to apply antique brown acrylic paint working it into both faces of the hawse.



10.7 Cargo Hatch

Identify the cargo hatch coaming P40 and the hatch covers P41. Lightly sand the coaming edges. Apply shellac to the coaming. Use a soft cloth to apply antique brown acrylic paint working into the hatch covers. Fit and fix eye pins P33 into each of the pre-cut holes in the hatch covers - fit rings P34 to each eye pin as shown. Glue the cargo hatch on the deck at the pre-scored markings as shown.

10.8 Fore Hatch

Identify the fore hatch P42. Lightly sand the edges. Apply shellac to the hatch. Glue the hatch on the deck at the pre-scored markings as shown.

10.9 Mast Heels

Identify the mast heels P43. Lightly sand to chamfer the outside edge - paint matt black and glue in place at the mast holes shown.

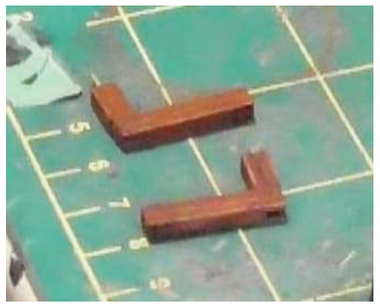
Colonial Ketch
MARY BYRNE
1826
SHEET 40

10.10 Billboards

Identify the billboards P45 - shape each to fit between the fence base and the top of the wale as shown - fractionally adjust as required. Once satisfied paint the billboards matt black and glue in place as shown.

10.11 Catheads

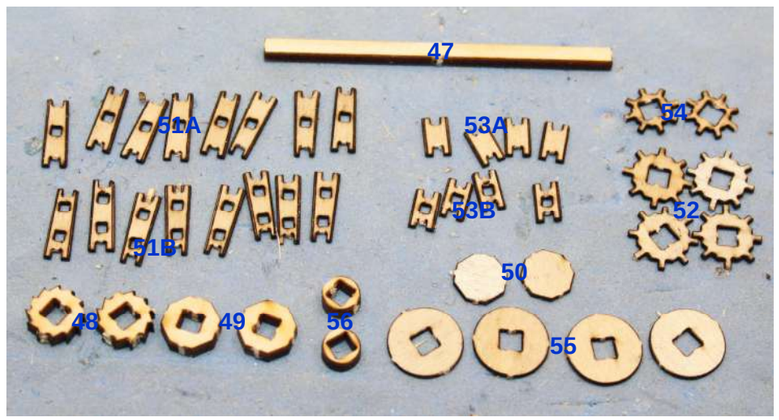
Identify the cathead parts 46A-B. Lightly sand each part - fix a locating pin to the base of P46B. Trial fit parts together as shown. Drill a 0.6mm hole locating hole centrally in the pre-scored location on the deck - trial fit the assembled catheads in place on the deck with the cathead arm resting across the end of the hawse as shown. Once satisfied glue the arm and legs together. Use a soft cloth to apply antique brown acrylic paint working it into the assembled cathead. Fix an eye pin P33 to the outside face of the arm as shown. Glue the assembled catheads in place on the deck as shown.

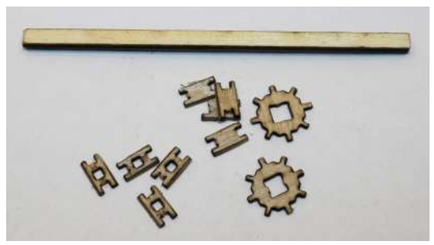


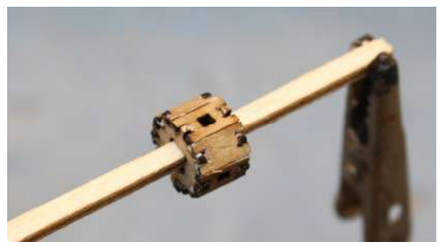
10.12 Windlass

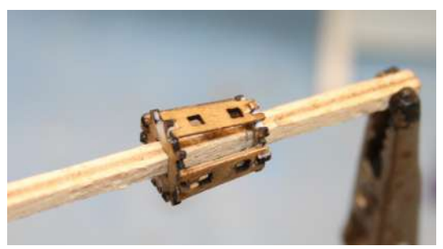
Identify the windlass parts - P47 - 56. Notice P51A-B and P53A-B have score lines on their edges - lightly file from the score line to the other face to create a chamfer edge to allow the parts to fit together. Assemble in the sequence as shown - trial fit parts and once satisfied glue in place. Identify the windless axle P47, large spindle ends P52 and spindle centre pieces P53A & 53B. Temporarily fit the spindle ends onto the axle and glue the centre pieces in place as shown - top side facing inwards - alternating A & B as shown.

Identify a large spindle end P52, a small spindle end P54 and the outer spindle pieces P51A & 51B. On each of the spindle pieces notice a scribe line on each top side - chamfer to this line on each piece. Temporarily fit the spindle ends onto the axle and glue the spindle pieces in place as shown - top side facing inwards - alternating A & B as shown. Repeat for the second outer spindle. Set aside to be fitted later.







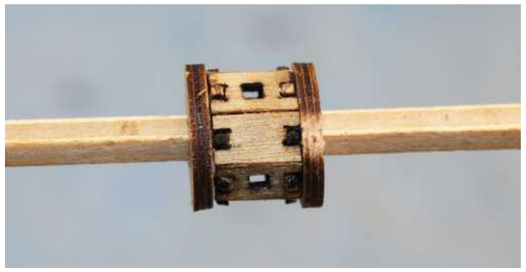


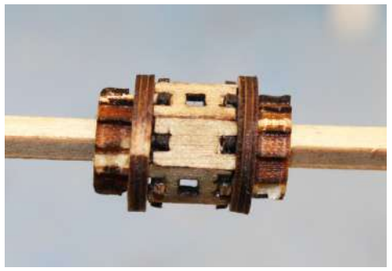
Colonial Ketch
MARY BYRNE
1826
SHEET 41

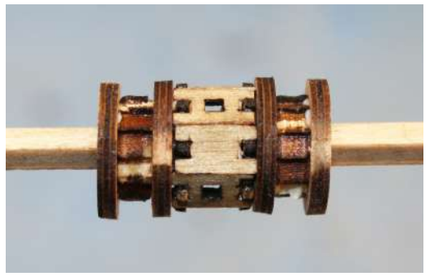
10.12 Windlass continued

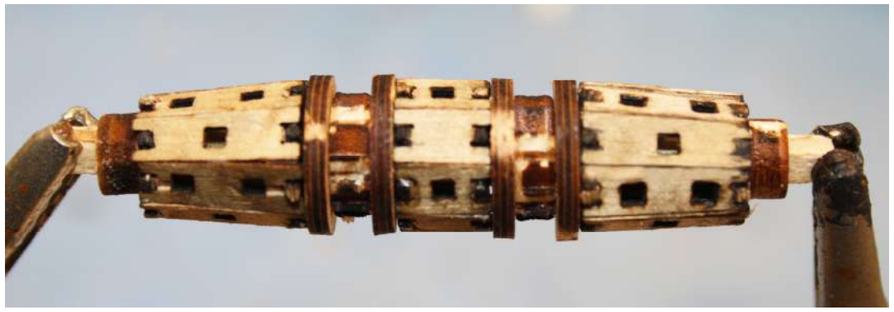
Identify the spindle face P55 - glue two pieces in place as shown. Identify the pawl ring gears P48 - glue in place as shown - make sure the gear teeth are placed in the same direction. Glue in place another two spindle faces as shown. Retrieve the assembled outer spindles - glue in place as shown. Identify the axle spacers P56 - glue in place as shown. Identify the warping heads P49 - glue each in place so the outer face is flush with the ends of the axle. Identify the warping head cover P50 - glue each in place as shown. Use fine grade sandpaper to lightly sand the assembled windless barrel.

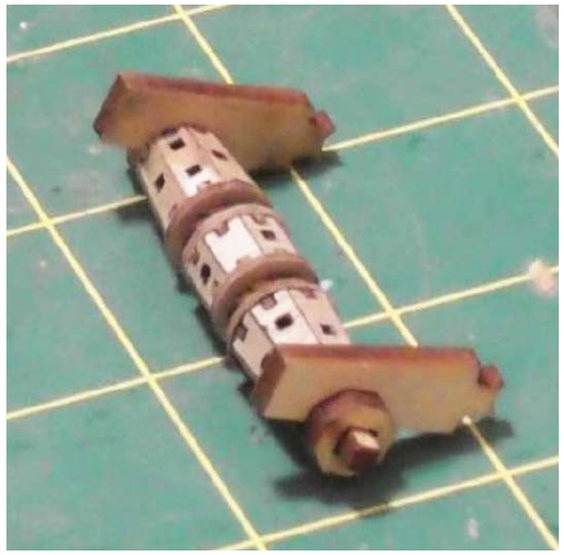
Identify the carrick bitts P57 and the cheeks P58. Trial fit the carrick bitts as shown - fractionally adjust as required. Remove the bitts and paint the assembled windlass antique brown acrylic paint - use a soft cloth to remove excess and work into windlass. Fit and fix pins centrally to the base of the carrick bitts as shown. Paint the carrick bitts and cheeks matt black - once dry glue the carrick bitts and cheeks to the barrel as shown making sure the gear teeth direction are correct as shown. Drill 0.7mm holes into the centre of the deck locating makings for the carrick bitts. Fix the assembled windless to the deck. Identify the carrick standards P59 - paint matt black - when dry glue each in place - align with inside edge of the carrick bitts. Fit and fix an eye pin P33 to the top of the stem post as shown.

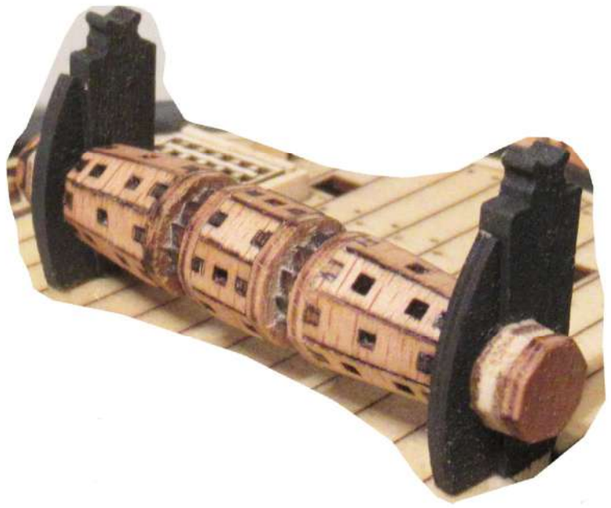










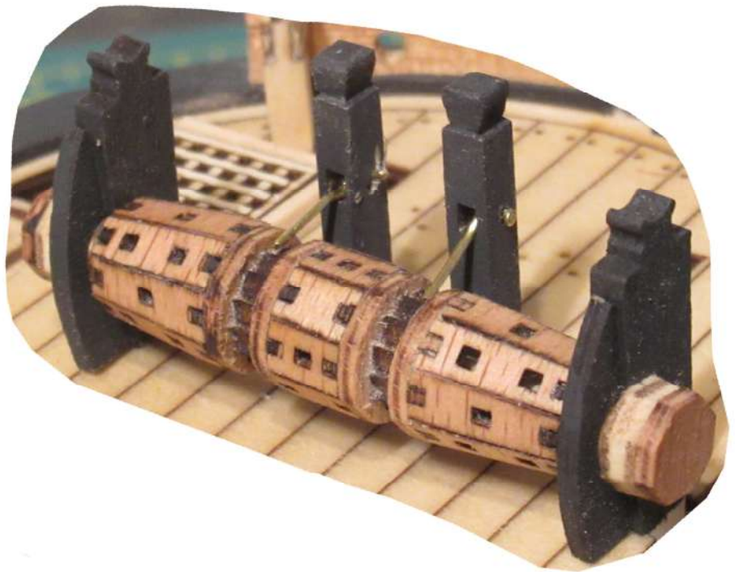


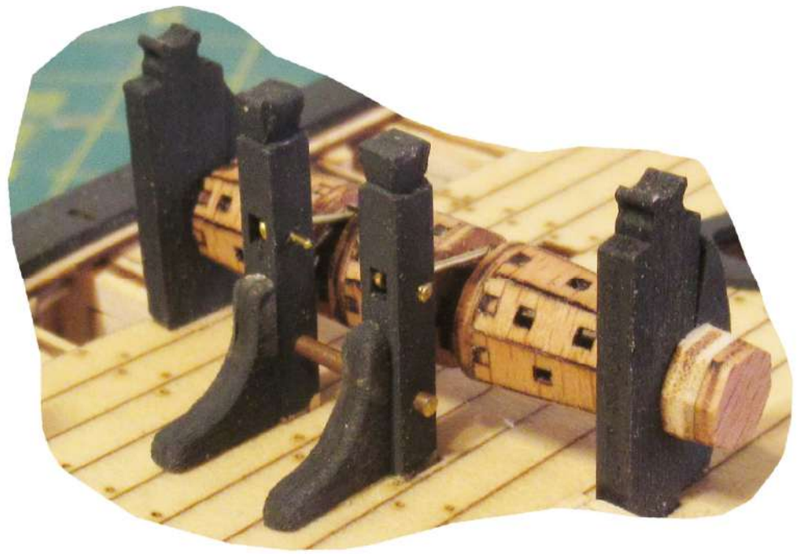
Colonial Ketch
MARY BYRNE
1826
SHEET 42

10.13 Pawl bitt pins

Identify the pawl bitt pins P60 and pawl bitt standard P61.Lightly sand the parts. Shape the head of the bitt pins as shown. On the side edge of each pawl bitt measure down 20mm from the top - mark the point and drill a 2mm hole through the bitt. Identify the 2mm dowel P72 - cut a 20mm length - trial fit into each pawl bit - fractionally sand the dowel diameter to allow an easy fit. Fit and fix a pin into the base of each pawl bitt. Drill a 0.7mm hole locating hole centrally in the pre-scored location on the deck. Trial fit the assembled pawl pins in place. Remove the 2mm dowel and set aside to be fitted later when fitting the bowsprit. Paint the bitt pins matt black - when the paint is dry fix the pawl bitt pins in place on the deck. Paint the pawl bitt standard matt black. When paint is dry fix the standard in place as shown.

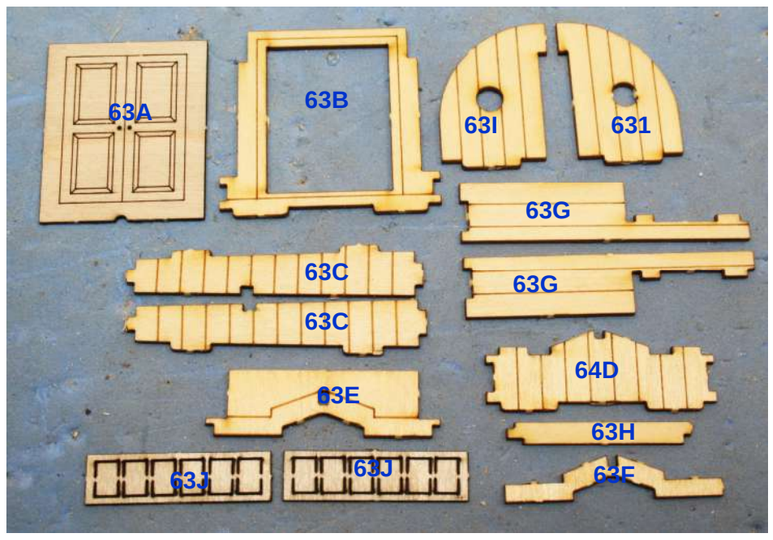
Identify the brass eye pins P33. To create the pawls drill a 0.7mm hole centrally through the pre-cut slots in the bitt pins. Fit an eye pin into this slot then push another eye pin through the 0.7mm holes to capture the first eye pin. Cut off the head and tail of the second eye pin - use a dab of super glue to fix the second eye pin in place. Repeat for the second pawl bitt pin. Locate the pawls onto the pawl ring gears as shown.





10.14 Companionway

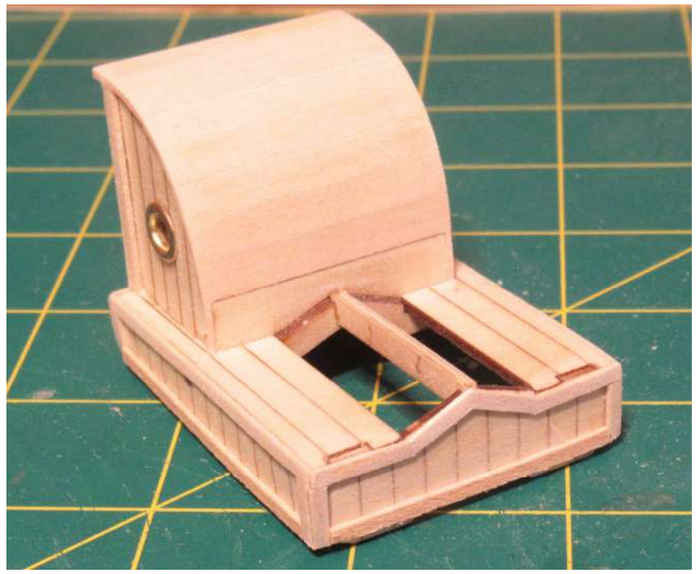
Identify the companionway parts P63A-P63J. Lightly sand each part to remove any laser burn. Apply shellac to all the parts and allow to dry. Trial fit all parts before gluing in place. Turn 63A & 63B face down on a flat surface - glue 63A to 63B as shown - note the half circle score mark at the top of 63A - locate 63A centrally onto 63B. Glue 63F to 63E.



Colonial Ketch
MARY BYRNE
1826
SHEET 43

10.14 Companionway continued

The companionway can be assembled on the deck or off the deck. Glue parts 63A/B to 63C & 63D as shown - use blue tac to hold parts in place while assembling. Glue the assembled 63E/F in place as shown. Glue 63G in place as shown. Glue 63I in place as shown. Glue 63H in place as shown. Identify the companionway roof slats P64 - glue in place centrally over the curve of the companionway entrance roof as shown. Sand lightly when complete. Identify the trim covering P65 - apply shellac and once dry cut and glue lengths to fit around all companionway edges including the door frame as shown. Identify the eyelets P66 - glue in place as shown as port holes. Identify the nails P30 - glue 2 nails in place as the door knobs as shown. Before fitting the skylight panels glue the assembled companionway to the deck. Paint the deck and parts that can be seen through the skylight panels matt black. Glue skylights 63J in place - cut a length of trim P65 to fit across the joint of the skylights - glue in place as shown. Apply another coat of shellac to the assembled companionway.



Colonial Ketch
MARY BYRNE
1826
SHEET 44

10.15 Pin Rails - Main Mast & Mizzen Mast
Identify the pin rail bitts P67 and the pin rails P68. Lightly sand the bitts, fit pins to centre of the base of each bitt. Paint the bitts matt black. Lightly sand the pin rails and apply shellac. Fix the rails into the bitt notches. Drill 0.7mm holes into the centre of the pre-scored locations on the deck and fix the assembled pin rails in place as shown.

10.16 Fore fife rails
Identify the fore fife rail bitts P69. Lightly sand the bitts, fit pins to centre of the base of each bitt. Paint the bitts matt black. Identify the 2mm dowel P72 - cut a 38mm length. Fit and glue the bitts in place. Fix the 2mm dowel in place.

10.17 Mid-ship fife rails
Identify two of the fife rail bitts P70. Lightly sand the bitts, fit pins to centre of the base of each bitt. Paint the bitts matt black. Identify the 2mm dowel P72 - cut two 45mm lengths. Fit and glue the bitts in place. Fix the 2mm dowel in place.

10.18 Aft fife rails
Identify two of the fife rail bitts P70. Lightly sand the bitts, fit pins to centre of the base of each bitt. Paint the bitts matt black. Identify the 2mm dowel P72 - cut two 38mm lengths. Fit and glue the bitts in place. Fix the 2mm dowel in place.

10.19 Pumps
Identify the pumps P71. Assemble each pump as shown and fix in place on the deck at the pre-scored locations.

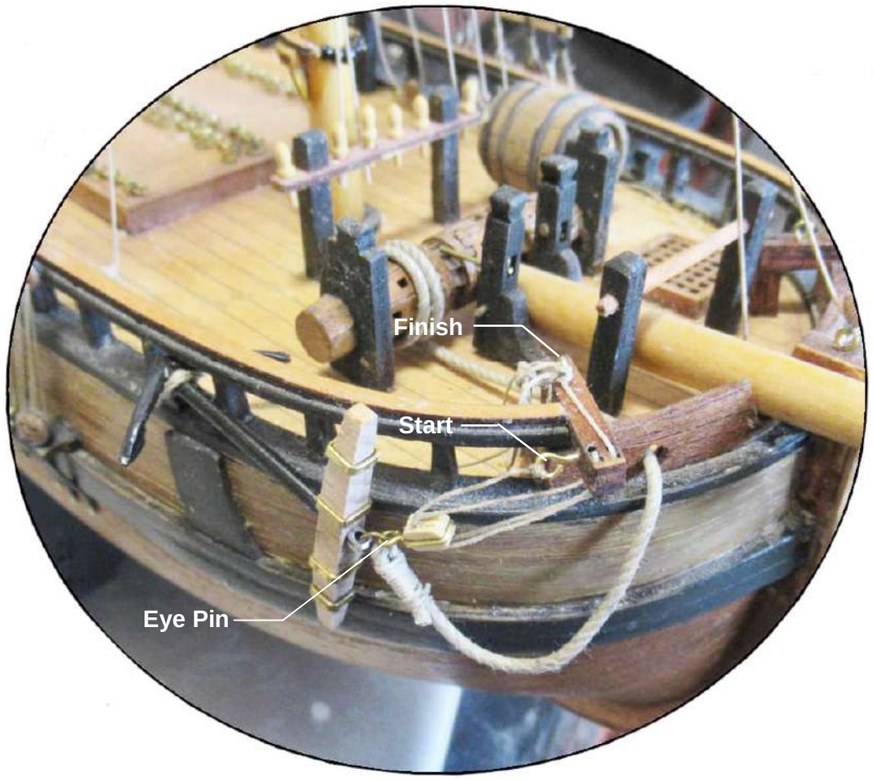
10.20 Hawse Pipes
Identify the eyelets P66 - fix in place in the pre-cut holes in the deck in front of the main mast pin rail as shown.

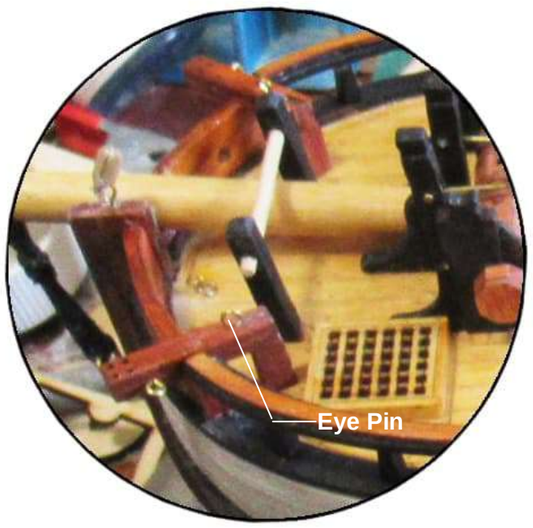
10.21 Fence & Hull Steps
Identify the fence stanchions P25 and fence tops P26A/B - lightly sand and paint matt black. Trial fit and glue the stanchions into the fence base. Apply a dab of glue to the top of each stanchion and carefully fit the fence tops in place - fractionally adjust as required. Identify the fence top capping P89A-B - lightly sand and apply and use a cloth to apply an antique brown acrylic paint to the parts as shown. Glue the capping in place. Identify the hull steps P97 - stain a walnut colour and glue to the port and starboard hull sides as shown.

Colonial Ketch
MARY BYRNE
1826
SHEET 45

12.22 Anchors

Identify the anchors P90. Assemble the anchors as shown. Identify the anchor rope P88 - cut two lengths 250mm long. Taking one end of this cord, thread it through the large brass ring on the end of the anchor shaft, wrap approximately 15mm back on itself and secure with cord E P85. Feed the other end of the anchor rope through the hole in the hawse and wrap around the winch as shown. Thread the remaining anchor rope into the deck hawse pipe. Shape an eye pin P33 and fix into the end of block C P38 as shown. Attach the eye pin to the anchor ring as shown. Fit and fix in place an eye pin P34 at the base of the cat-head as shown. Use cord F P86 rig the anchor pulley as shown. Start and finish at the eye pins as shown. Lash the anchor to the bitt head as shown using cord F P86. Repeat the process for the second anchor.





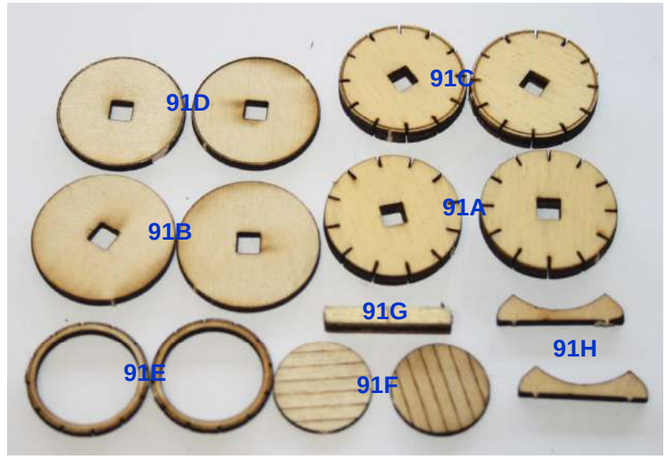
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

12.23 Barrel

Identify the barrel parts P91A-H. Use a fine grade sanding board to remove the laser burn from the edge of P91A. On parts P91C use the sanding board to create a chamfer from the score line to the outer edge as shown. Parts 91B & 91D represent the iron bands holding the barrel together - for 91B lightly sand round the edges. For 91D sand from the score line to create a small chamfer to the outer edge and slightly round the edge as well.

For part 91E **very carefully** sand from the score line to create a small chamfer to the outer edge. Note part 91G is the key and has a score line across the centre. Trial fit parts 91A onto the key fitting the two pieces either side on the centre line as shown - make sure to align the notches. Next trial fit parts 91B as shown - then parts 91C - align the notches - then fit parts 91D as shown. Fractionally shape P91B & P91D as needed - once satisfied disassemble the parts. Next paint the edges on P91B & 91D matt black as shown. Using diluted teak wood stain apply to the remaining parts - apply a second coat. Glue the parts together to assemble the barrel as shown - make sure to align the slat cuts on P91E with the other slat cuts. Glue the barrel stand parts P91H - glue each in position. Fit & fix in place four eye pin P33 in place at the pre-scored positions on the deck. Glue the barrel in place as shown - use cord F P86 to tie the barrel in place as shown.



Colonial Ketch
MARY BYRNE
1826
SHEET 46

11.0 Masts, Bowsprit, Gaffs, Booms & Yards

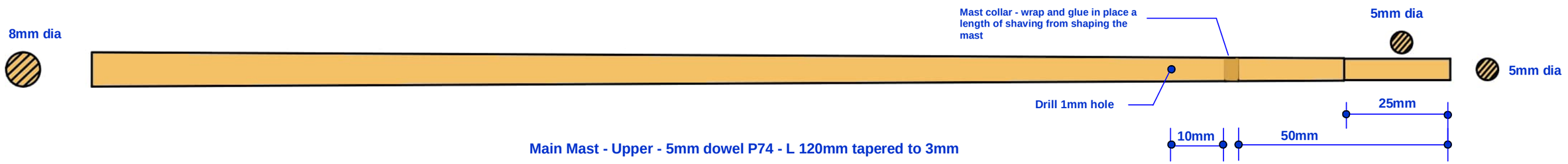
Shape and assemble the masts, bowsprit, gaffs, booms & yards. Identify the various size dowels and cut, shape and taper these parts shown in the drawings below. Tapering the dowels can be achieved using a mini plane, a file and sandpaper. Once they have all been shaped and tapered apply a few coats of shellac to each dowel. Identify the various mast caps, blocks and fittings to be used as shown. Paint the mast caps matt black before fixing in place. Fit eye pins, blocks and footrope stirrups as shown below. Once all are assembled set each part safely aside. **Do not fit the masts, gaffs, booms or yards to the model yet.**

13.1 Main Mast

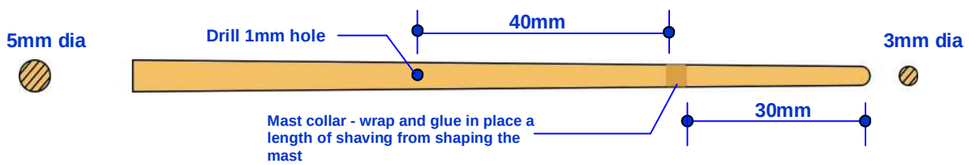
The main mast is made in two parts - the lower and upper main mast. The two parts are jointed by two mast caps P77. Identify the relevant dowels and cut and shape the lower and upper main mast pieces as shown. Fit and fix the boom rest supports P81 as shown. Fit the boom rest P80 in place. Assemble the lower and upper main masts as shown. Fit eye pins P33 and ring P34 as shown. Identify the relevant blocks and use cord E to attach as shown.

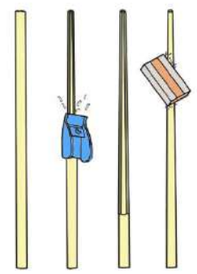
NOT TO SCALE

Main Mast - Lower - 8mm dowel P76 - L 320mm tapered to 5mm

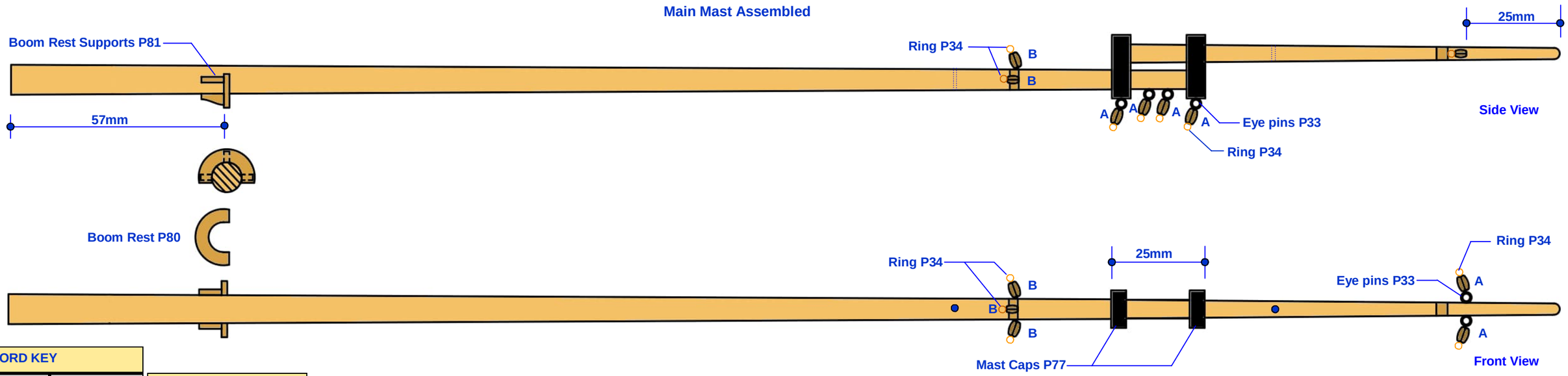


Main Mast - Upper - 5mm dowel P74 - L 120mm tapered to 3mm





Main Mast Assembled



CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

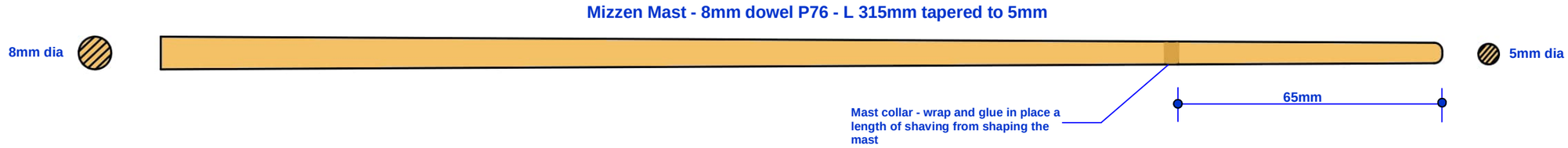
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

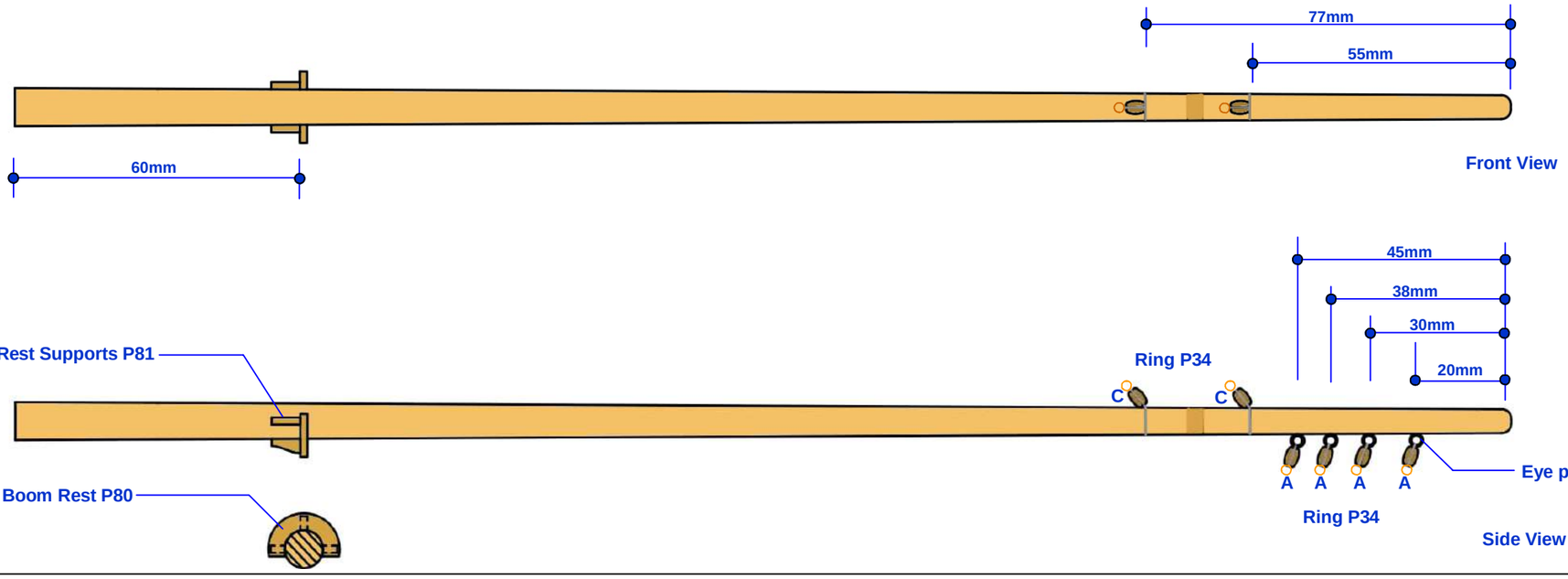
Colonial Ketch
MARY BYRNE
1826
SHEET 47

13.2 Mizzen Mast

Identify the relevant dowel and cut and shape as shown. Fit and fix the boom rest supports P81 and then the boom rest P80 in place as shown. Fit eye pins P33 and rings P34 as shown. Identify the relevant blocks and use cord E to attach as shown.

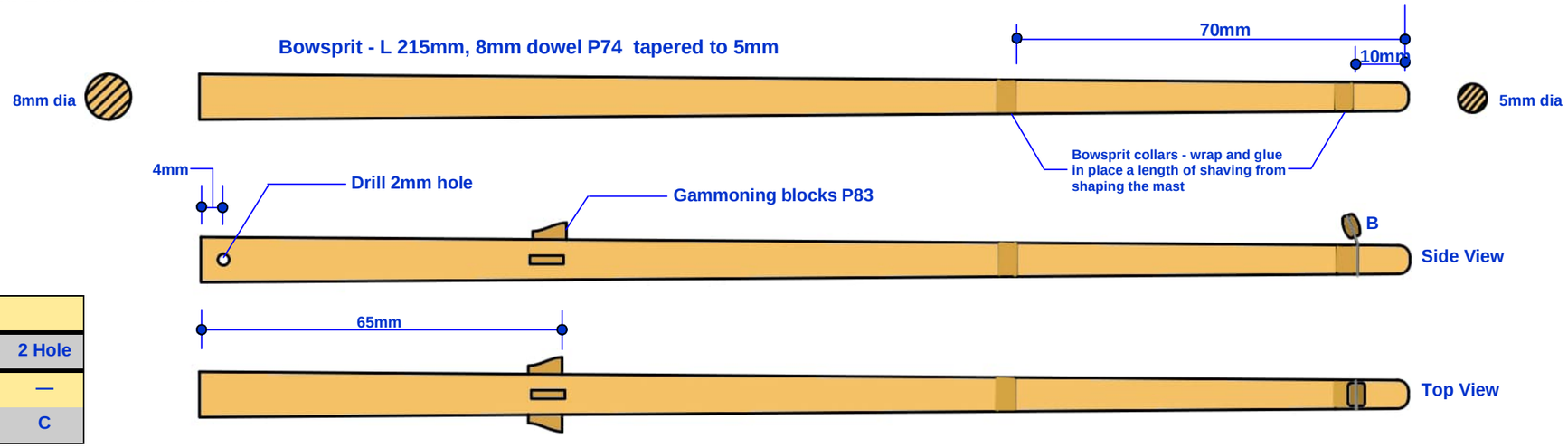
NOT TO SCALE





13.3 Bowsprit

Identify the relevant dowel - cut and shape as shown. Drill a 2mm hole at base as shown. Identify the gammoning blocks P83 - fix each in place as shown - note the top central block it placed 2mm in front of the blocks either side. Identify the relevant block and use cord E to attach as shown.



CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

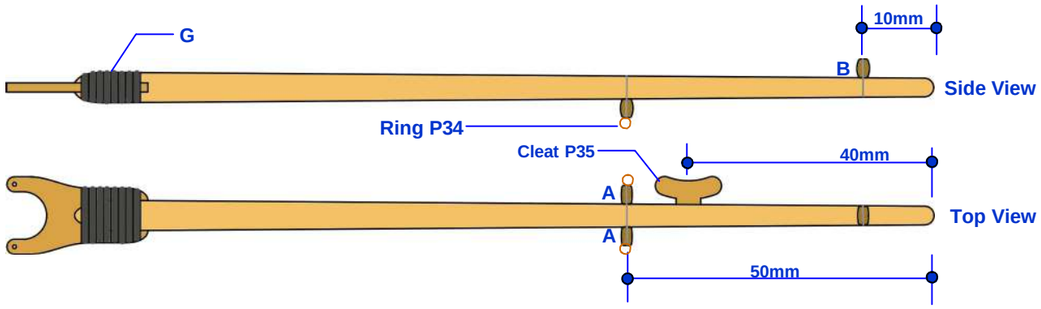
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 48

13.4 Boom - Main Mast

Identify the relevant dowel - cut and shape as shown. Fit the boom yoke P78 - lash yoke to boom with cord G as shown. Use cord E to tie-off blocks as shown. Attach ring P34 to blocks as shown. Identify cleat P35 - shape to remove edges - fix pin to base and fix in place as shown.

Boom - Main Mast - 5mm dowel P74 - L 140mm tapered to 3mm

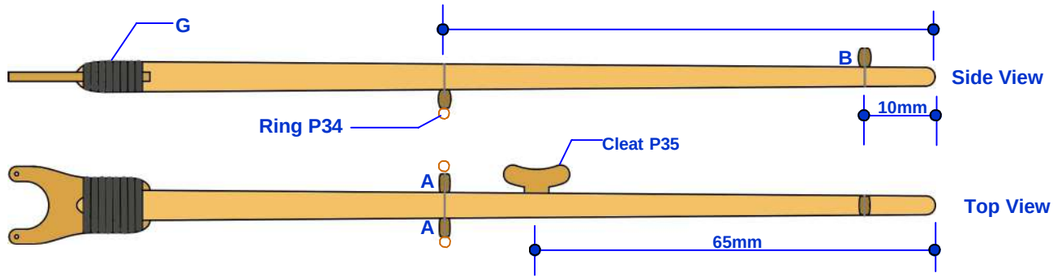


13.5 Boom - Mizzen Mast

Identify the relevant dowel - cut and shape as shown. Fit the boom yoke P78 - lash yoke to boom with cord G as shown. Use cord E to tie-off blocks as shown. Attach ring P34 to blocks as shown. Identify cleat P35 - shape to remove edges - fix pin to base and fix in place as shown.

NOT TO SCALE

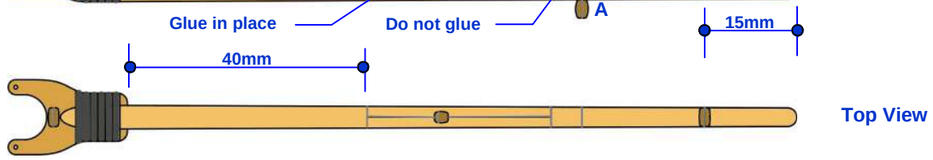
Boom - Mizzen Mast - 5mm dowel P74 - L 140mm tapered to 3mm



13.6 Gaff - Main Mast

Identify the relevant dowel - cut and shape as shown. Fit the gaff yoke P79 - lash yoke to gaff with cord G as shown. Fit an eye pins P27 and block to gaff as shown. Use cord E to tie-off blocks as shown.

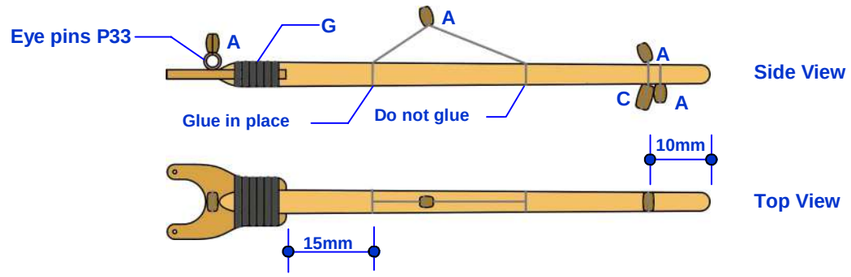
Gaff - Main Mast - 4mm dowel P73 - L 120mm tapered to 3mm



13.7 Gaff- Mizzen Mast

Identify the relevant dowel - cut and shape as shown. Fit the gaff yoke P79 - lash yoke to gaff with cord G as shown. Fit an eye pins P27 and block to gaff as shown. Use cord E to tie-off blocks as shown.

Gaff - Mizzen Mast - 4mm dowel P73 - L 80mm tapered to 3mm.



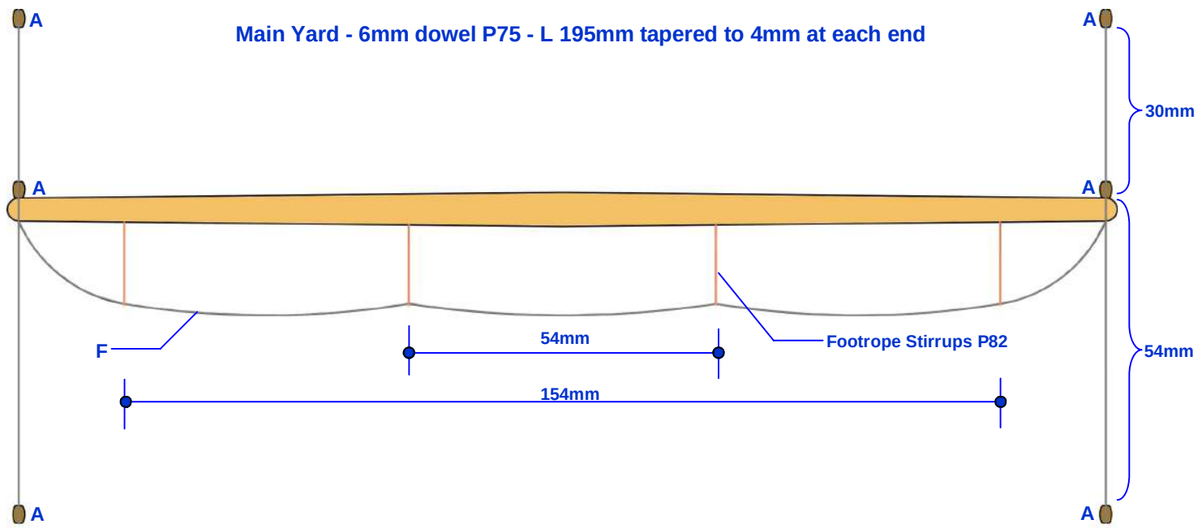
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

13.8 Main Yard

Identify the relevant dowel and cut and shape as shown. Fit blocks, eye pins P82 as footrope stirrups and rigging as shown. Use cord E to tie-off blocks as shown. Use cord F as footrope. Use cord F as pendants

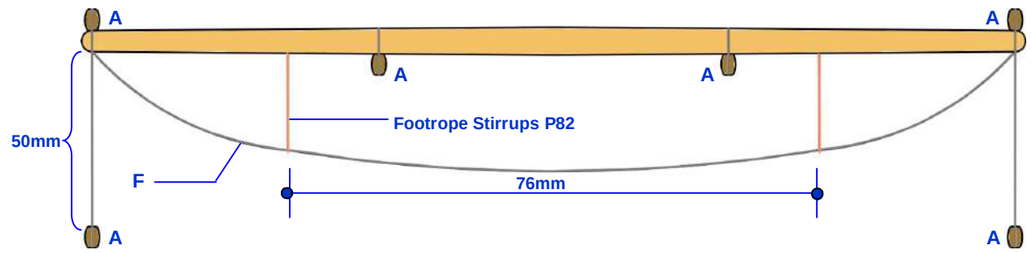
Main Yard - 6mm dowel P75 - L 195mm tapered to 4mm at each end



13.9 Main Top Yard

Identify the relevant dowel and cut and shape as shown. Fit blocks, eye pins P82 as footrope stirrups and rigging as shown. Use cord E to tie-off blocks as shown. Use cord F as footrope. Use cord F as pendants.

Main Top Yard - 4mm dowel P73 - L 135mm tapered to 3mm at each end

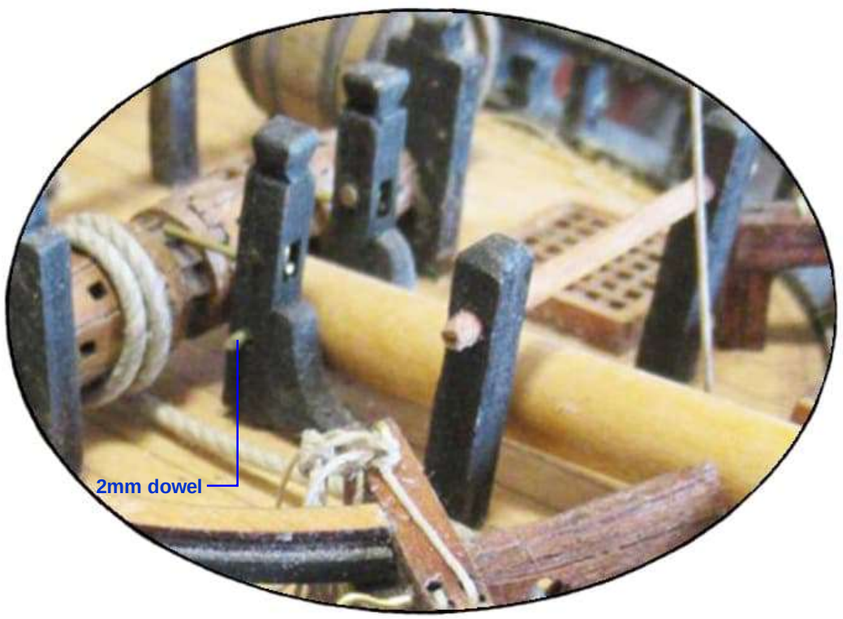


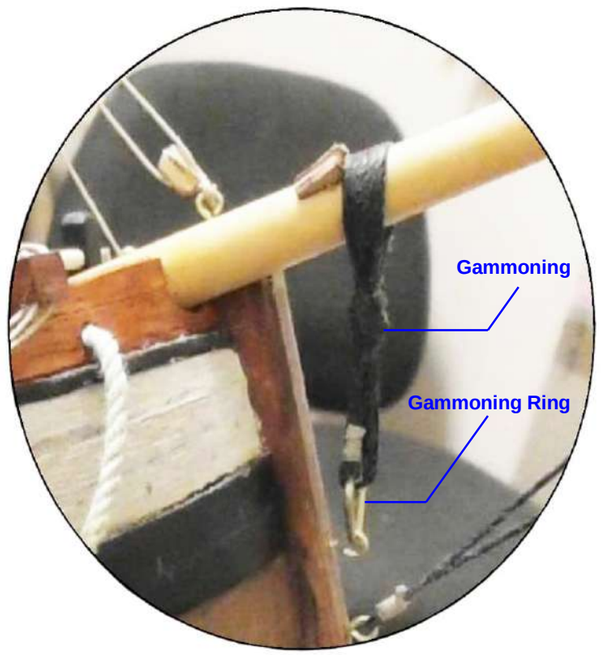
Colonial Ketch
MARY BYRNE
1826
SHEET 49

14.0 Fitting Bowsprit and Masts

14.1 Bowsprit

Retrieve the bowsprit previously assembled. Retrieve the previously shaped 2mm dowel. Trial fit the dowel through the previously drilled 2mm hole at the base of the bowsprit - sand to reduce the dowel diameter to allow an easy fit. Trial fit the bowsprit between the pawl bitts as shown - carefully fit the 2mm dowel in place - once satisfied glue the 2mm dowel in place. Identify the 1mm brass wire P84 - shape the wire into a triangle with 10mm sides - apply a dab of two part epoxy glue at the joint if required - this is the gammoning ring. From the top of the stem post measure down 35mm - fit and fix an eye pin P33 in place. Attach the gammoning ring as shown. Use cord G to lash the bowsprit to the gammoning ring as shown.





Gammoning Ring

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

14.2 Fitting Main and Mizzen Masts

Retrieve the previously assembled main and mizzen masts. Fit & glue the main mast in place - sight the mast to be vertical along the hull and in line with the rudder. Fit & glue the mizzen mast in place - sight the mast to be vertical and in line with the main mast. Set model aside for 24 hours and allow glue to fully set.

Colonial Ketch
MARY BYRNE
1826
SHEET 51

15.0 Rigging - Introduction

15.1 Types of Rigging

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

On an “actual” ship any rigging that did not pass through a pulley block was coated with tar to help prevent it rotting. To simulate this the cord supplied in the kit for the standing rigging is 1mm black. The running rigging is fawn and of two sizes, 0.25mm and 0.5mm.

15.2 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 running 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.

16.0 Standing Rigging

The standing rigging includes the rigging of the forestays, backstays, bobstays 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. Backstays
3. Bowsprit rigging
4. Shrouds.

The instructions follow this sequence. However before progressing with the standing rigging we need to make and fit the deadeye straps and the backstay straps to the channels.

16.1 Deadeye & Backstay Straps

Identify the deadeyes P92 and 0.5mm brass wire P93. Cut 18 x 60mm lengths of the 0.5mm brass wire. For the deadeye straps a length of wire around a deadeye as shown - twist once - hold the tails in pliers and run a bead of super glue along the joined tails - make another 13 deadeye straps. **Note the orientation of the deadeye.** For the backstay straps take a length of wire and twist once around a length of 3mm dowel or tooth pick as shown - hold tails with pliers and seize with super glue - make 3 more backstay straps. Paint the straps matt black if desired.

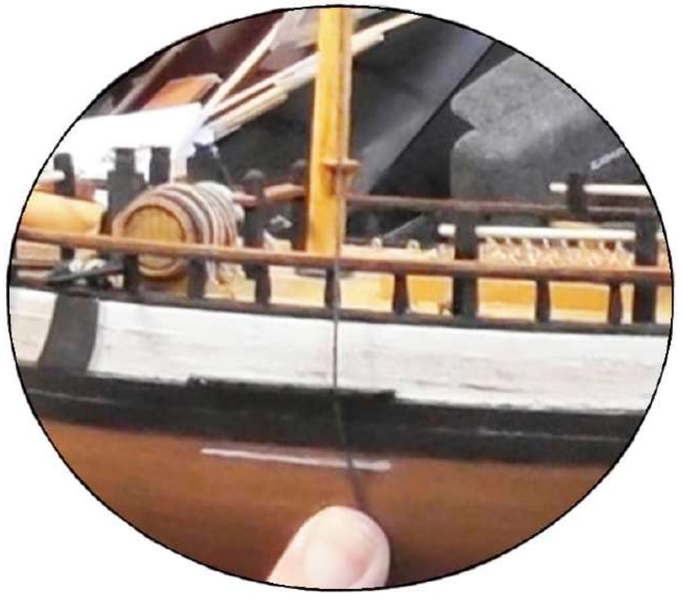
Deadeye Straps

Backstay Straps

Colonial Ketch
MARY BYRNE
1826
SHEET 52

16.2 Deadeye & backstay strap angle

Shrouds and backstays are connected to deadeyes and backstay straps. The location on the hull where the end of each strap is fixed is determined by the shroud extension angle - the angle of each strap needs to be the same as individual shroud/backstay so as to maximise the purchase between the shroud/backstay straps. The end of each strap is fixed to the hull 2mm below the wale - using a short length of 1x2mm timber as a guide mark a light white pencil line below the wale as shown. Starting with the main mast take a length of rigging cord - tie to the mast head as shown and pull over the channel in each slot - marking the point on the pencil line where the cord crosses the line. Repeat this for each channel slot on the main and mizzen masts on both sides of the hull. Use a pencil eraser to remove the white pencil line. At each marked point drill a 1.0mm hole. Repeat for the mizzen mast running the short length of rigging cord from the collar on the mast.

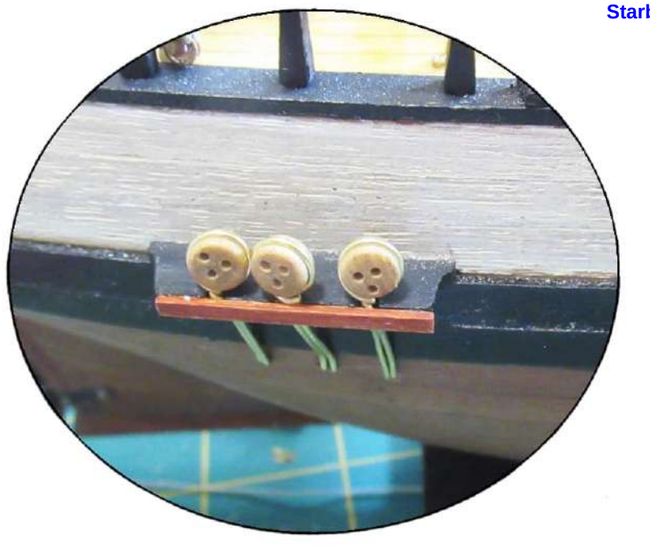


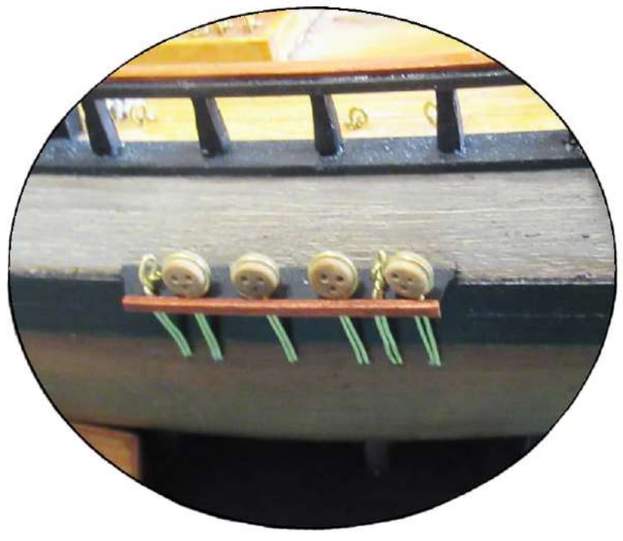
Colonial Ketch
MARY BYRNE
1826
SHEET 53

16.3 Deadeye & Backstay Straps

To fit the deadeye straps feed the end into the hole previously drilled in the hull - bend the strap at a right angle and fit into the channel slot so that the deadeye rests on the top of the channel. For the backstay strap fit into channel slot so that the loop rests on the top of the channel. Glue the straps in position - deadeye straps are fitted to slot numbers 1, 3, 4, 5, 7, 8 & 9 - the backstay straps are fitted to slots 2 & 6. Identify the main mast channel capping P94A and the mizzen mast channel capping P94B - glue across the face edge of each channel - stain as shown or paint matt black as desired. Repeat for the other side of the hull.

Starboard side straps





Starboard side channels

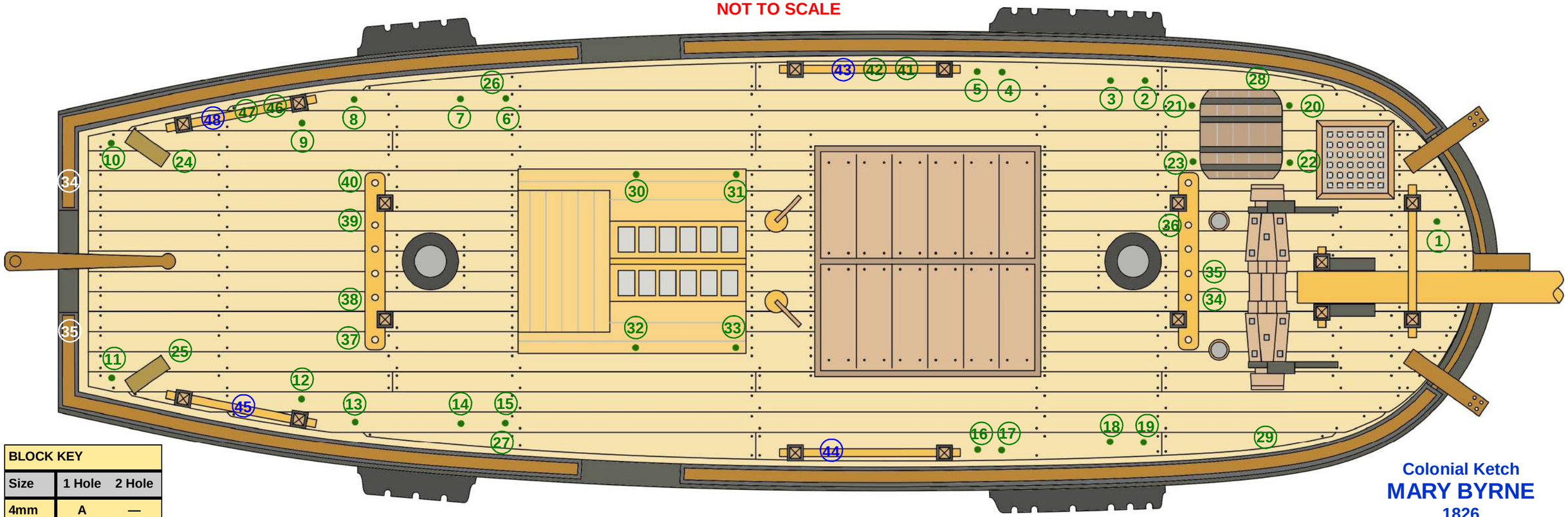
Main mast channel strap locations

Mizzen mast channel strap locations

16.4 Belaying Plan

The belaying plan shows where the rigging starts and finishes. This plan will be used in each of the following sheets. The numbers presented on the following pages correspond to the belaying points indicated below. Fix eye pins P33 at points 30,31,32 & 33. Attach block A to points 31 & 33. Fix cleats P35 to points 34 and 35.

NOT TO SCALE



BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch

MARY BYRNE

1826

SHEET 54

16.5 Forestays

Attach the forestays in the order presented below. Use cord G for all forestays. **Fit the cords so they are taut - do not over tighten.**

16.5.1 Preventer Forestay

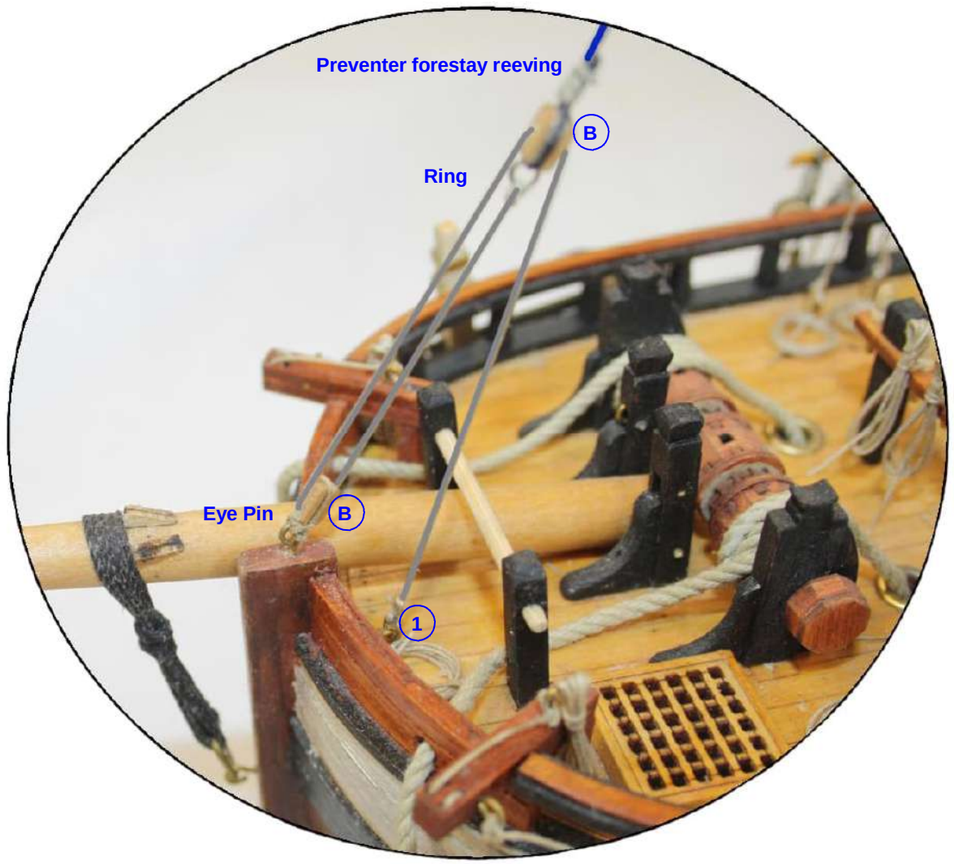
Measure and cut a length of cord long enough to fit as shown - wrap one end of the cord around a block B P37 fitting a ring P34 as shown and seize. Attach the other end of the cord around the main lower mast collar and seize as shown. Fit an eye pin P33 to the top of the stem post and attach a block B as shown. Reeve these blocks together as shown. Terminate at

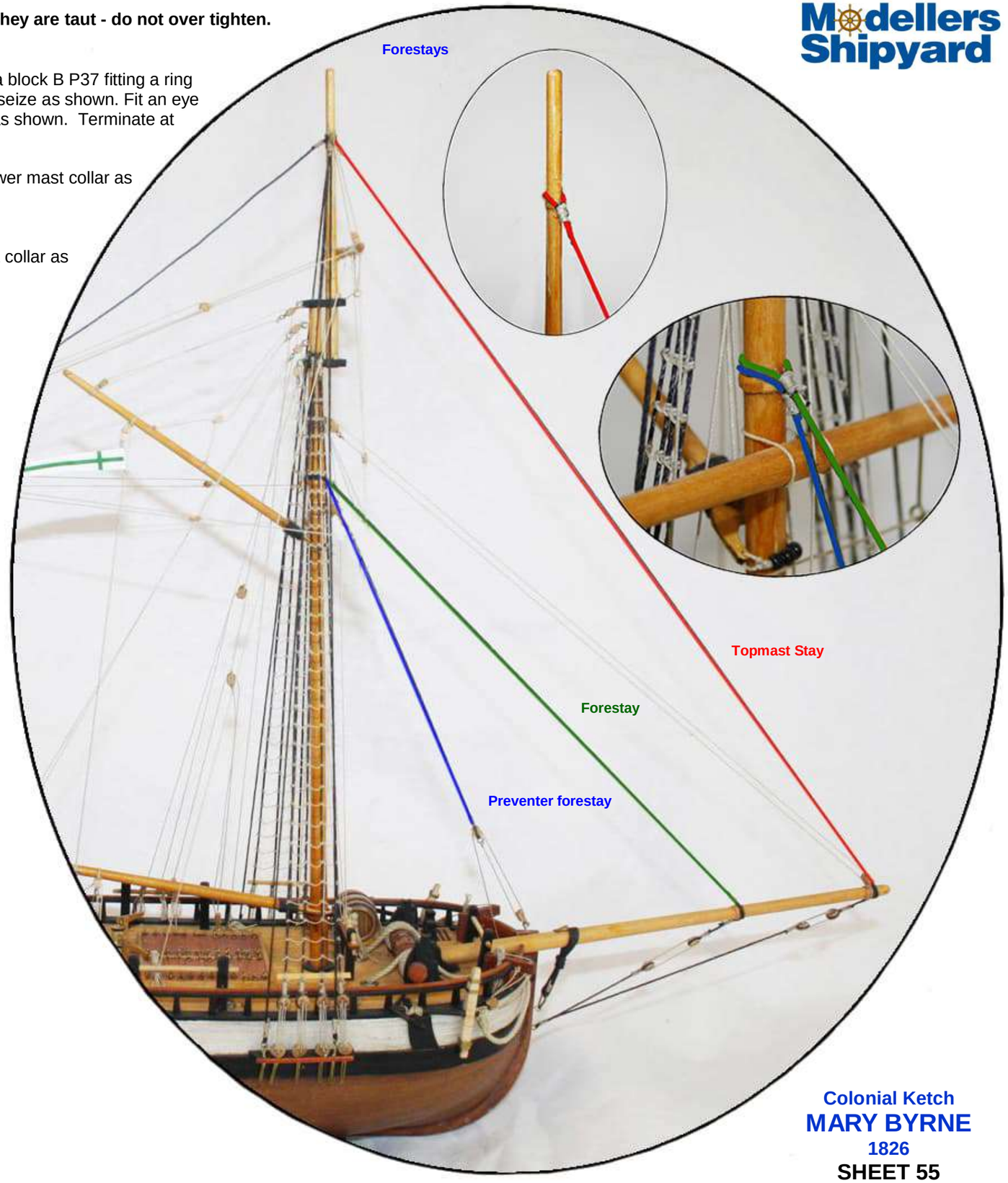
16.5.2 Forestay

Measure and cut a length of cord long enough to fit as shown - seize one end around the main lower mast collar as shown. Rig to the bowsprit collar as shown and seize.

16.5.3 Topmast Stay

Measure and cut a length of cord long enough to fit as shown - seize one end around the topmast collar as shown. Rig to the bowsprit collar as shown and seize.





CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

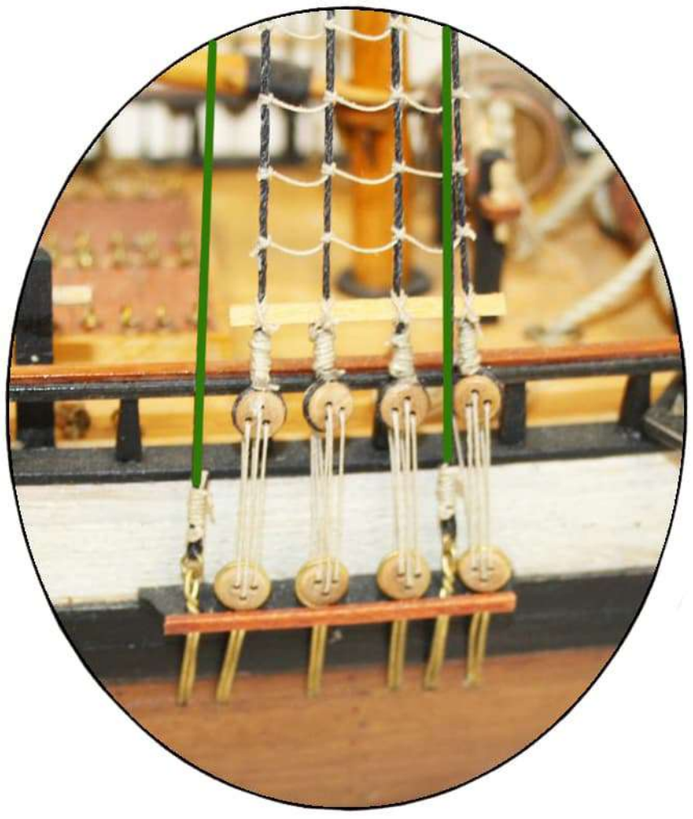
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 55

16.6 Backstays

16.6.1 Main Mast Backstays

Use cord G for all backstays. Measure and cut a length of cord long enough to fit as shown - halve the cord - wrap and seize the cords around the topmast collar as shown. Rig each backstay to the points on the main mast channel as shown. Repeat for the port side of the hull.



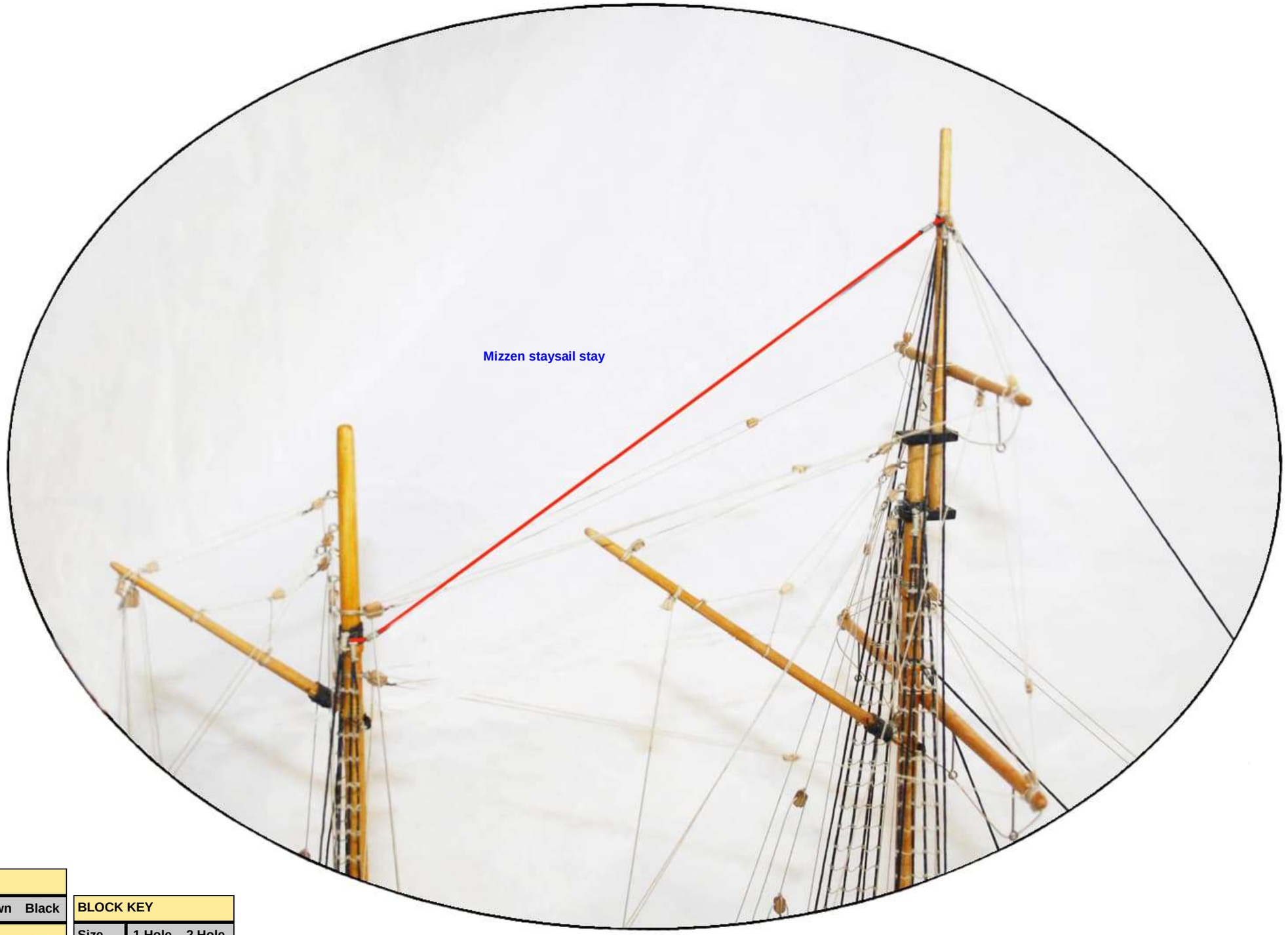
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 56

16.6.2 Mizzen Staysail Stay

Use cord G for the staysail stay. Measure and cut a length of cord long enough to fit as shown. Wrap the seize one end around the topmast collar as shown. Rig to the mizzen mast collar and seize as shown.



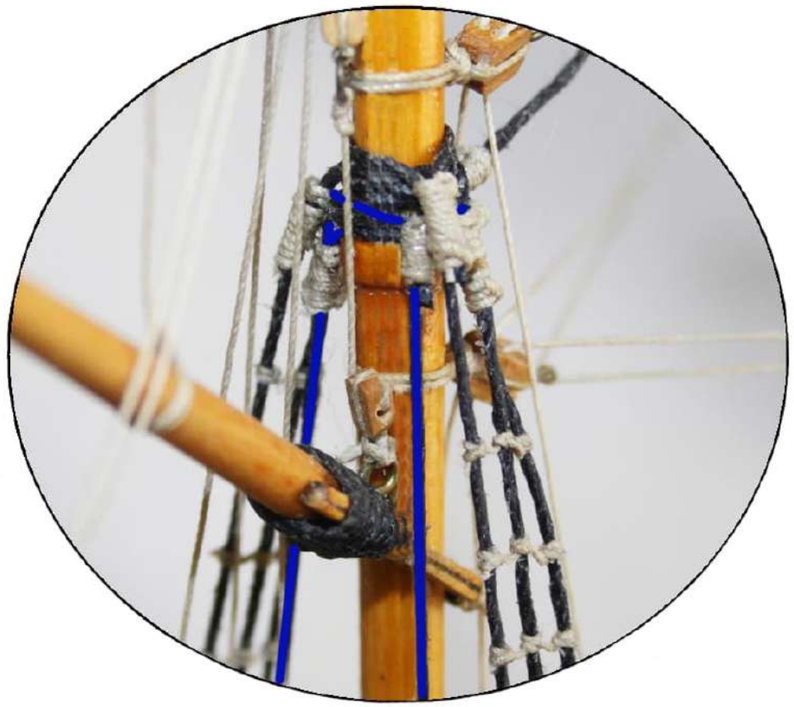
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

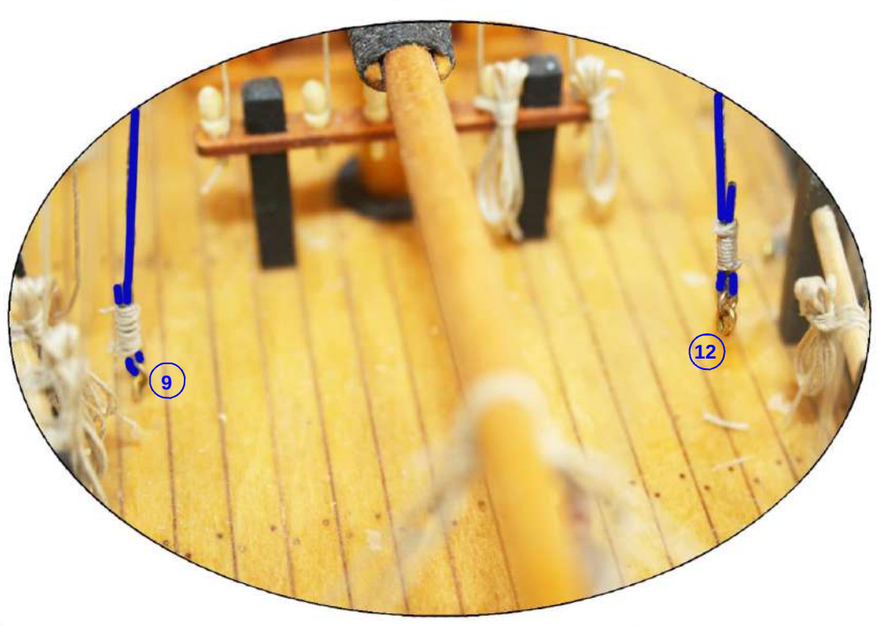
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 57

16.6.3 Mizzen Mast Backstays

Use cord G for all backstays. Measure and cut a length of cord long enough to fit as shown - halve the cord - wrap and seize the cords around the mizzen mast collar as shown. Run and terminate the cords to rigging points 9 & 12 - seize at these points as shown.





CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

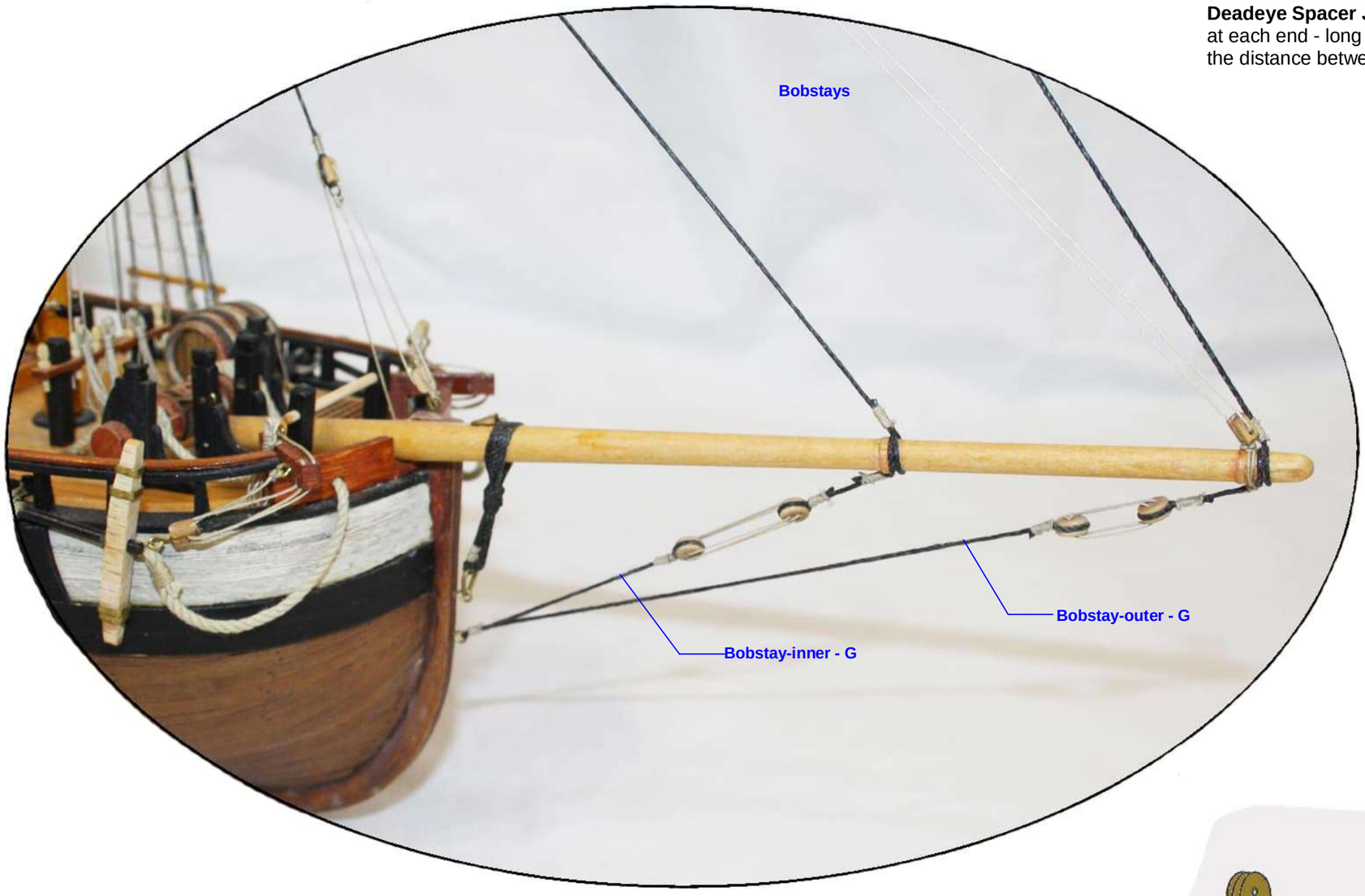
Colonial Ketch
MARY BYRNE
1826
SHEET 58

16.6.4 Bobstays

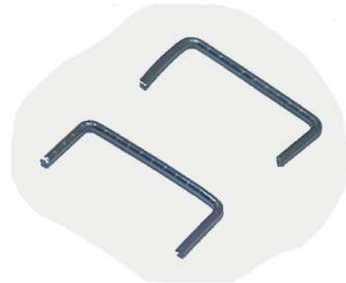
Fit an eye pin P33 to the stem post 10mm below the gammoning ring eye pin as shown. Identify the deadeyes P93 - attach and seize to the ends of two lengths of cord G and attach to the bowsprit as shown. Cut two further lengths of cord G as shown - attach and seize a deadeyes as shown - these cords are tied to the eye pin on the stem post - do not tie-off these ends yet. To reeve the deadeyes together and maintain a fixed distance between the deadeyes make two deadeye spacer jigs as shown. Fit the spacers as shown - note the location of each - and reeve the deadeyes using cord F following the sequence as shown.

Deadeye Spacer Jig is a piece of pliable steel wire (paper clip) bent at right angles at each end - long enough to fit into and hold the upper and lower deadeyes. Make the distance between the two bends 20mm.

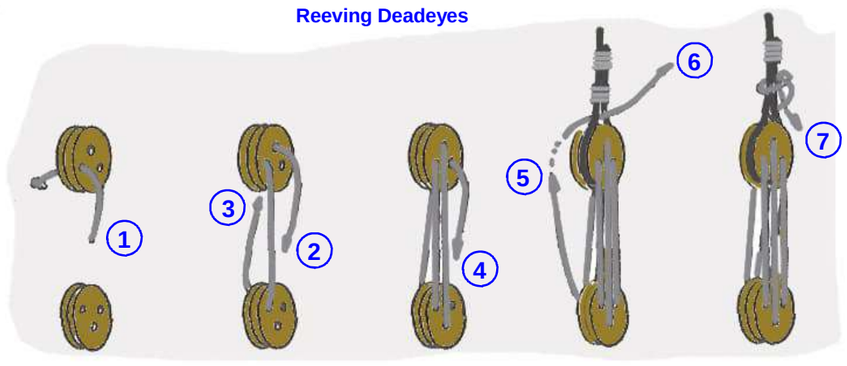
Bobstays



Deadeye Spacer Jig



Reeving Deadeyes



CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 59

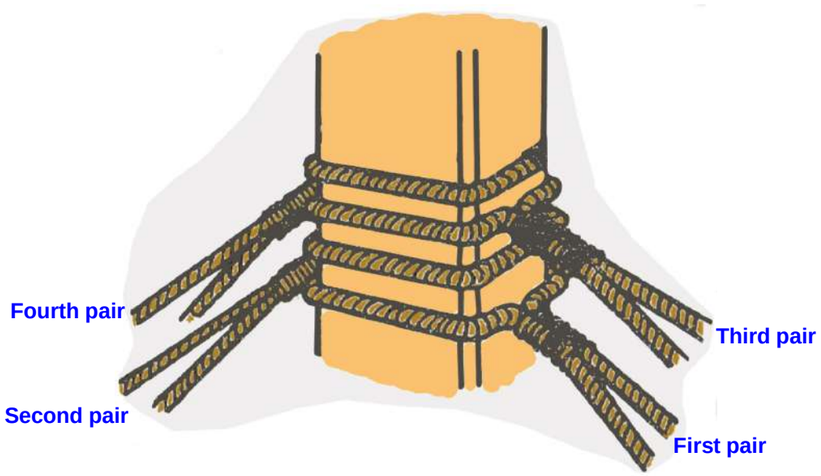
16.7 Shrouds - Preparation

Use cord G for all shrouds. Shrouds are to hold the masts in place. They are fitted to the port and starboard sides of the hull. There is usually an even number of shrouds for each mast - sometimes there is an odd number. Shrouds are made up in pairs with a deadeye attached to the end of a single cord - except when there is a single shroud. Starting on the starboard side, the first pair of shrouds are made by cutting a length of cord G long enough to go from the channel to the mast cap twice with approximately 30mm overhang. Take one end of this cord and wind around the deadeye leaving a short overhang. Use an alligator clip to hold the cord in place - align the centre hole of the upper deadeye to be the **highest** of the three - apply a dab of glue to hold the deadeye in place. Now temporarily attach to the **front starboard** lower deadeye using the deadeye spacer jigs as shown. The jigs ensure the correct spacing between the upper and lower deadeyes and ensure the deadeyes are in straight rows parallel with each other and the channels.

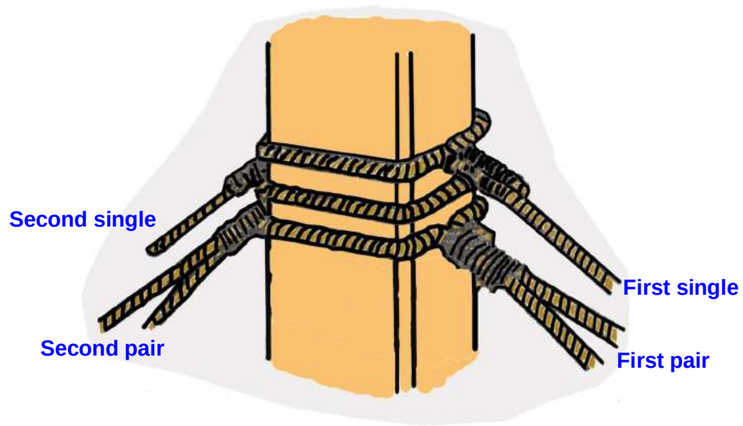
The loose end of the cord then goes up and around the mast and down to the position of the lower deadeye **immediately behind the first**. Apply the above steps to attach the second upper deadeye to the shroud. At the upper deadeye seize the double thickness of cord immediately above the upper deadeye with F cord and apply a dab of glue.

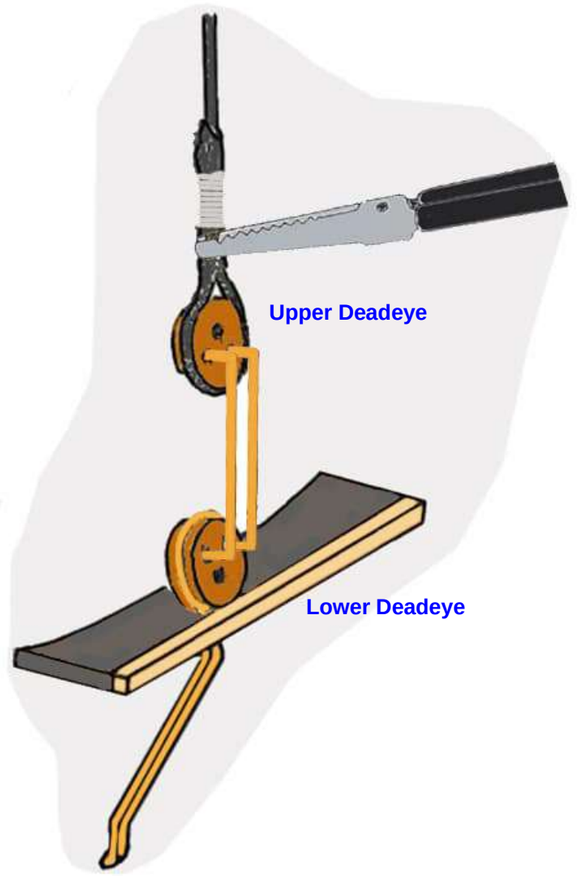
Use cord F to seize the two shrouds together around the mast at the mast cap. For a mast with an odd number of shrouds - the single shroud is wrapt around the mast and seized to itself. Once the first pair of shrouds is complete, the exercise is repeated on the port side, then back to the starboard side and so on until all shrouds with their upper deadeyes are attached for that mast. Once all upper deadeyes have been attached to a shroud the next step is to reeve the upper and lower deadeyes together using lanyards. The lanyards are cords that tie the upper and lower deadeyes together and tension the shrouds. For the lanyards use cord F and reeve as shown.

Main Mast

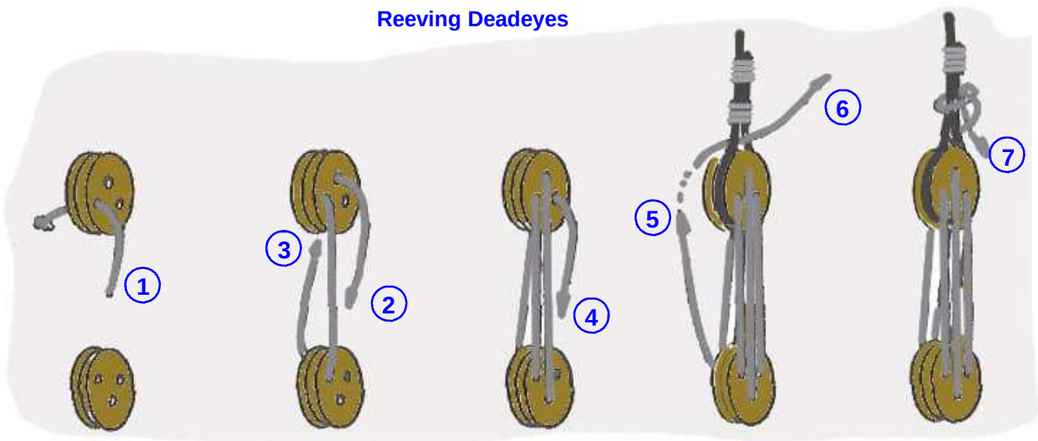


Mizzen Mast





Reeving Deadeyes



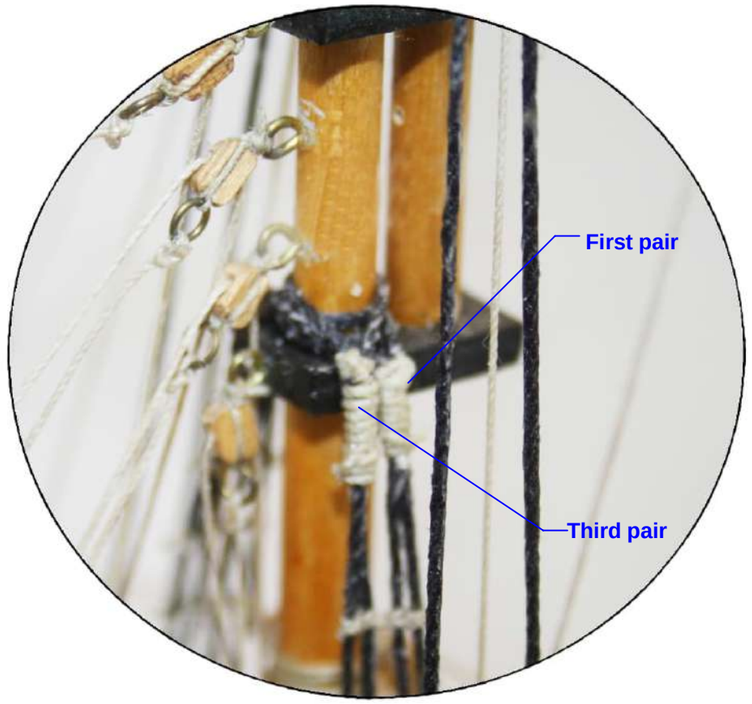
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

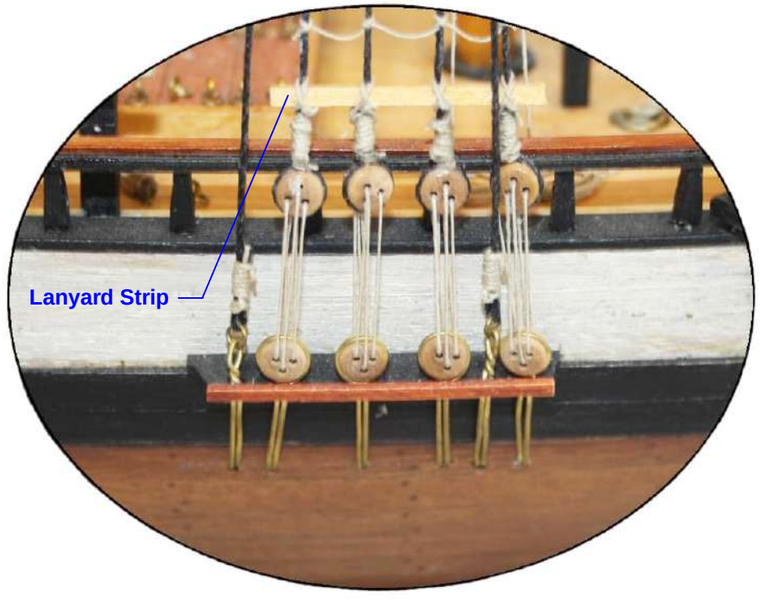
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 60

16.8 Shrouds - Main Mast

Using the information previously presented fit the main mast shrouds and attach to the lower deadeyes as shown. Seize each pair of shrouds at the mast cap as shown, Using cord F attach the ratlines as shown to the shrouds setting the distance between each ratline at 10mm apart making sure they are horizontal and parallel with each other. Identify the lanyard strips P95A - fix in place across top of the upper deadeyes as shown - use cord F to tie in place as shown.





Ratlines

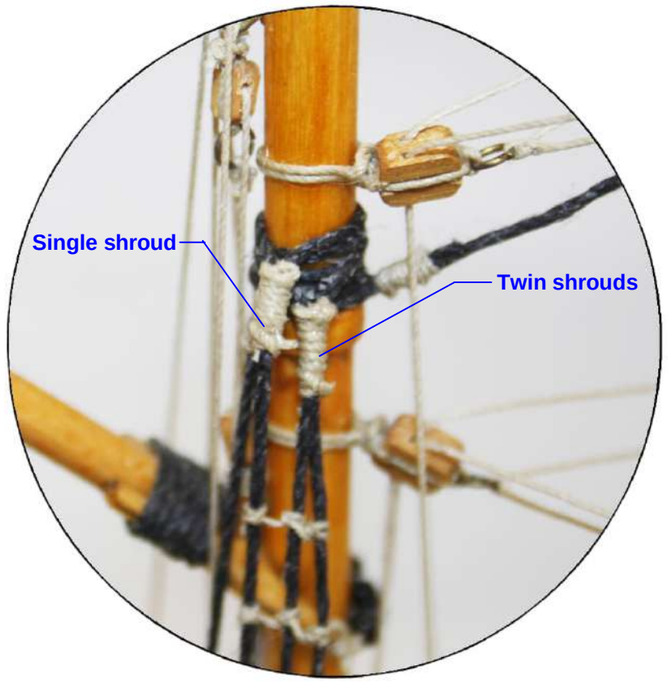
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

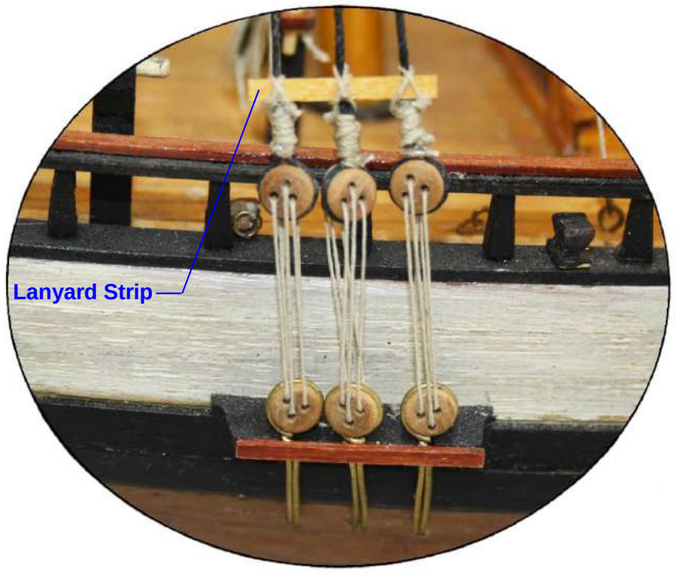
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 61

16.9 Shrouds - Mizzen Mast

The mizzen mast shrouds are wrapt around the mast collar as shown. Using the information previously presented fit the two pair of shrouds and attach to the lower deadeyes as shown. Seize the two pair of shrouds as shown. For the single shroud wrap a length around the mast collar leaving a 20mm tail - seize the shroud on itself as shown. Using the information previously presented fit the single shrouds and attach to the lower deadeyes as shown. Using cord F attach the ratlines as shown to the shrouds setting the distance between each ratline at 10mm apart making sure they are horizontal and parallel with each other. Identify the lanyard strips P95B - fix in place across top of the upper deadeyes as shown - use cord F to tie in place as shown.





Ratlines

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 62

17.0 Fitting the Yards
Fit the main yard and main top yard to the model.

17.1 Main Yard
Drill a 1mm hole into the centre rear of the main yard - insert and glue a brass nail P30 in place and remove its head. Locate the 1mm hole previously drilled into the mast - push the main yard into place - adjust to be horizontal. Using cord F lash the yard to the mast as shown -apply a dab of glue to the knot. Once satisfied apply a dab of glue to the yard-mast joint.

17.2 Main Top Yard
Drill a 1mm hole into the centre rear of the main top yard - insert and glue a brass nail P30 in place and remove its head. Locate the 1mm hole previously drilled into the mast - push the main yard into place - adjust to be horizontal. Using cord F lash the yard to the mast as shown - apply a dab of glue to the knot. Once satisfied apply a dab of glue to the yard-mast joint.

Lashing

Lashing of main yard

Tie knot

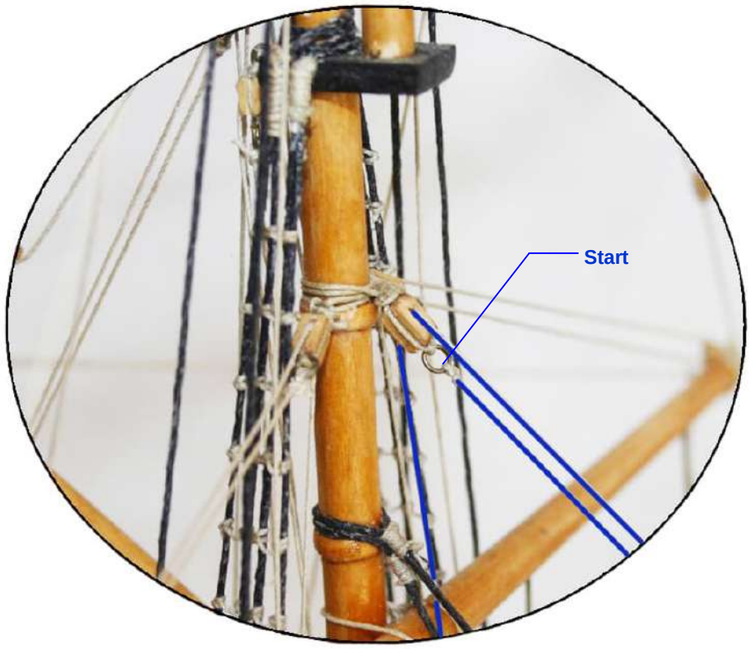
Colonial Ketch
MARY BYRNE
1826
SHEET 63

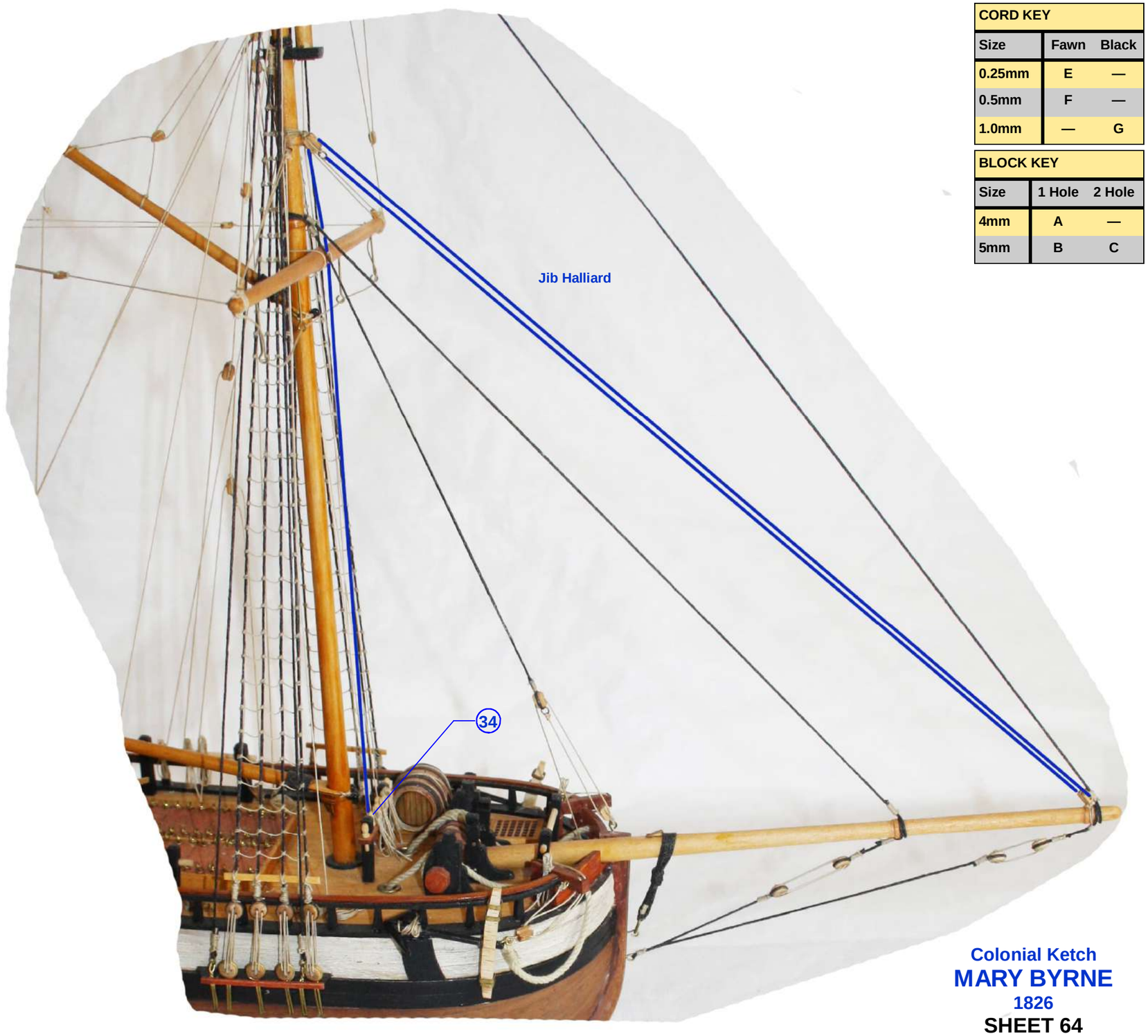
18.0 Running Rigging

The running rigging includes the jib halliards, lifts, cluelines & sheets, yard braces, topping lift, topsail yard halliard, mainsheet and flag hoists.
While completing the running rigging make sure to follow the rigging points referring to the Belaying Plan Sheet 54 for belaying points.

18.1 Jib Halliard

Rig the jib halliard as shown using cord F. Terminate at Point 34





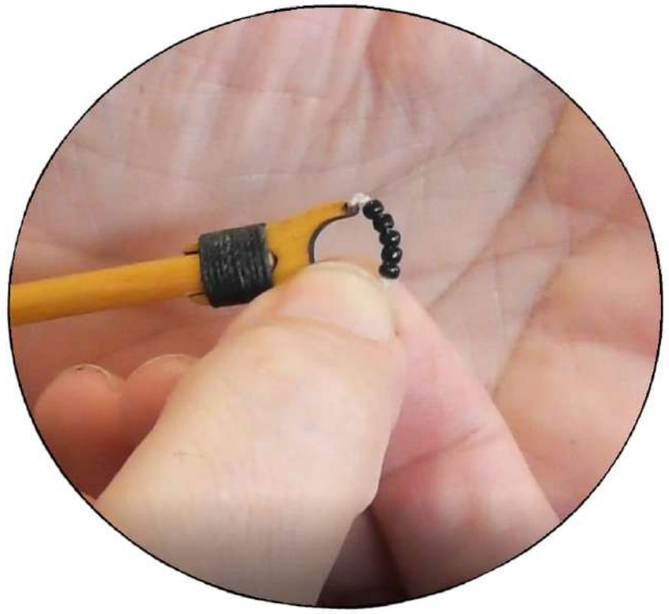
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 64

18.2 Booms & Gaffs

Retrieve the assembled booms and gaffs. Identify the parrals P96 and cord E P85 - cut a 70mm length of cord. Starting with the mizzen boom, thread one end of the cord through a hole in the yoke and tie a knot. Thread 5 parrals onto the cord and tie off with a know - this leaves a tail to wrap around the mast. Place the boom on the rest and thread the cord tail through the second yoke hole and tie-off as shown. Apply a dab of glue to each of the knots. Trim-off any excess cord. Apply the same approach to the mizzen gaff. Repeat for the main boom and gaff. Leave each boom and gaff until rigged later.

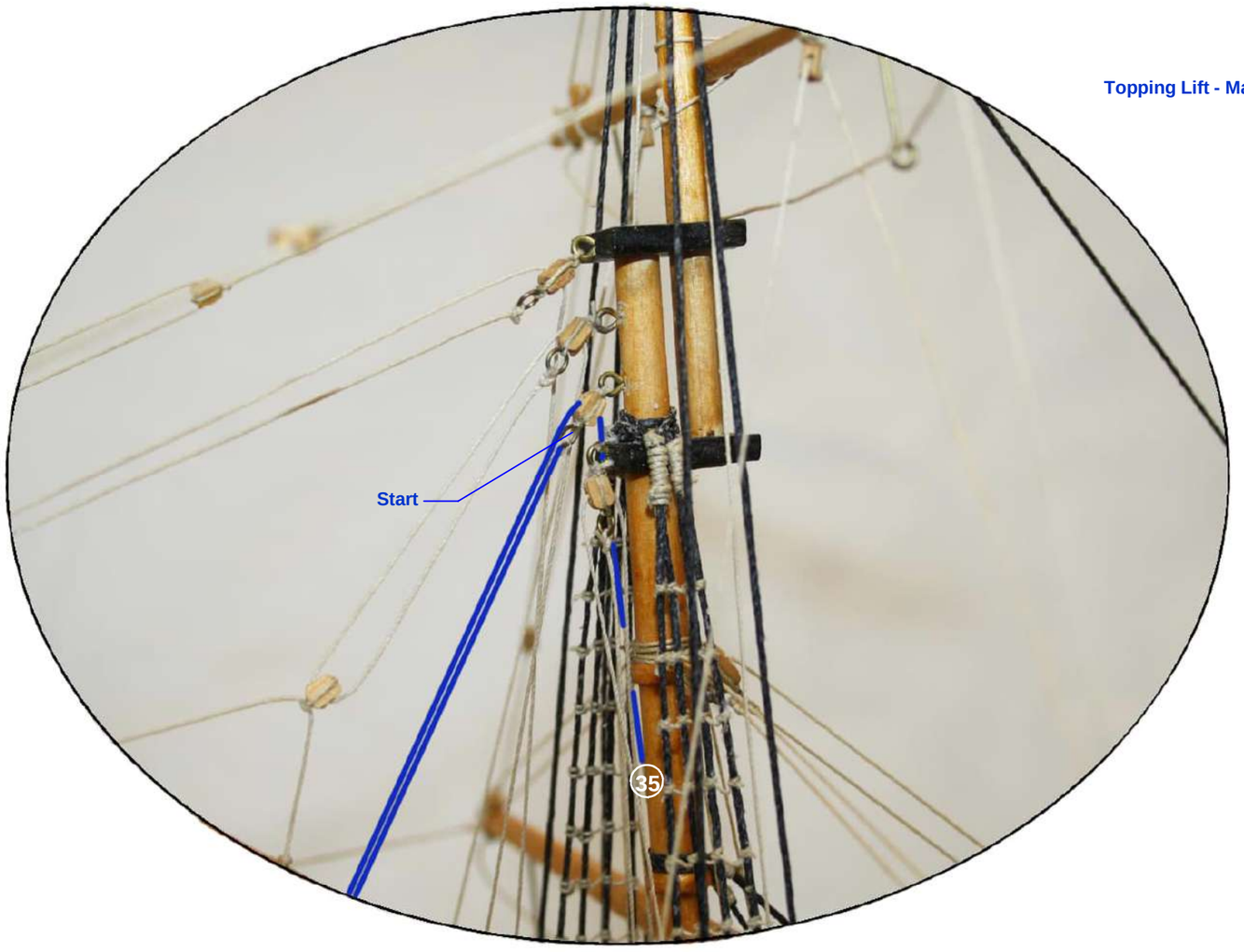


CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 65

18.3 Topping Lift - Main Mast Boom
Rig the topping lift as shown using cord F. Start at the ring on the block as shown and terminate at Point 35.



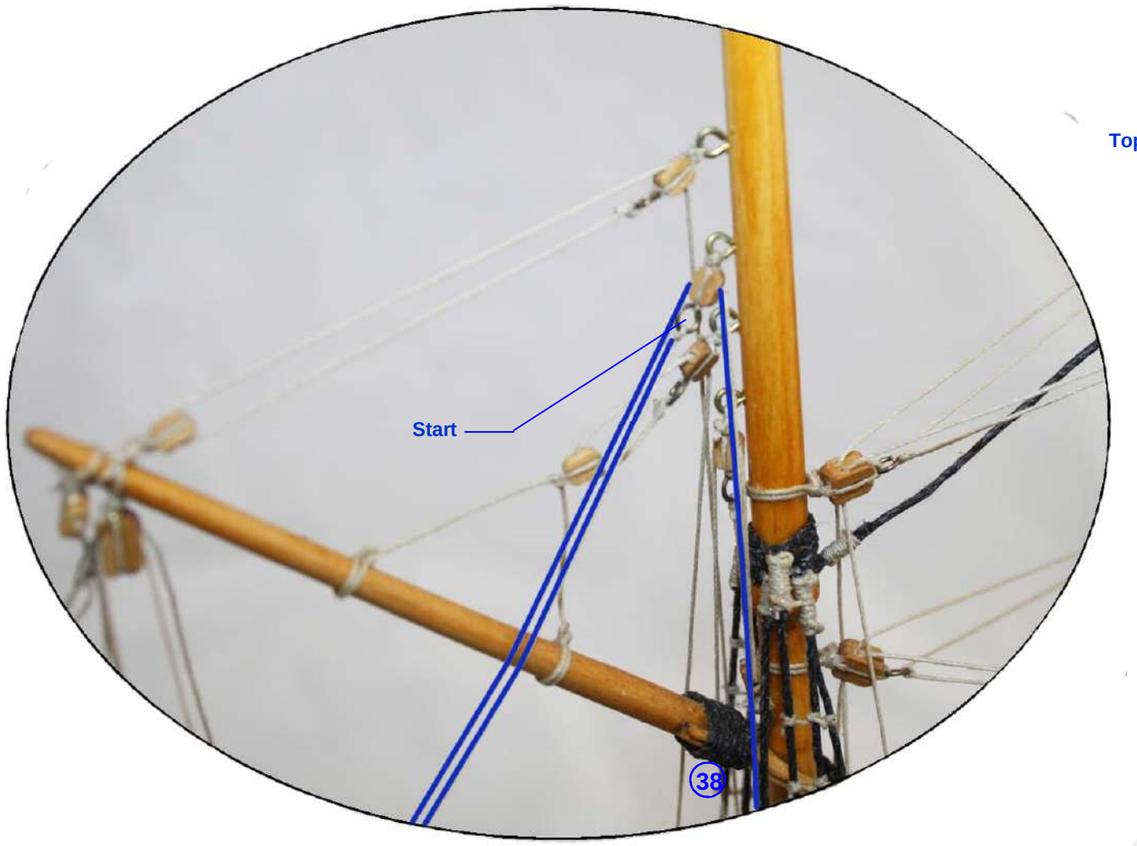
Topping Lift - Main Mast Boom

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 66

18.4 Topping Lift - Mizzen Mast Boom
Rig the topping lift as shown using cord F. Start at the ring on the block as shown and terminate at Point 38.



Topping Lift - Mizzen Mast Boom

CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 67

18.5 Sheets

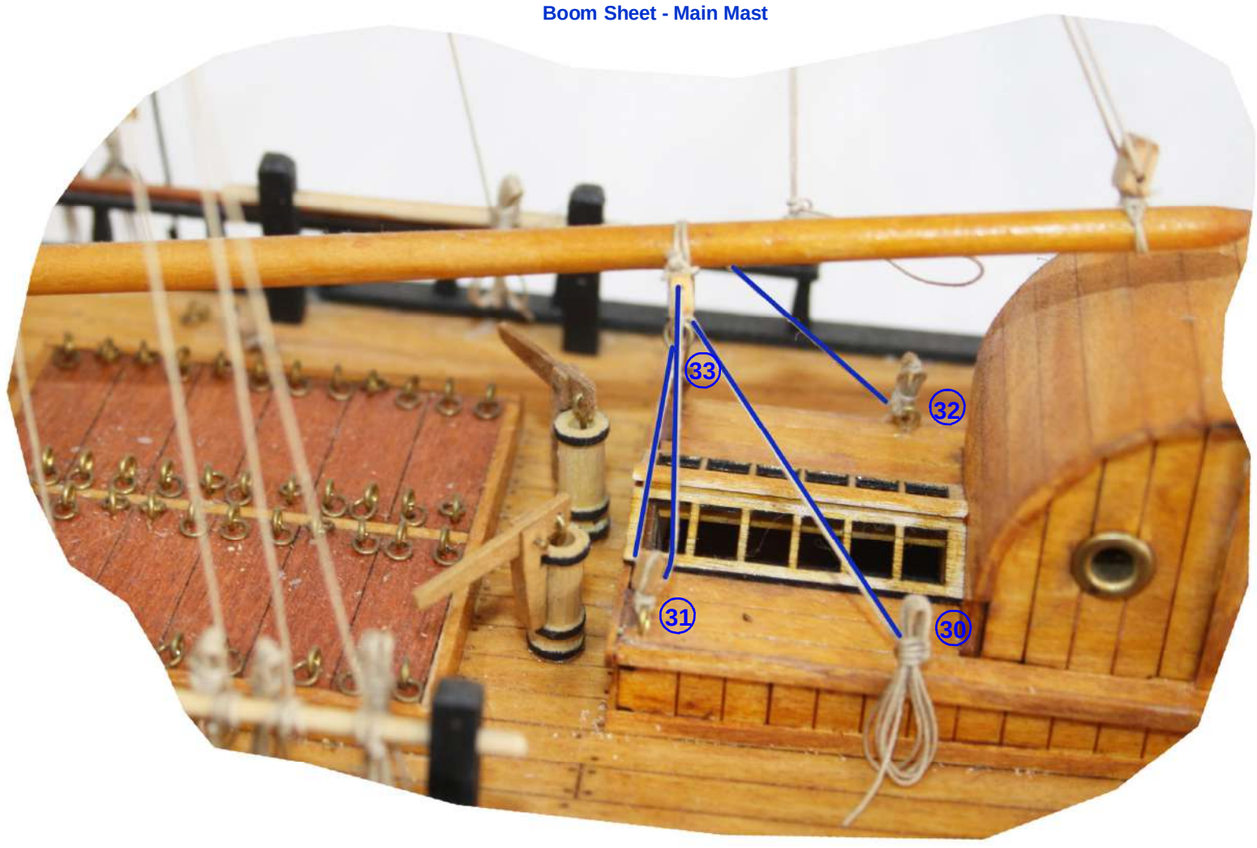
18.5.1 Main Mast Boom Sheet

Rig the sheet as shown using cord F. Terminate at Points 30 & 32 as shown.

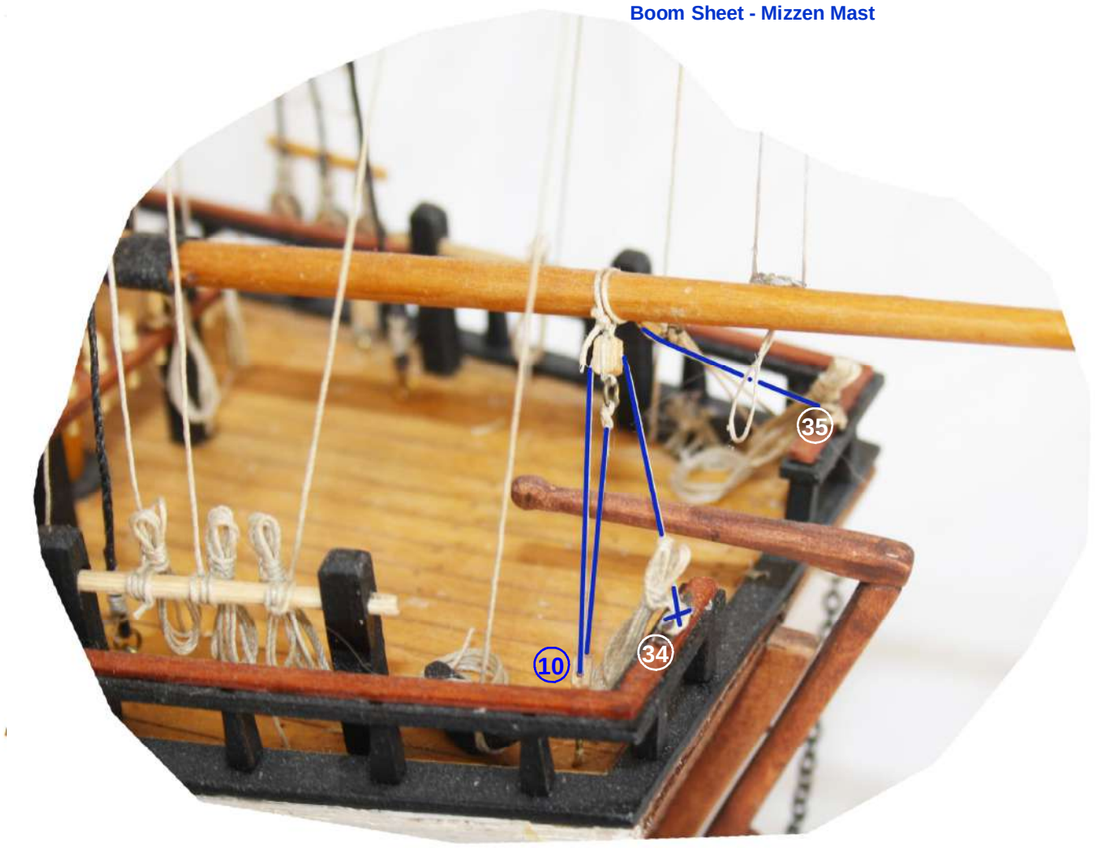
18.5.2 Mizzen Mast Boom Sheet

Rig the sheet as shown using cord F. Terminate at the cleats Points 34 & 35.

Boom Sheet - Main Mast



Boom Sheet - Mizzen Mast



CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

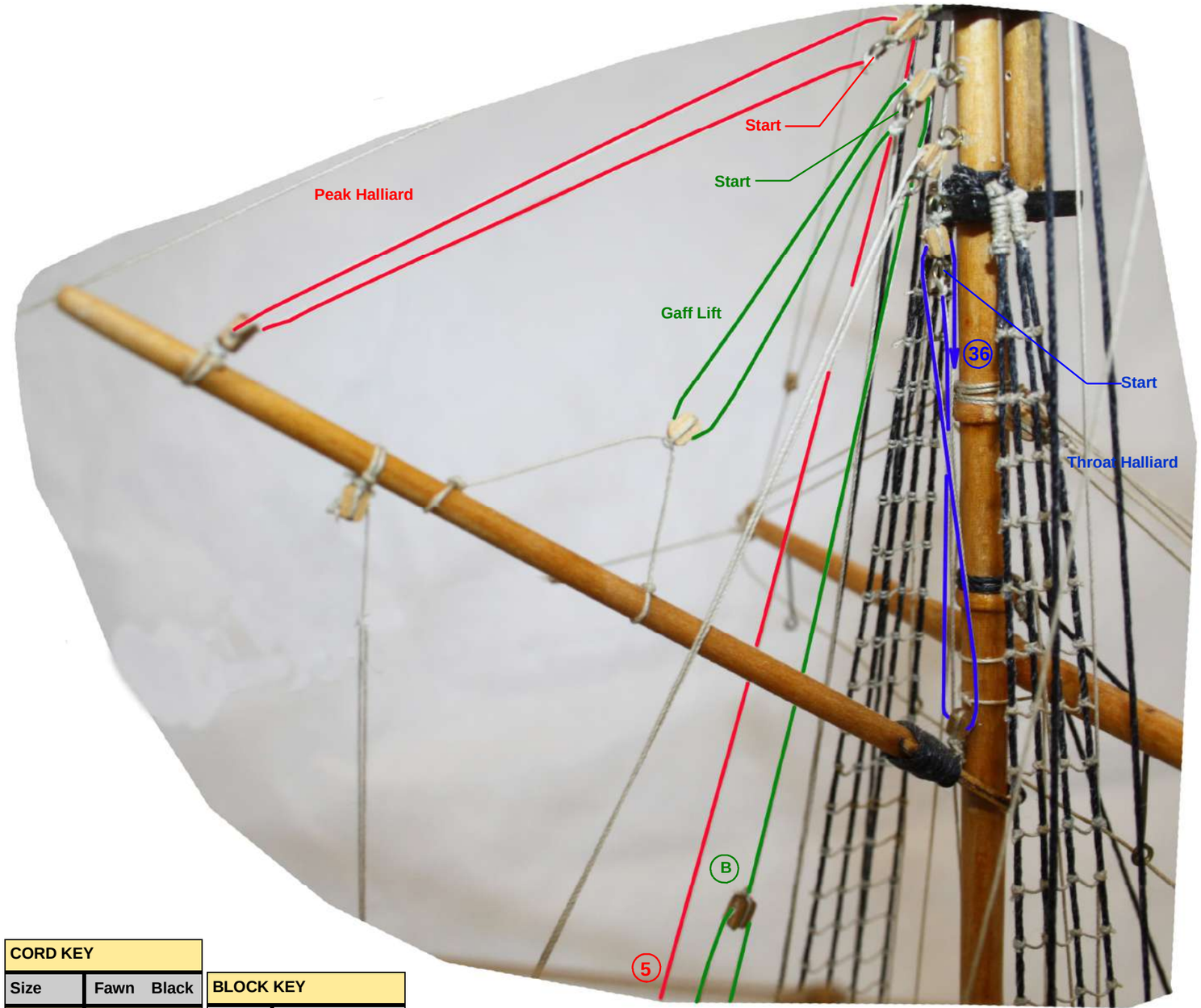
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

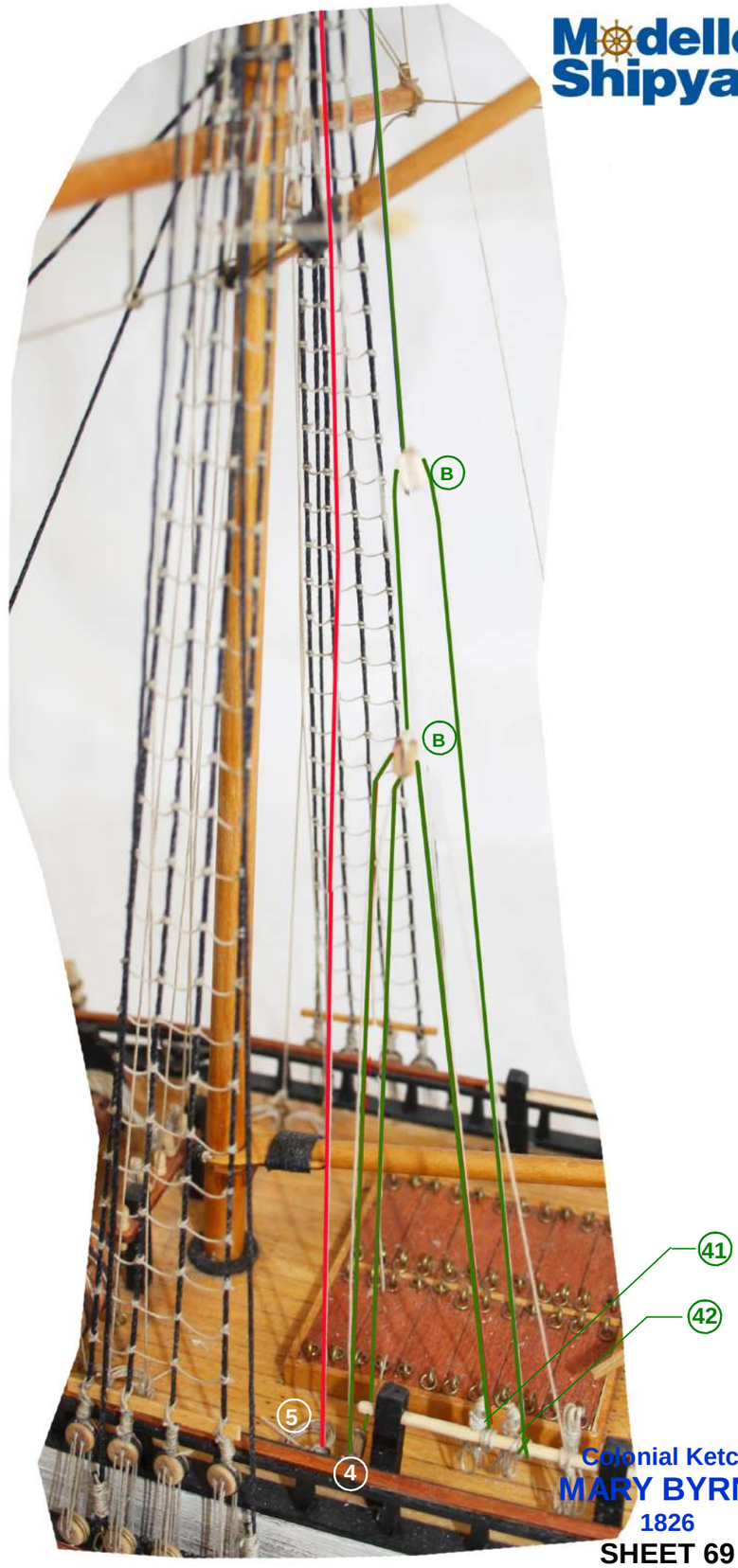
Colonial Ketch
MARY BYRNE
1826
SHEET 68

18.6 Gaffs

18.6.1 Gaff - Main Mast

Rig the throat halliard as shown using cord F. Terminate at Point 36
Rig the gaff lift as shown using cord F - attaching two blocks B as shown. Terminate at port mid-ship fife rail Points 41 & 42
Rig the peak halliard as shown using cord F. Terminate at Point 4





CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

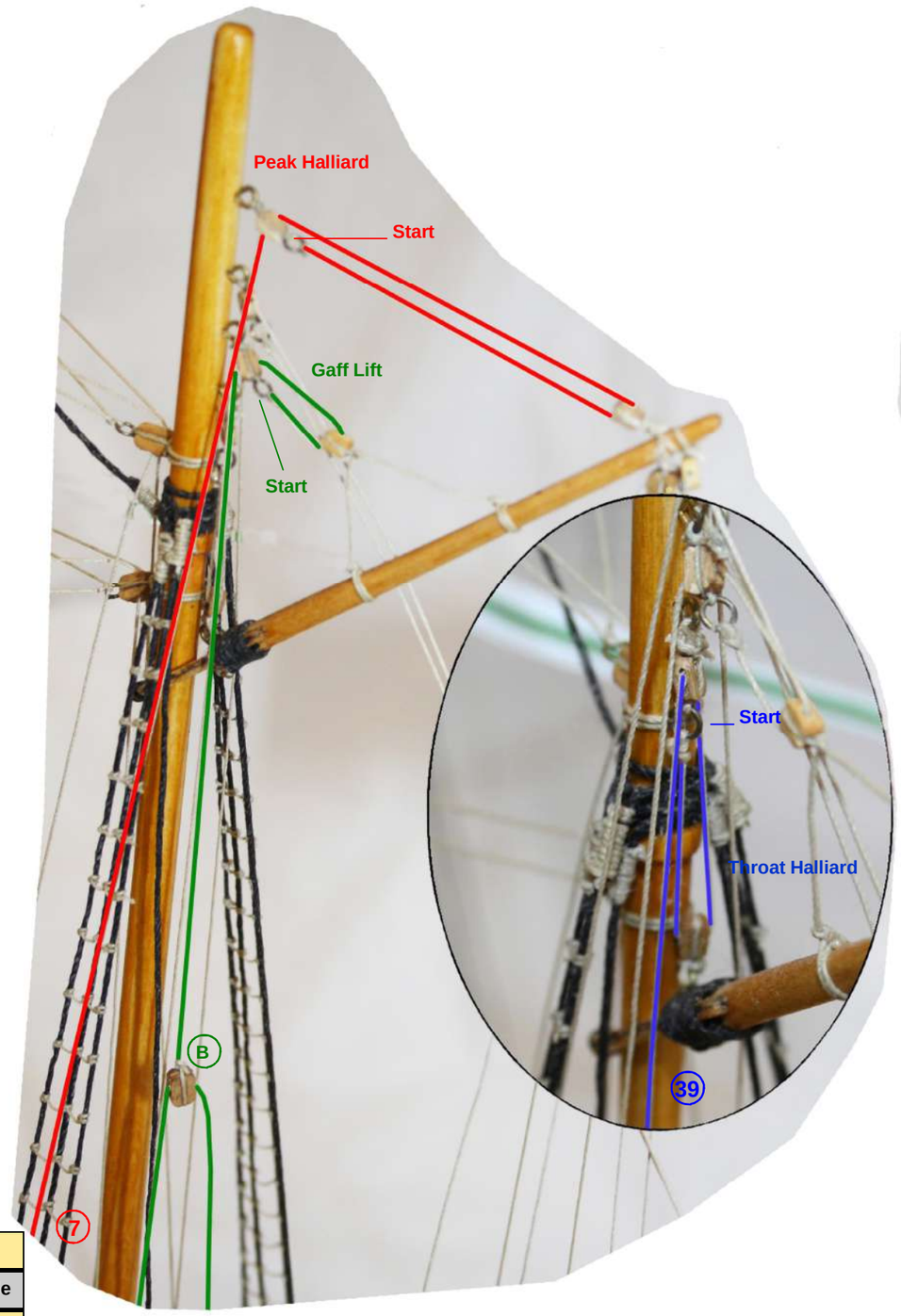
Colonial Ketch
MARY BYRNE
1826

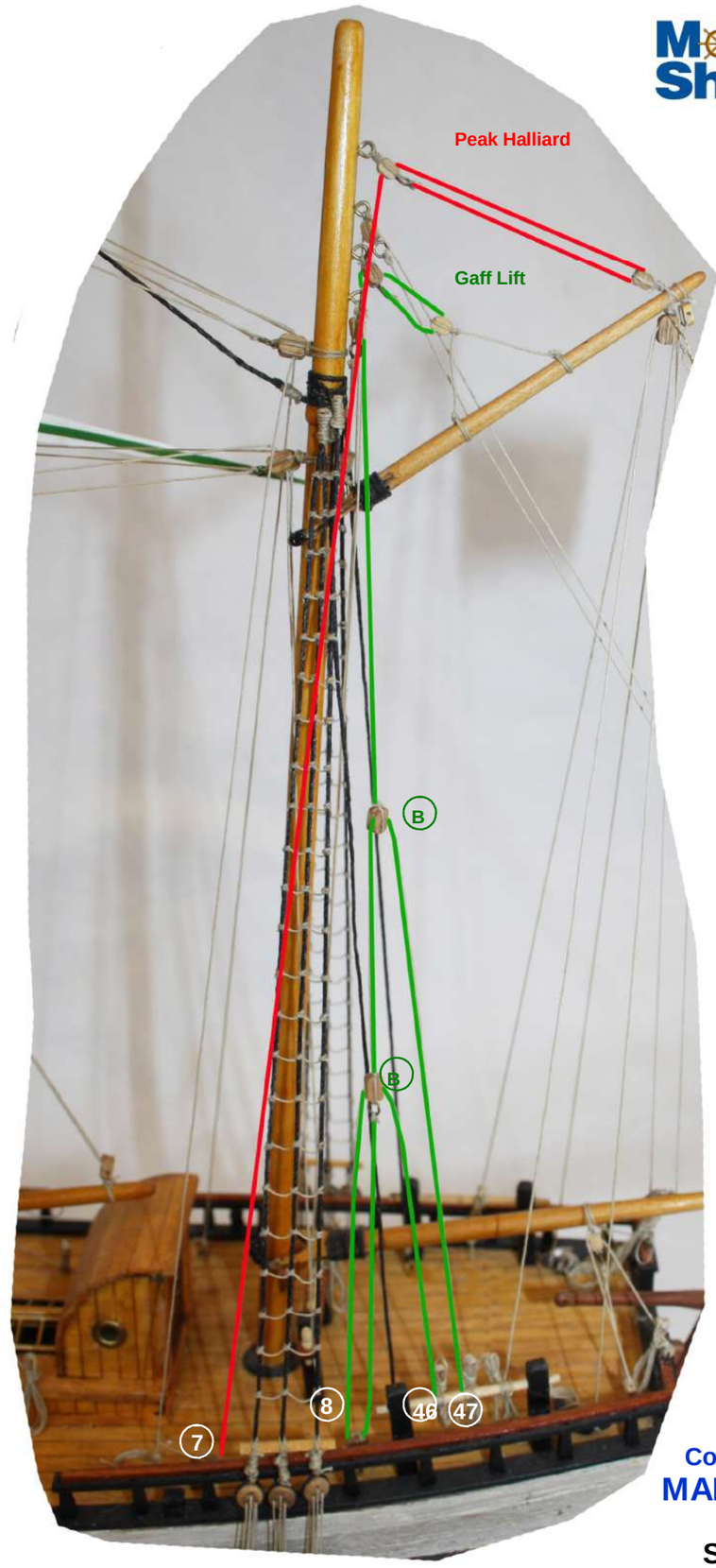
18.6.2 Gaff - Mizzen Mast

Rig the throat halliard as shown using cord F. Terminate at Point 39

Rig the gaff lift as shown using cord F - attaching two blocks B as shown. Terminate at port aft fife rail Points 46 & 47

Rig the peak halliard as shown using cord F. Terminate at Point 7





CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

Colonial Ketch
MARY BYRNE
1826
SHEET 70

18.7 Vangs

Rig the vangs as shown using cord F. On starboard side start at cleat Point 25 and terminate at starboard aft fife rail Point 45 Repeat on port side starting at cleat 24 and terminate at Point 48 on port aft fife rail.

18.8 Lifts

18.8.1 Main Yard Lifts

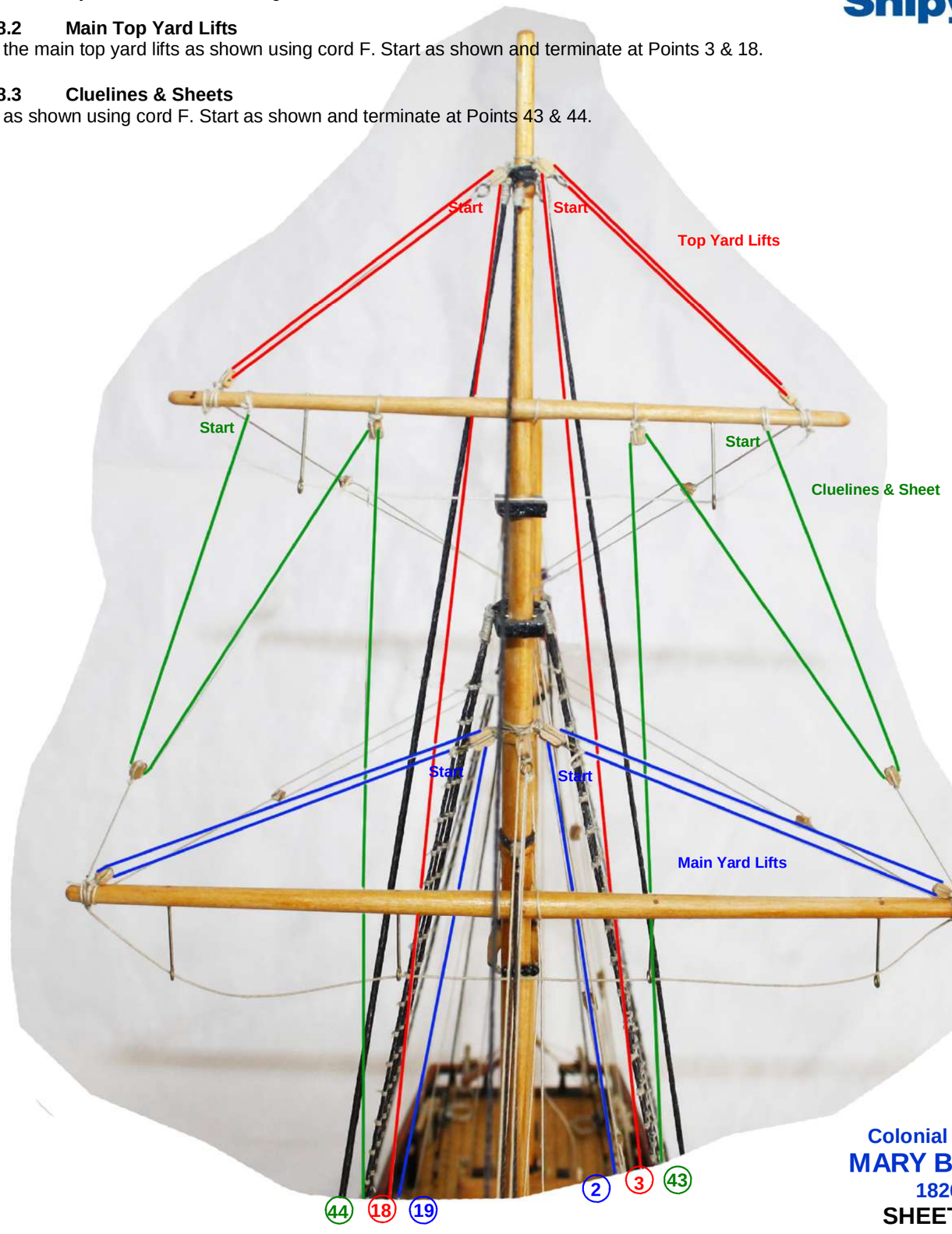
Rig the main yard lifts as shown using cord F. Start as shown and terminate at Points 2 &19.

18.8.2 Main Top Yard Lifts

Rig the main top yard lifts as shown using cord F. Start as shown and terminate at Points 3 & 18.

18.8.3 Cluelines & Sheets

Rig as shown using cord F. Start as shown and terminate at Points 43 & 44.



Colonial Ketch
MARY BYRNE
1826
SHEET 71

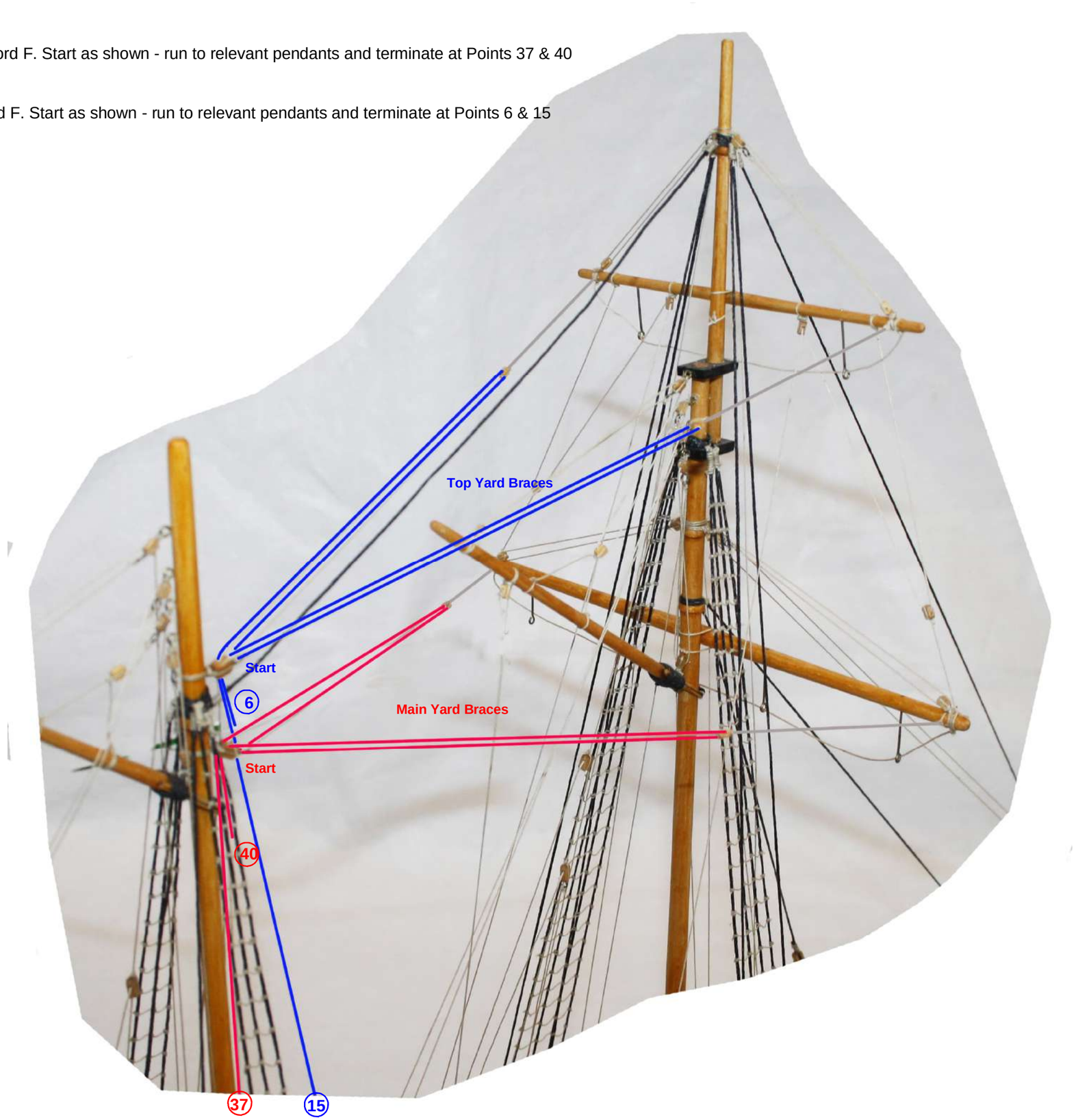
18.9 Braces

18.9.1 Main Yard Braces

Rig the main yard braces as shown using cord F. Start as shown - run to relevant pendants and terminate at Points 37 & 40

18.9.2 Top Yard Braces

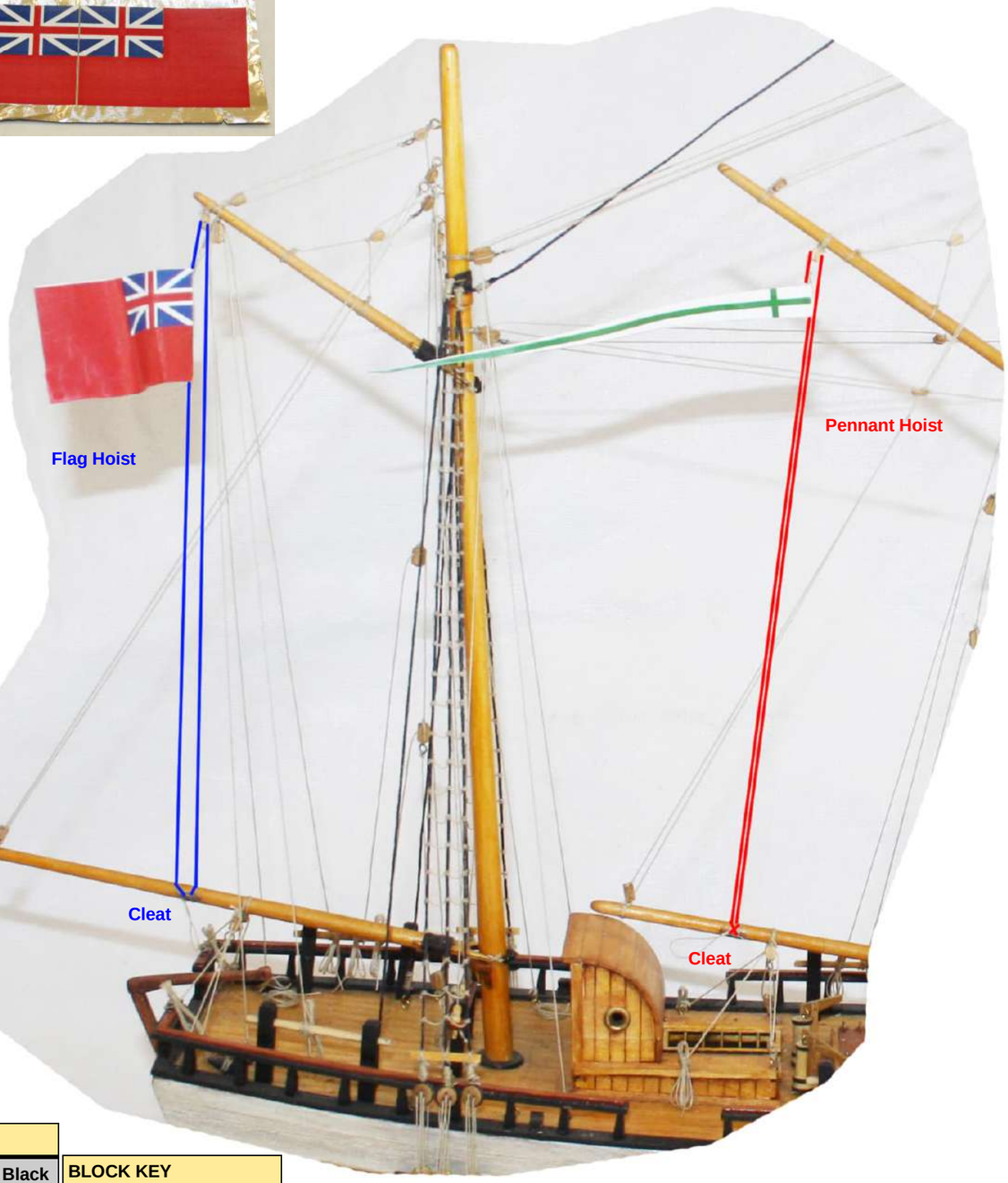
Rig the top yard braces as shown using cord F. Start as shown - run to relevant pendants and terminate at Points 6 & 15



Colonial Ketch
MARY BYRNE
1826
SHEET 72

19.0 Flags

Identify the flags P98 - starting with the Red Ensign P98A cut-out the flag - cut a piece of aluminum foil as shown - apply a paper glue on its surface and place the flag onto the foil as shown. Trim-off excess foil - turn the flag over and again apply paper glue to the foil. Cut a length of cord F long enough to go from the boom to the gaff as shown. Fold the flag around this cord and press firmly together. Rig the flag hoist as shown. Shape the flag as desired. Repeat for the Pennant.



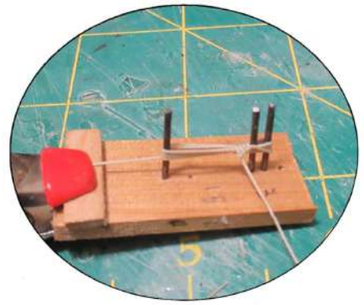
CORD KEY		
Size	Fawn	Black
0.25mm	E	—
0.5mm	F	—
1.0mm	—	G

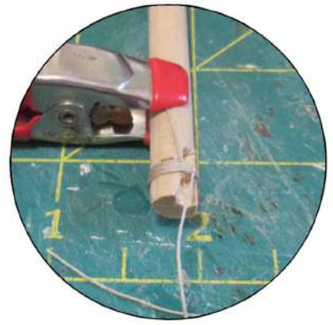
BLOCK KEY		
Size	1 Hole	2 Hole
4mm	A	—
5mm	B	C

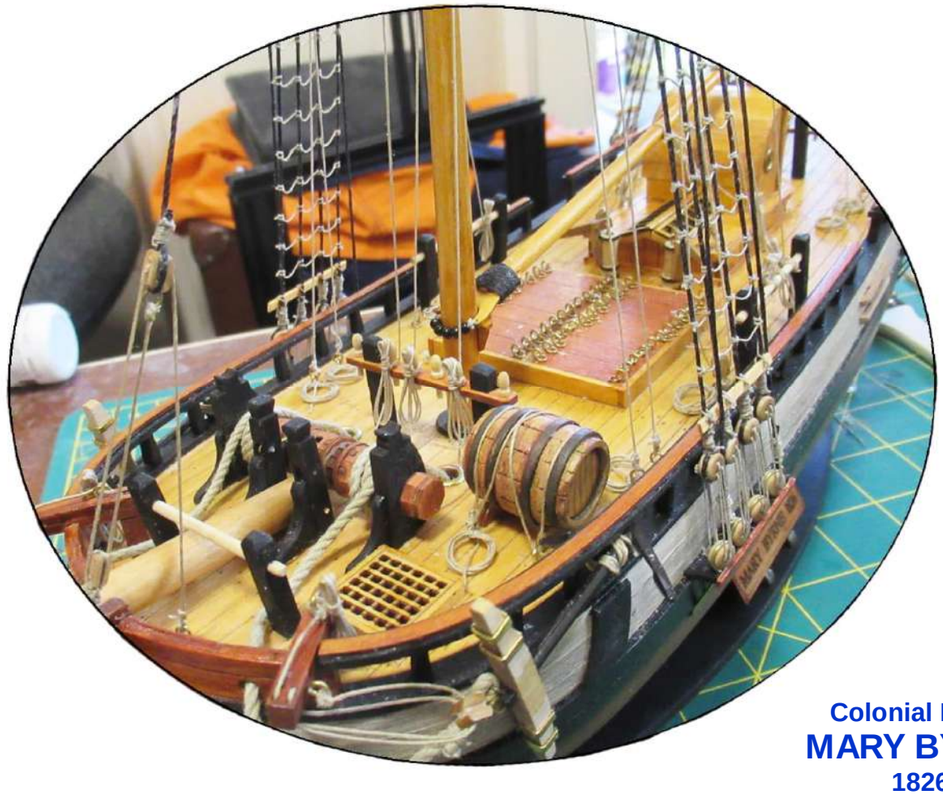
20.0 Rope Coils

Use cord F to make rope coils to be placed at the various belaying points on the deck.

Modellers Shipyard







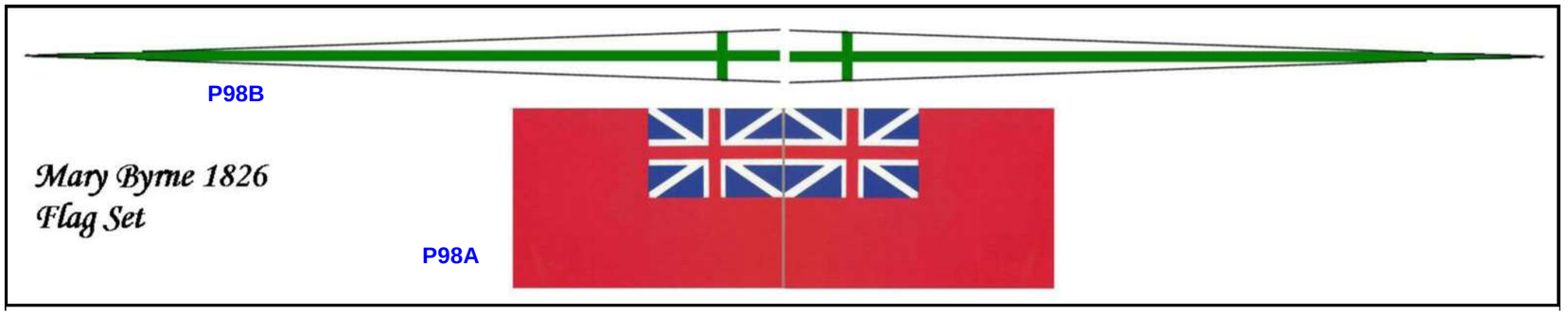
Colonial Ketch
MARY BYRNE
1826
SHEET 73

21.0 Finished Model

Look carefully over the instructions, photos & drawings and check to ensure that you have not forgotten anything.
You might consider a display case which will protect your model from dust and accidental damage.

Proudly display your completed model of the Colonial Ketch *Mary Byrne* 1826.

Colonial Ketch
MARY BYRNE
1826
SHEET 74



P98 Flag Set

Colonial Ketch
MARY BYRNE
1826
SHEET 75

BLANK