AMERICAN CIVIL WAR WOODEN MODEL KIT

CSS SHENANDOAH 1864

SCALE 1:84

Modellers Shipyard

www.modelshipyard.com.au

LENGTH: 1080mm WIDTH: 260mm HEIGHT: 570mm

ITEM CODE: KTMS1016

BUILDING INSTRUCTIONS

Version 1.0

1.0 Introduction
Modellers Shipyard is proud to present another wooden model ship to our range of kits that have signifance to Australian maritime history. Our model of the CSS Shenandoah is expertly designed and built by John Staib - master model ship designer and builder.

2.0 Historical Notes
CSS *Shenandoah*, formerly *Sea King,* was an iron-framed, teak-planked, full rigged ship, with auxiliary steam power, captained by Confederate States Navy Commander James Waddell, a North Carolinian with twenty years of prior service in the United States Navy.

During 12½ months of 1864 - 1865 the ship undertook commerce raiding resulting in the capture and sinking or bonding of thirty-eight Union merchant vessels, mostly New Bedford whaleships. The *Shenandoah* is notable for firing the last shot of the American Civil War, at a whaler in waters off the Aleutian Islands.

History and mission
Sea King was designed as a British commercial transport vessel for the East Asia tea trade and troop transport, and built on the River Clyde in Scotland. The *Sea King's* maiden voyage was 1862-63 to Auckland, New Zealand to transport British troops to quell a Maori War. The *Sea King* had been built to provide speedy shipment of tea from Shanghai to England. The elegant vessel - 230 feet (70m) long, with a 32 foot (9.8m) beam - could sail under wind, or convert to steam and screw propeller. Under favourable sailing conditions, the propeller, to reduce drag, could be lifted from the water, and the "tea clipper" could reach speeds of up to 9 knots. Under sail, it had once covered 330 miles in 24 hours. The ship seemed perfect for conversion to a commerce raider, an enterprise that demanded speed, stealth and a capacity for staying at sea for long periods. The Confederate Government purchased the *Sea King* in September 1864 for use as an armed cruiser to capture and destroy Union merchant ships.

On 8 October, *Sea King* she sailed from London ostensibly for Bombay, India, on a trading voyage. She rendezvoused at Funchal, Madeira, with the steamer *Laurel*, bearing officers and the nucleus of a crew for *Sea King*, together with naval guns, ammunition, and stores. Commanding officer Lieutenant James Waddell supervised *Sea King's* conversion to a ship-of-war in nearby waters. Waddell was barely able, however, to bring his crew to half strength even with additional volunteers from *Sea King* and *Laurel*.

The new cruiser was commissioned on 19 October and her name changed to *Shenandoah*. The ship, commanded by Captain Waddell, then sailed around the Cape of Good Hope of Africa to Australia. While at Melbourne, Victoria, in January 1865, Waddell obtained additional men and supplies.

In accord with operation concepts originated in the Confederate Navy Department and developed by its agents in Europe, *Shenandoah* was assigned to "seek out and utterly destroy" commerce in areas as yet undisturbed (i.e., attack Union ships), and thereafter her course lay in pursuit of merchantmen on the Cape of Good Hope–Australia route and of the Pacific whaling fleet. En route to the Cape she picked up six prizes. Five of these were put to the torch or scuttled, after Captain Waddell had safely rescued crew and passengers; the other was bonded and employed for transport of prisoners to Bahia, Brazil.

Australian Stopover
The CSS *Shenandoah* arrived in Australian waters on 17 January, 1865. Off the coast of South Australia at 39°32'14"S and 122°16'52" E, her crew spotted an American-made sailing ship named the *Nimrod* and boarded it. Having ascertained it was an English ship, the *Shenandoah* left it alone.

On 25 January, 1865 the *Shenandoah* made harbour at Williamstown, Victoria, near Melbourne, in order to repair the damaged propeller and to replenish coal and provisions. At seven o'clock in the evening, Waddell sent a Lieutenant Grimball to gain approval from local authorities to repair their ship, with Grimball returning three hours later saying they were granted permission. The United States consul, William Blanchard, insisted that the Victorian government arrest the Confederates as pirates, but his pleas were ignored by Victoria's governor, Sir Charles Henry Darling, who was satisfied with the *Shenandoah*'s pleading of neutrality when requesting to be allowed to undertake repairs. Aside from a few fist fights between Americans, there was no direct conflict between the two warring sides. However, there were eighteen desertions while ashore, and there were constant threats of Northern sympathizers joining the crew in order to capture the ship when it was at sea.

After leaving Australia, the *Shenandoah* sailed to the North Pacific whaling grounds . On 3-4 April, Waddell burned four whalers in the Caroline Islands. After a 3-week cruise to the ice and fog of the Sea of Okhotsk yielded only a single prize, due to a warning to the whaling fleet which had preceded him, Waddell headed north past the Aleutian Islands into the Bering Sea and the Arctic Ocean. *Shenandoah* then proceeded to capture 11 more prizes.


Undergoing repairs Williamstown, Jan-Feb,1865

Surrender of CSS *Shenandoah*
On 27 June, 1865, Waddell learned, from a prize *Susan & Abigail*, of General Robert E. Lee's surrender when her captain produced a San Francisco newspaper reporting the flight from Richmond, Virginia, of the Confederate Government 10 weeks previously. The same paper contained Confederate President Jefferson Davis's proclamation, after Lee's surrender, that the "war would be carried on with renewed vigour". Waddell then proceeded to capture 10 more whalers in the space of 7 hours in the waters just below the Arctic Circle. It was not until 2 August that *Shenandoah* learned of the final Confederate collapse when she encountered the British barque *Barracouta*. Among the devastating news was the surrender of General Joseph E. Johnston and his various armies (26 April), Kirby Smith's, (26 May) and Magruder's armies and, crucially, the capture of Mr. Davis and a part of his cabinet.

After this news Waddell and the crew realized that their worst depredations and the operational heart of their expedition - the destruction, in the Bering Strait, of 21 Union vessels, between 22 –28 June - had occurred 11 weeks after General Lee's army had stacked its weapons at Appomattox Courthouse. Suddenly, most of the raider's list of prizes, once a badge of honour, read like a bill of criminal indictments. In effect, the armistice had transformed the rebels into stateless purveyors of maritime piracy, a hanging offense in many climes.

After the news of the collapse and surrender of the Confederacy Captain Waddell disarmed the ship as a man-of-war; her battery was dismounted and struck below, and her hull repainted to resemble an ordinary merchant vessel.

CSS SHENANDOAH
1864
SHEET 1

2.0 Historical Notes continued

Regardless of Davis's proclamation and knowing the unreliability of newspapers at the time, Captain Waddell and the crew knew returning to a US port would mean facing a Union court with a Northern perspective of the war. They correctly predicted the risk of being tried in a US court and hanged as pirates. This later showed to be accurate. Commerce raiders were not included in the reconciliation and amnesty that Confederate soldiers were given. Captain Raphael Semmes of *CSS Alabama* escaped charges of piracy by surrendering 1 May,1865 as a Ground General under Joseph E. Johnston. Semmes's former sailors surrendered as artillerymen.

The CSS *Shenandoah* was therefore surrendered by Captain Waddell to the Captain of HMS *Donegal* on 6 November, 1865, after travelling 9,000 miles (14,500 km) to Liverpool to do so. This marked the last surrender of the American Civil War. She was then turned over to the United States government. The United States Naval War Records published in 1894 as *The Official Records of the Union and Confederate Navies in the War of Rebellion* state: "5 November - Arrived in the Mersey, off Liverpool, and on Monday, the 6th, surrendered the Shenandoah to the British nation, by letter to Lord John Russell, premier of Great Britain. (signed) JAMES I WADDELL.

After the surrender of *Shenandoah* to the British, the British had to decide what to do with the Confederate crew, knowing the consequences of piracy charges. After a full investigation by law officers of the crown, it was decided that the officers and crew had done nothing against the rules of war or the laws of nations to justify being held as prisoners, so they were unconditionally released. But the authorities of the United States considered them pirates and would have treated them as such if they had fallen into their hands.

Conclusions

Shenandoah remained at sea for 12 months and 17 days, traversed 93,000 kms (58,000 miles) carrying the Confederate flag around the globe for the only time and sank or captured 38 ships, mostly whalers. Waddell took close to one thousand prisoners, without a single war casualty among his crew: two men died of disease. The reason the vessel did not have any war casualties was because it was never involved in a battle against any Union Naval vessel, as was the CSS *Alabama*, but instead took United States merchant vessels.

In 1866 the US, having taken possession of *Shenandoah*, sold her to the first Sultan of Zanzibar, who renamed her after himself (*El Majidi*). On 15 April, 1872 a hurricane hit Zanzibar. *Shenandoah* (*El Majidi*) was one of 6 ships owned by Seyed Burgash which were blown on shore and seriously damaged.

Battle Ensign

The battle ensign of CSS *Shenandoah* is unique amongst all of the flags of the Confederate States of America as it was the only Confederate flag to circumnavigate the world during the Confederacy, and it was the last Confederate flag to be lowered by a combatant unit in the Civil War (Liverpool, UK, on 6 November, 1865).

Shenandoah's battle ensign has been in the Museum of the Confederacy's collection since 1907 and is currently on display in the museum, Richmond, Virginia. Lieutenant Dabney Scales CSN, gave the flag to a cousin, Eliza Hull Maury, for safekeeping. Eliza was a daughter of Richard Launcelot Maury. He was the eldest son of Commodore Matthew Fontaine Maury. Eliza's brother, Colonel Richard Launcelot Maury CSA, brought the flag from England in 1873, and donated it to the Museum in 1907. The flag itself measures 224cm x 345cm (88in x 136in).

References

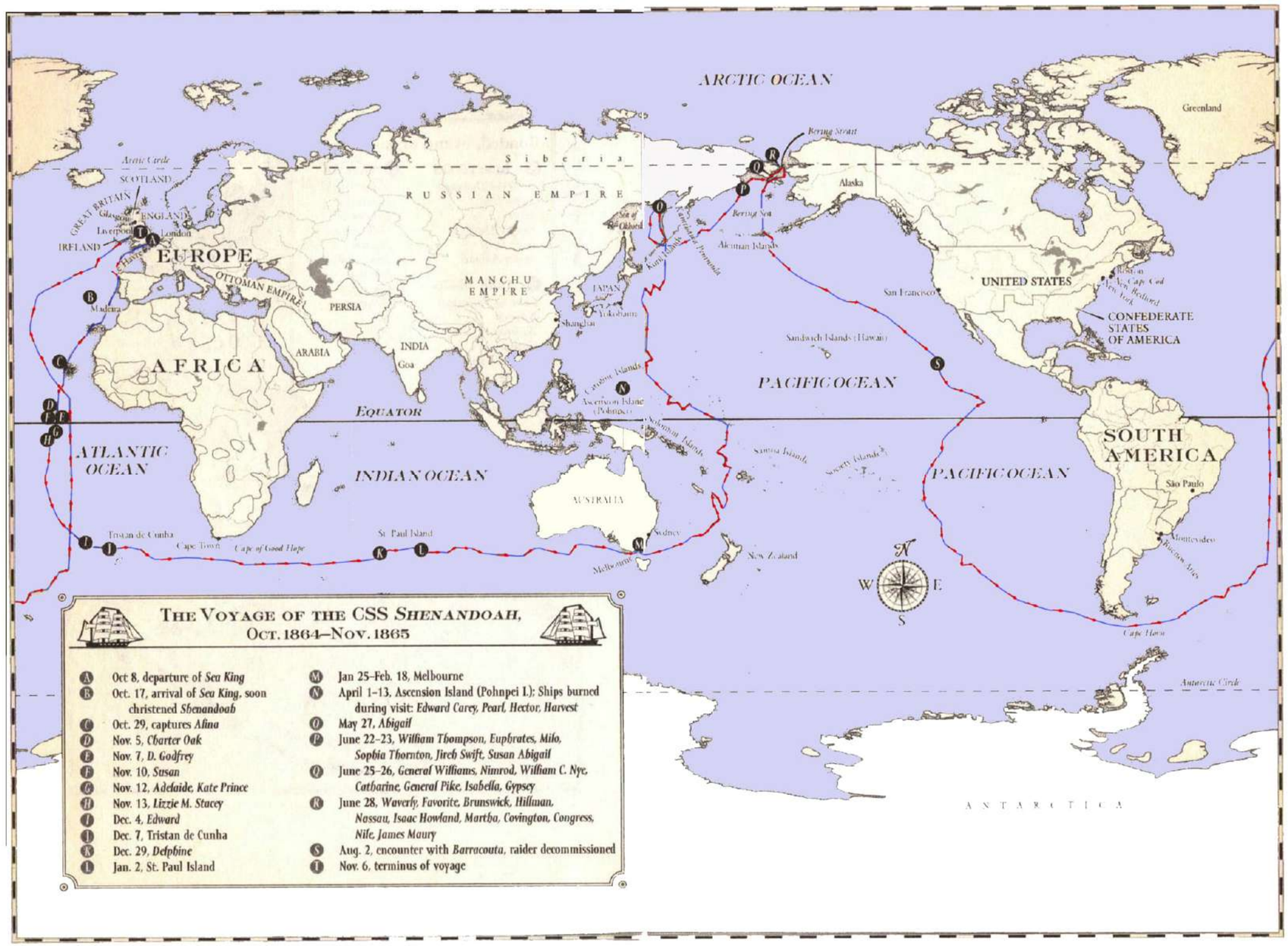
Baldwin, John, *Last Flag Down: The Epic Journey of the Last Confederate Warship*, Crown Publishers, 2007

Chaffin, Tom, *Sea of Gray: The Around-the-World Odyssey of the Confederate Raider Shenandoah*, Hill and Wang/Farrar, Straus and Giroux, 2006.

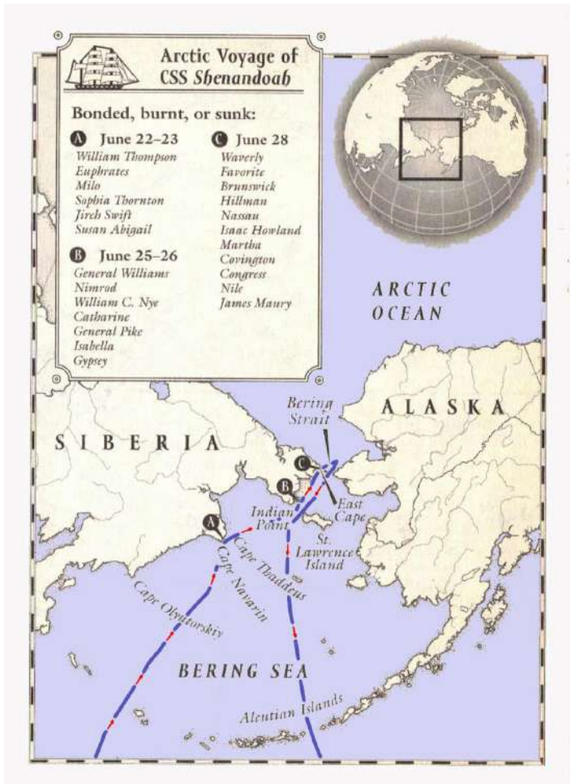
Schooler, Lynn, *The Last Shot: The Incredible Story of the CSS* Shenandoah *and the True Conclusion of the Civil War*, HarperCollins, 2005.

United States Government Printing Office, *Official Records of the Union and Confederate Navies in the War of the Rebellion*, United States Naval War Records Office, United States Office of Naval Records and Library, 1894

Raines. O.L *Model of Shenandoah* (scale model of ship). Museum of the Confederacy, Richmond, Virginia, 2004.



Source: Chaffin, Tom , *Sea of Gray*



Source: Chaffin, Tom , *Sea of Gray*

CSS SHENANDOAH
1864
SHEET 3

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.

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

1. It is essential the modeller study these instructions and associated photos and drawings thoroughly before commencing construction. While reading these instructions, familiarise yourself with the contents of the kit.

2. Parts are numbered in the approximate order of assembly - note there are some minor variations in this numerical order. Parts are identified as, for example P25 - means Part No 25.

3. Few, if any, parts can be simply glued in place without some preparation. Always dry fit parts and if necessary reshape the parts before final gluing.

4. Don't hurry. Take your time. If you are uncertain of anything take the time to study the instructions, the diagrams and photos and your kit parts. Most problems will be overcome with a little time spent pondering the issue at hand.

5. Check the contents of the kit against the Parts List. Note that some parts need to be made by the modeller from the stock of timber supplied in the kit.

THERE ARE A FEW POINTS TO NOTE WITH BUILDING THIS MODEL

1. There are many small parts - only remove parts from the laser cut boards as they are required - make sure to identify them and store carefully.

2. When sanding parts take particular care as some parts are small and fragile.

3. Use a range of sandpaper grades, sanding board and a grinding tool to remove laser burn marks where required.

4. Dry fit all parts before gluing in place with white wood glue.

5. Use glue sparingly - be sure to quickly remove any excess glue with a damp cotton bud.

6. Some frames, bulkheads and parts are marked with a laser score line - these are pre-fairing lines. On these parts you will need to chamfer the parts from the score line to the opposite face edge of the frame. Use a grinding tool, sanding board and sandpaper to shape the chamfer.

7. Many parts have a laser score mark to identifying and locate the part - these are noted in the instructions.

8. When removing parts from the 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.

9. Matt black and antique brown acrylic paints along with matt charcoal black acrylic spray paint are used - the modeller may choose to use other finishes as desired. To create the appearance of copper plating on the hull copper paint is used and copper patina is used if desired.

10. Coloured pencils are used to colour fine detail parts - these are noted in the instructions.

11. To create a weathered appearance on the decks use a cotton bud to apply Tung Oil and a cloth to then work the oil into the deck - apply additional coats to achieve the desired finish. The modeller may wish to use Shellac (French Polish) applied with a cloth to work into the deck. To protect the deck apply a few coats of a matt polyurethane spay - apply sparingly and allow to fully dry between coats.

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CSS SHENANDOAH
1864
SHEET 4

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
1-15	Bulkheads	15	Boards 1 & 2
16A&B	False Keel	2	Board 1
17	Keel Joint Blocks	2	Board 2
18	Main Deck Supports BH 12	2	Board 2
19	Main Deck Supports BH 3	2	Board 1
20	Main Deck	1	Board 3
21	Forecastle Deck	1	Board 3
22	Quarter Deck	1	Board 3
23a-i	Main Deck Supports	18	Board 3
24	Stern Cabin Wall Supports	4	Board 4
25A	Plywood strips 0.8x2mm	13	Board 5
25B	Plywood strips 0.8x2mm	2	Board 5
26	Wardroom Cabin Doors	1	Board 5
27	Forecastle Cabin Doors/Windows	1	Board 4
28	Stern Top Q	1	Board 4
29	Stern Bottom R	1	Board 4
30	Stern BH16	1	Board 2
31A-C	Stern BH Blocks 16a,16b,16c	3	Board 2
32A-H	Stern Filler Blocks S to Z	8	Board 2
33	Stern Filler Block Za	2	Board 1
34a-c	Quarter Deck Supports	6	Board 3
35A/B	Bow Filler Blocks	4	Board 1
36a-b	Forecastle Deck Supports	4	Board 3
37	BH3 Extensions	4	Board 1
38	BH12 Extensions	4	Board 2
39	Quarter Deck Rail Base	1	Board 2
40	Forecastle Deck Rail Base	1	Board 2
41	Main Deck Edge Capping	2	Board 5
42	Wardroom Cabin windows	2	Board 5
43	Wardroom Cabin windows - trims	2	Board 5
44	Bulwarks	2	Board 3
45	Gunport Doors	8	Board 3
46	Plywood 2x3x200mm	1	Board 7
47A-C	Transom Windows	3	Board 6
48	Basswood 2x5x700mm	60	Timber Stock
49	Basswood 2x5x500mm	30	Timber Stock
50	Stem Post	1	Board 1
51	Stern Post	1	Board 1
52A/B	Keel	2	Board 1
53	Transom detail	1	Board 6
54	D/E Straps - main & fore masts	8	Board 6

Part No	Description	Quantity	Location
55A-C	Head trusses	3	Board 4
56	Head floor	1	Board 5
57	Head board	2	Board 5
58	Head board trim	2	Board 5
59	Trail board	2	Board 5
60	Trail board trim	2	Board 5
61	Sea King figurehead	1	Parts Card 3
62	Mizzen D/E straps template	1	Sheet 128
63	D/E Straps - mizzen masts	2	Board 6
64	Rudder post	1	Board 1
65	Rudder	1	Board 1
66	Propeller assembly	1	Parts Card 3
67	Rudder hinges	3	Parts Card 2
68	Nails - brass	Pkt	Parts Card 3
69	Display base	1	Board 9
70A-F	Model supports	12	Board 9
71	Name plate supports	2	Board 9
72	Decoration - Angel	2	Board 6
73	Decoration - Scrolls	2	Board 6
74	Fairleads	2	Board 4
75	Wire - brass - 0.5mm x 1m	4	Parts Card 2
76	Chain - black - 1.5mm x 330mm	1	Parts Card 3
77	Eye pins - brass 2x10mm	Pkt	Parts Card 3
78	Inner bulwark planking	6	Board 5
79	Foremast channels	2	Board 3
80	Foremast channels base	2	Board 3
81	Main mast channels	2	Board 3
82	Main mast channels base	2	Board 3
83	Inner bulwark framing	3	Board 5
84	WR skylight frame - ends	2	Board 4
85	WR skylight frame - frame	1	Board 4
86	WR skylight central	1	Board 4
87	WR side windows	2	Board 4
88	WR entrance back frame	1	Board 4
89	WR entrance frame	1	Board 4
90	WR entrance windows	2	Board 4
91	WR entrance roof	1	Board 6
92	WR skylights	2	Board 6
93	WR skylight central capping	1	Board 6
94	CW side walls	2	Board 4
95	CW rear wall	1	Board 4

Part No	Description	Quantity	Location
96	CW entrance wall	1	Board 4
97	CW roof	1	Board 5
98	CW hatch runners	2	Board 5
99	CW hatch	1	Board 5
100A-C	ERS frames	3	Board 4
100D	ERS frame	1	Board 2
100E	ERS frame	1	Board 4
101	ERS block	1	Board 2
102	ERS side walls	2	Board 4
103	ERS stern wall	1	Board 4
104	ERS fore wall	1	Board 4
105	ERS roof	1	Board 5
106	ERS side skylights	2	Board 5
107	ERS fore skylight	1	Board 5
108	Deadeye 5mm	136	Parts Card 2
109	Deadeye 3mm	36	Parts Card 2
110	Stack rings - large	12	Board 2
111	Stack rings - small	2	Board 5
112	Stack base walls - sides	2	Board 4
113	Stack base wall - rear	1	Board 4
114	Lower platform support	1	Board 4
115	Stack base wall - front	1	Board 4
116	Stack base wall - lower	1	Board 4
117	Stack upper side walls	2	Board 4
118	Stack Floor angle	2	Board 4
119A-B	Stack upper front & rear walls	2	Board 4
120	Stack floor	1	Board 4
121	Stack roof	1	Board 5
122	Lower platform	1	Board 5
123	Stack cover	1	Board 5
124	Tube - copper - 2mm dia x 50mm	1	Parts Card 2
125	DH structure - rear	2	Board 4
126	DH structure - front	2	Board 4
127	Deck House side walls	2	Board 4
128	Deck House front wall	1	Board 4
129	Deck House rear wall	1	Board 4
130	Deck House roof	1	Board 4

CSS SHENANDOAH
1864
SHEET 5

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
131	Wall supports	6	Board 2
132A-D	Roof edging	4	Board 7
133	Rod supports	4	Board 4
134	Rod - brass 1mm x 250mm	3	Parts Card 3
135	Port Holes 3mm	20	Parts Card 2
136	Port Holes 2mm	16	Parts Card 2
137A	Main hatch	1	Board 3
137B	Main hatch coaming	1	Board 3
138A	Fore hatch	1	Board 3
138B	Fore hatch coaming	1	Board 3
139A	PH side wall - frames	2	Board 6
139B	PH side wall - grills	2	Board 6
140A	PH end wall - frames	2	Board 6
140B	PH end wall - grills	2	Board 6
141	PH floor	1	Board 4
142	PH roof	1	Board 5
143A	WH base frame sides	2	Board 4
143B	WH base frame - cross supports	3	Board 4
144A-B	WH base blocks	3	Board 2
145A	WH starboard side wall	1	Board 4
145B	WH port side wall	1	Board 4
146A	WH rear wall	1	Board 4
146B	WH front wall	1	Board 4
147	WH corner walls	4	Board 6
148	WH roof	1	Board 6
149	Forecastle skylight - sides	2	Board 4
150	Forecastle skylight - ends	2	Board 4
151	Forecastle skylight roof	1	Board 4
152	CH Blocks	2	Board 7
153	CH Frames	4	Board 5
154	CH Floor	1	Board 5
155	CH Roof	1	Board 5
156	CH top	1	Board 5
157	Parrals	Pkt	Parts Card 2
158	Capstan base	1	Board 4
159	Capstan head	1	Board 4
160	Capstan whelps	8	Board 5
161	Capstan cap	1	Board 5
162	WL Frame block	1	Board 7
163	WL Frame spacer	2	Board 3
164	Barrel A	1	Board 2

Part No	Description	Quantity	Location
165	Barrel B	2	Board 7
166	Barrel face	1	Board 3
167	WL spacer covers	2	Board 5
168	WL barrel spacer	1	Board 3
169	WL handle grips	2	Board 7
170	WL Key	1	Board 7
171	Winch cheeks	4	Board 4
172	Gear - A	2	Board 4
173	Gear - B	2	Board 4
174A	Drum A	2	Board 7
174B	Drum A flange B	4	Board 5
174C	Drum A flange C	2	Board 5
174D	Drum A flange D	2	Board 5
175A	Drum B	6	Board 7
175B	Drum B flange B	6	Board 5
175C	Drum B flange C	6	Board 5
176	Carriage sides	8	Board 8
177	Carriage waist - front	4	Board 8
178	Carriage waist - rear	4	Board 8
179	Carriage base	4	Board 8
180	Carriage wheels	16	Board 8
181	Cannon barrels	4	Parts Card 3
182	Cat Heads	2	Board 1
183	Cat Head template	1	Board 1
185	Fore step strings	4	Board 5
186	Step treads	28	Board 5
187	Aft step strings	4	Board 5
188	Forecastle stanchion base	1	Board 5
189	Quarter deck stanchion base	1	Board 5
190	FC Balustrade base	1	Board 5
191	FC Balustrade tops	2	Board 5
192	FC Balustrade cap	2	Board 5
193A	FC Balusters	4	Board 7
193B	FC Balustrade posts - hand rail	2	Board 7
194	Not Used		
195A	Belfry	1	Board 7
195B	Belfry extensions	2	Board 5
196	Bell	1	Parts Card 3
197	QD Balustrade base	1	Board 5
198	QD Balustrade top	1	Board 5
199	QD Balustrade cap	1	Board 5

Part No	Description	Quantity	Location
200A	QD Balusters	9	Board 7
200B	QD Balustrade posts - hand rail	2	Board 7
201	Hand rail jig	1	Board 4
202	Hand rail post feet	4	Board 5
203	Hand rail posts	4	Board 7
204	Mast plate - main	1	Board 5
205	Mast plate - fore	1	Board 5
206	Mast plate - mizzen	1	Board 5
207	Boat racks	2	Board 7
208	Rack caps	2	Board 5
209	Rack bases	4	Board 7
210	Ventilators - 15mm	2	Parts Card 3
211	Ventilators - 20mm	3	Parts Card 3
212	Binnacles	2	Parts Card 3
213A	Bollard 4mm - base	4	Board 6
213B	Bitts	8	Board 7
213C	Cap 1	8	Board 6
213D	Cap 2	8	Board 6
214A-B	Pump	1	Parts Card 3
215	Pin rail posts	15	Board 7
216	Pin rail - mizzen mast	1	Board 4
217A	Pin rail - main mast	1	Board 4
217B	Pin rail - main mast	2	Board 4
217C	Pin rail - main mast	1	Board 4
218	Pin rail - foremast	2	Board 4
219	Forecastle fife rail posts	2	Board 7
220	Forecastle fife rail	1	Board 5
221	Stanchions - brass	65	Parts Card 3
222A	Bridge rail top - long	1	Board 5
222B	Bridge rail top - short	2	Board 5
222C	Bridge rail cap - long	1	Board 5
222D	Bridge rail cap - short	2	Board 5
223	Forecastle rail top	1	Board 5
224	Quarter deck rail top	1	Board 5
225	Anchors	2	Parts Card 3
226	Chain 4mm x 200mm	1	Parts Card 3
227	Not Used		

CSS SHENANDOAH
1864
SHEET 6

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
228A	Bollard 6mm - base	4	Board 6
228B	Bitts	8	Board 2
228C	Cap 1	8	Board 6
228D	Cap 2	8	Board 6
229	Boat A layer 1	2	Board 7
230	Boat A layer 2	2	Board 7
231	Boat A layer 3	2	Board 7
232	Boat A keel	2	Board 4
233	Boat A seat capping	2	Board 4
234	Boat B layer 1	4	Board 7
235	Boat B layer 2	4	Board 7
236	Boat B layer 3	4	Board 7
237	Boat B keel	4	Board 4
238	Boat B seat capping	4	Board 4
239	Calico 80 x 150 mm	1	Parts Card 3
240	Cleats - 7mm	12	Parts Card 2
241	Bulwark Cap Rails	2	Board 3
242	Wire - brass - 1mm x 330mm	1	Parts Card 2
243	Not Used		
244	Dowel 3mm dia x 330mm	4	Timber Stock
245	Dowel 5mm dia x 250mm	5	Timber Stock
246	Dowel 8mm dia x 330mm	3	Timber Stock
247A	FM mast top - plate A	1	Board 5
247B	FM mast top - plate B	1	Board 5
247C	FM mast top capping	1	Board 5
248	FM cheeks	2	Board 4
249	FM trestle trees	2	Board 4
250A	FM cross tree	1	Board 4
250B	FM cross tree	1	Board 4
250C	FM cross tree	1	Board 4
251A	MM mast top - plate A	1	Board 5
251B	MM mast top - plate B	1	Board 5
251C	MM mast top capping	1	Board 5
252	MM cheeks	2	Board 4
253	MM trestle trees	2	Board 4
254A	MM cross trees	1	Board 4
254B	MM cross tree	1	Board 4
254C	MM cross tree	1	Board 4
255A	MZ mast top - plate A	1	Board 5
255B	MZ mast top - plate B	1	Board 5
255C	MZ mast top capping	1	Board 5

Part No	Description	Quantity	Location
256	MZ cheeks	2	Board 4
257	MZ trestle trees	2	Board 4
258A	MZ cross trees	1	Board 4
258B	MZ cross tree	1	Board 4
258C	MZ cross tree	1	Board 4
259	FTM trestle trees	2	Board 4
260	FTM cross trees	3	Board 4
261	FTM cheeks	2	Board 4
262	MTM trestle trees	2	Board 4
263	MTM cross trees	3	Board 4
264	Not Used		
265	MZTM trestle trees	2	Board 4
266	MZTM cross trees	3	Board 4
267	Not Used		
268	FM mast cap	1	Board 1
269	FM topmast cap	1	Board 7
270	Stay pulley wheel	2	Board 4
271	Stay bracket	2	Board 4
272	Block B1 4mm 1 hole	110	Parts Card 2
273	Block B2 5mm 1 hole	34	Parts Card 2
274	Block B3 5mm 2 hole	10	Parts Card 2
275	Block B4 7mm 3 hole	5	Parts Card 2
276	Not Used		
277	Cord C2 0.5mm black	1	Parts Card 1
278	Cord C3 0.75mm black	1	Parts Card 1
279	Cord C4 1.0mm black	1	Parts Card 1
280	Cord C5 0.25mm grey	1	Parts Card 1
281	Cord C6 0.5mm grey	3	Parts Card 1
282	Dowel 4mm dia x 330mm	3	Timber Stock
283	Dowel 6mm dia x 330mm	4	Timber Stock
284	MM mast cap	1	Board 1
285	MM topmast cap	1	Board 7
286	MTM cheeks	2	Board 4
287	MZ mast cap	1	Board 1
288	MZ topmast cap	1	Board 7
289	MZ topmast cheeks	2	Board 4
290	Boom rest	1	Board 4
291	Boom rest supports	3	Board 4
292	Bowsprit cap A	1	Board 2
293	Bowsprit cap B	1	Board 2
294	Mizzen boom yoke	1	Board 4

Part No	Description	Quantity	Location
295	Mizzen gaff yoke	1	Board 4
296	Yard truss A	3	Board 4
297	Yard truss B	3	Board 4
298	Yard truss C	3	Board 4
299	Eye pins 3.5 x 20mm	42	Parts Card 3
300	Slip blocks	2	Board 3
301	Shroud batten	1	Board 5
302	Main gaff yoke	1	Board 4
303	Rings - brass 3mm	Pkt	Parts Card 3
304	Belaying Pins - wood - 8mm	44	Parts Card 2
305	Chain - black 3mm x 200mm	1	Parts Card 3
306	Davits	4 pairs	Parts Card 2
307	Davit bases	16	Board 7
308	Dowel 2mm dia x 500mm	1	Timber Stock
309	CSS Shenandoah battle ensign	1	Sheet 128
310	Name Plate - Shenandoah	1	Board 3
311	Name Plate - Sea King	1	Board 3

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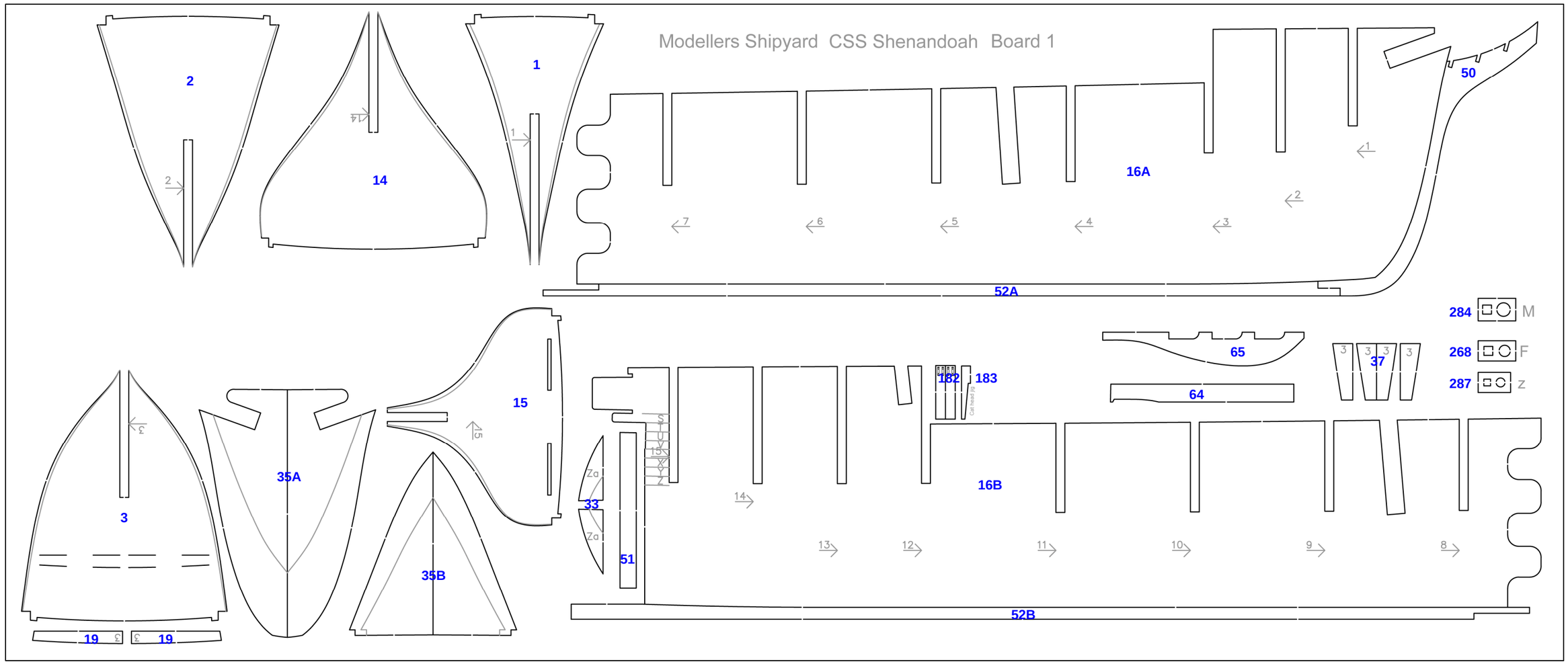
1864
SHEET 7



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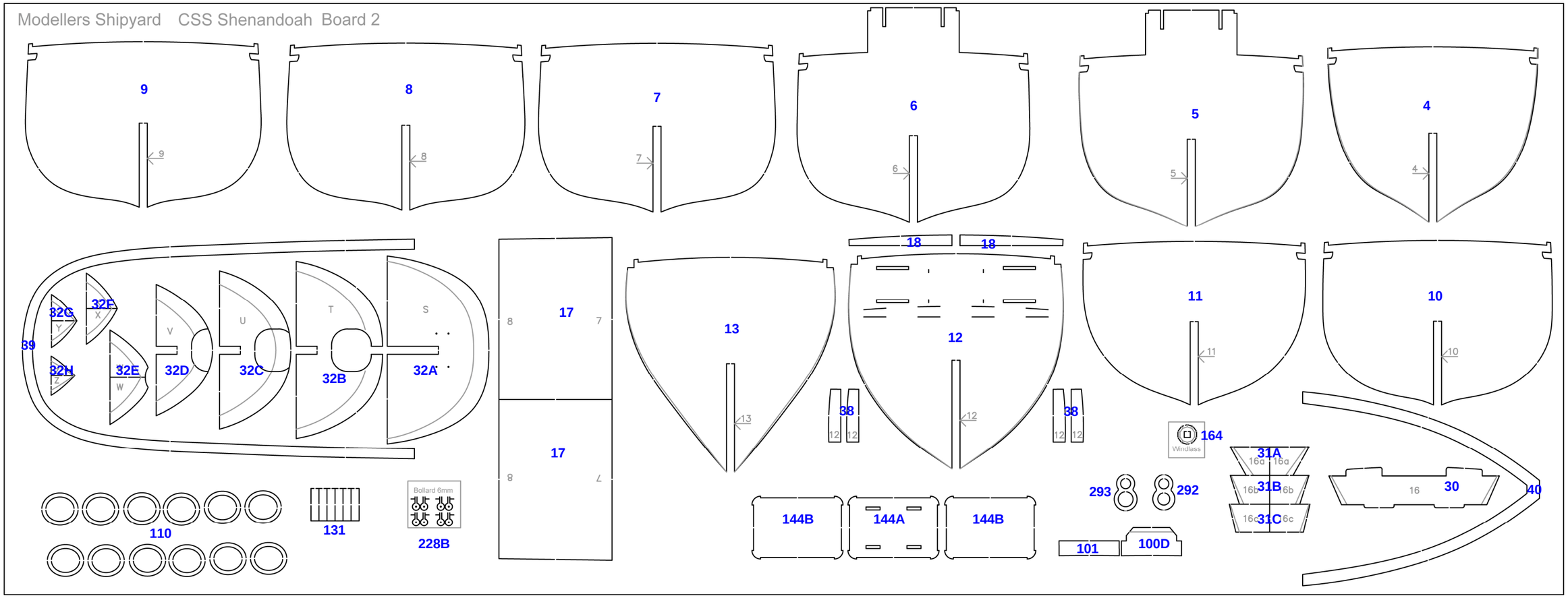
SHEET 8



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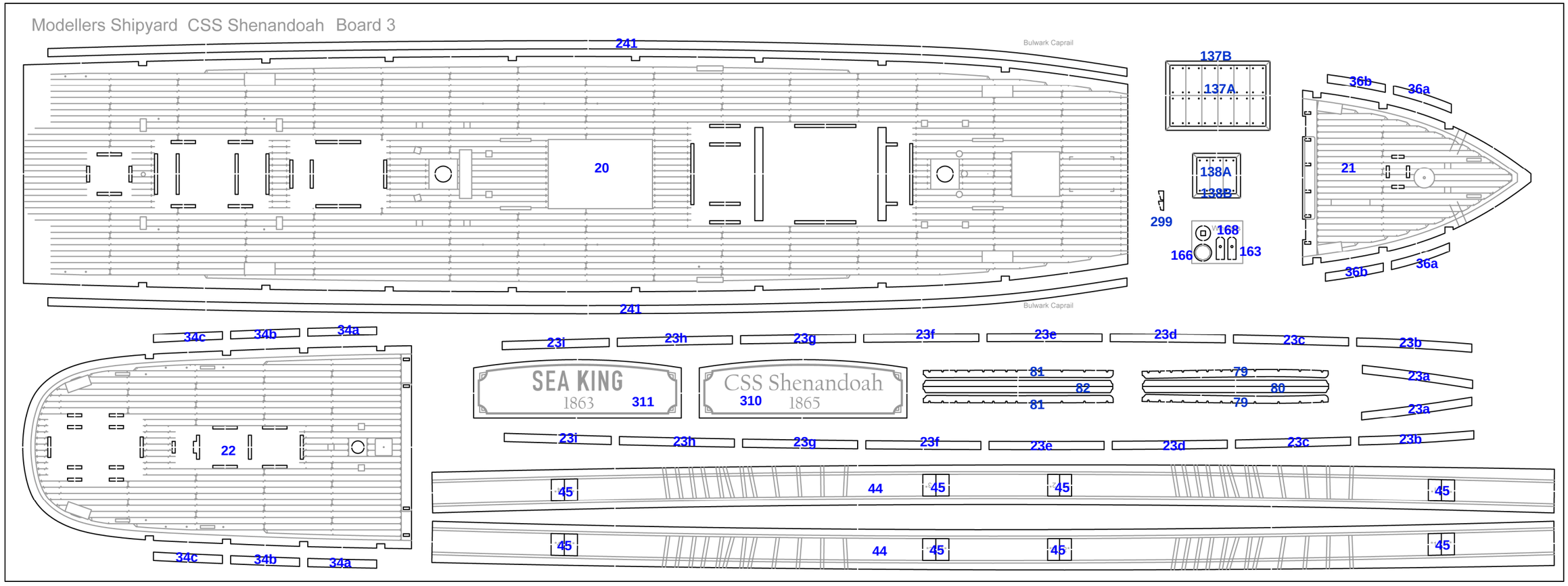
SHEET 9



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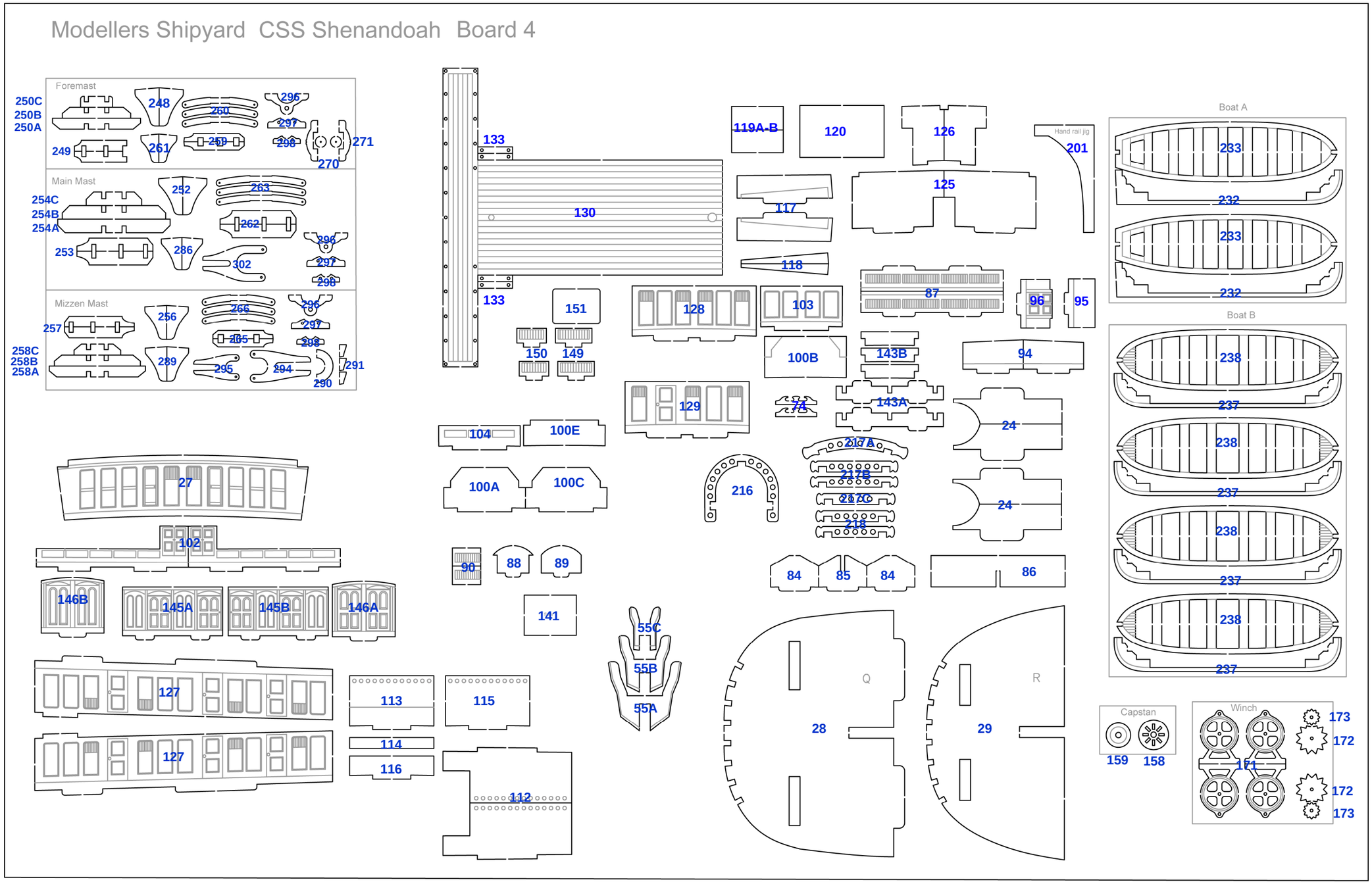
SHEET 10



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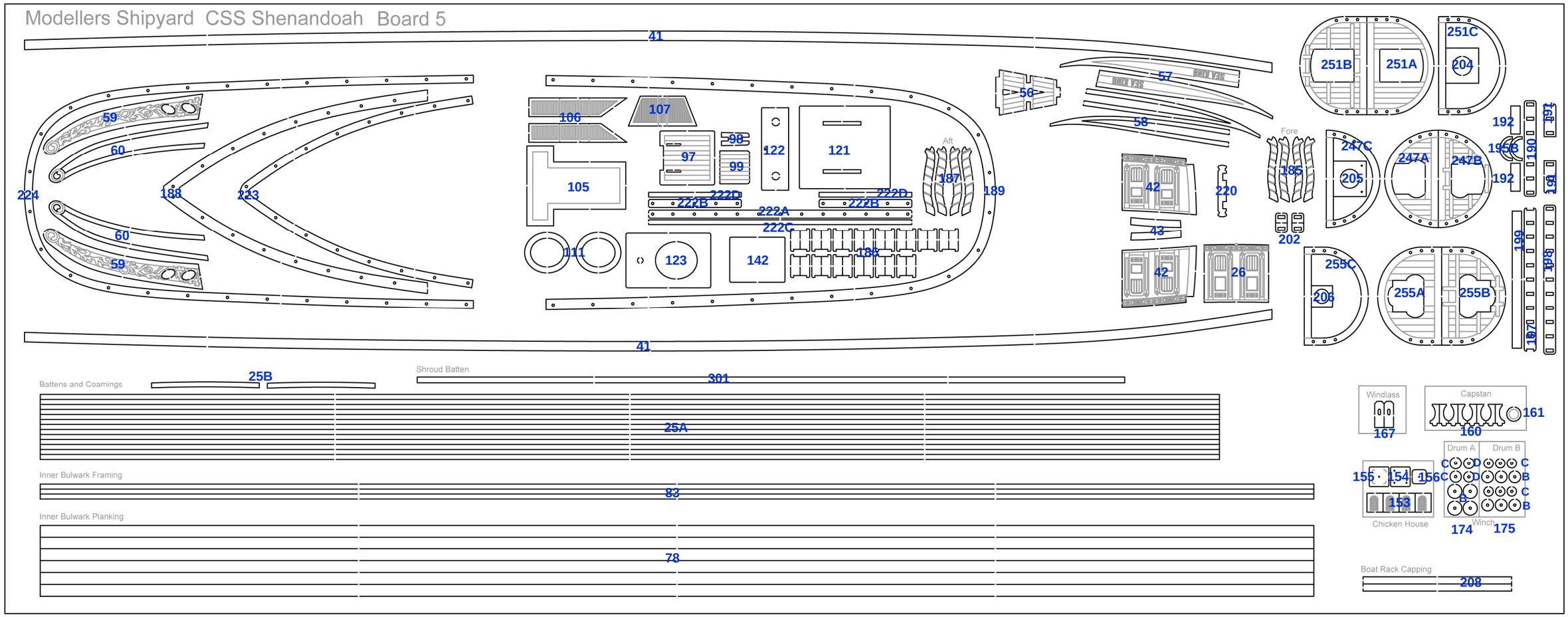
SHEET 11



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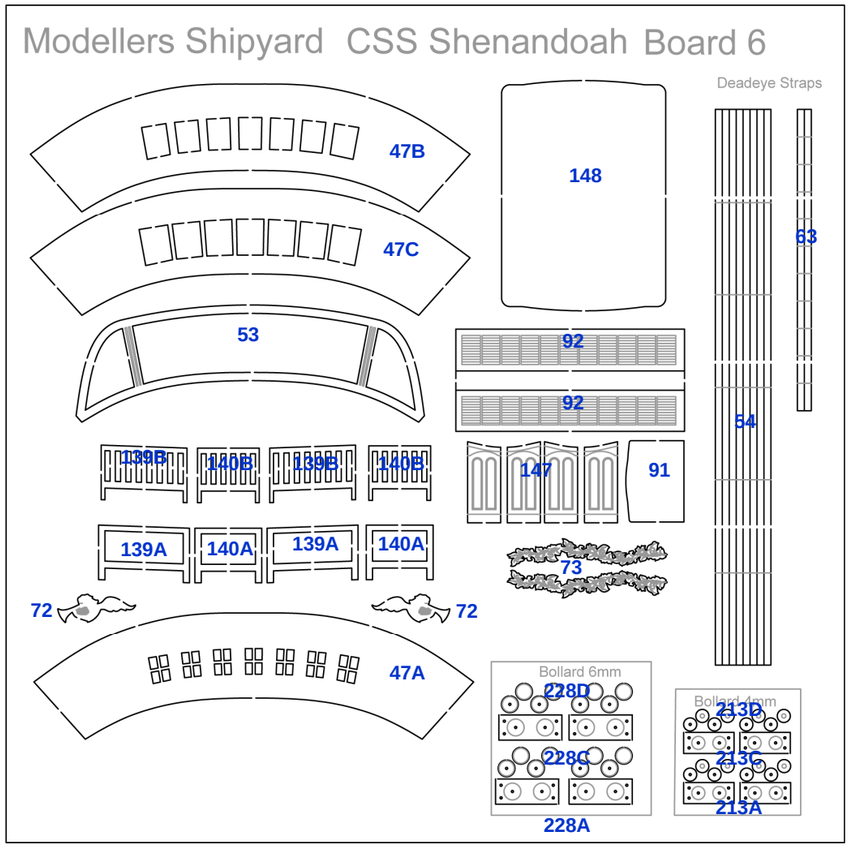
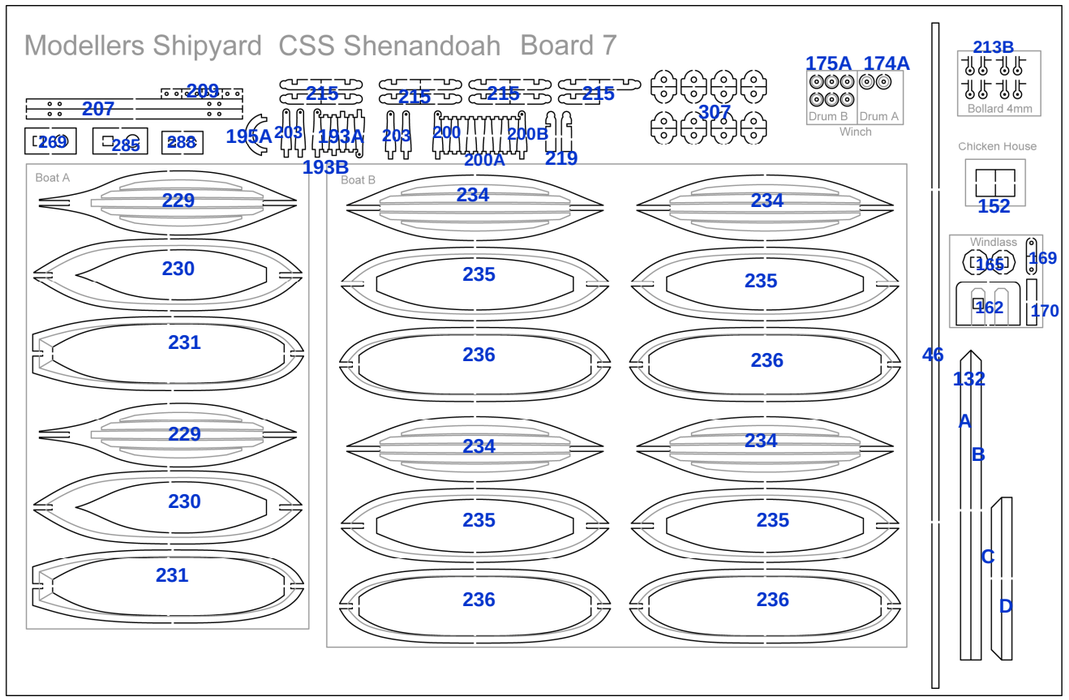
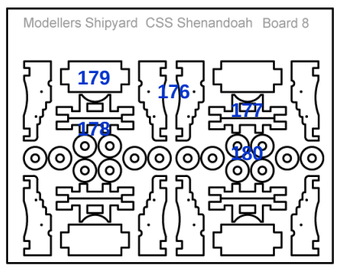
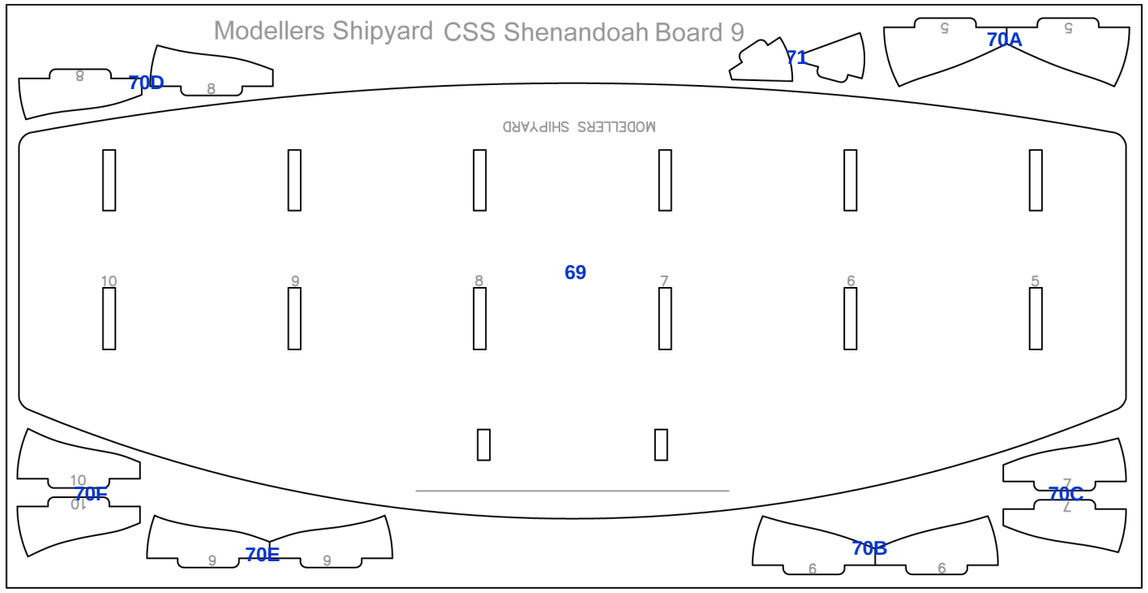
SHEET 12









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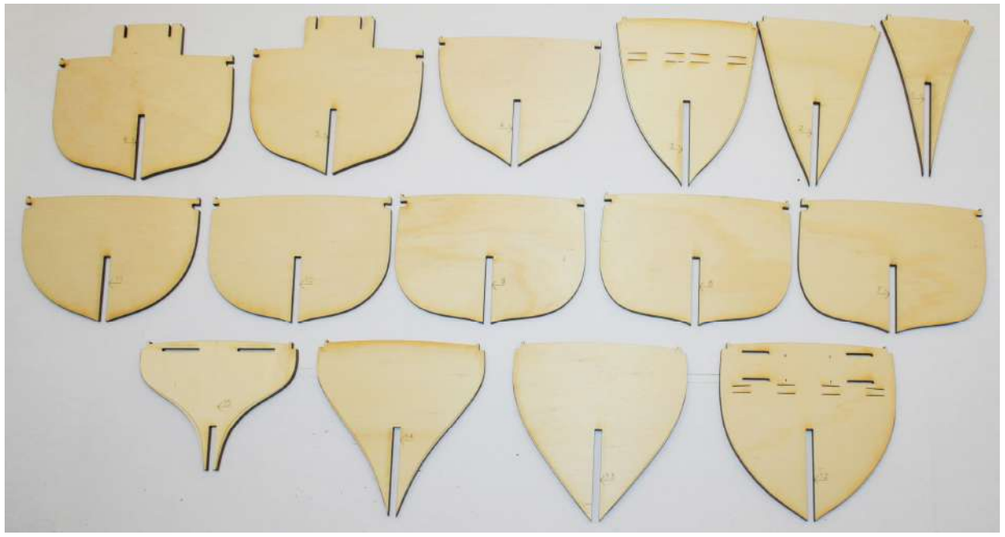
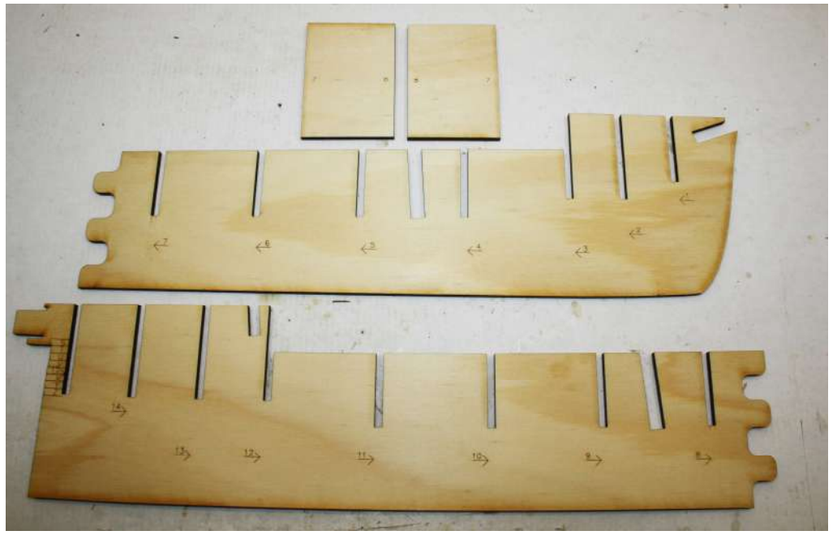
SHEET 13

6.0 Hull Assembly

6.1 Keel & Bulkheads

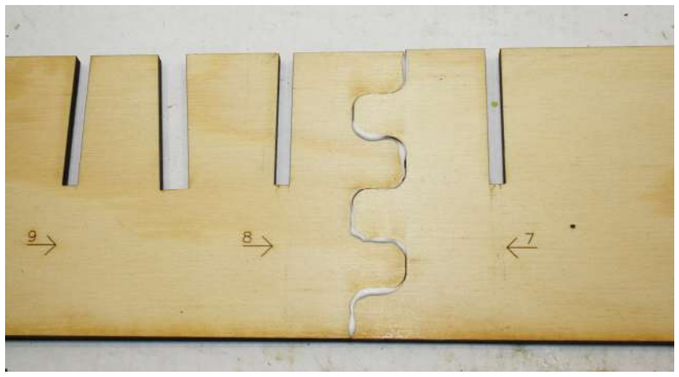
Identify the bulkheads P1 - P15. Note each bulkhead is identified by laser score mark 1 to 15 and has an arrow mark. Identify the false keel P16A & 16B and the joint blocks P17 - note the joint blocks are laser score marked with 7 & 8. Note the keel slots are laser score marked with numbers 1 to 15 - these correspond with the associated bulkhead.

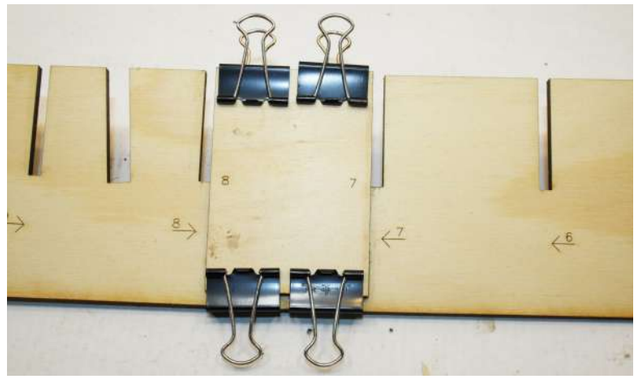




6.2 Hull Assembly

Lay the keels on a flat surface - apply white wood glue to the joint as shown. Apply glue to one side of a joint block and clamp in place between keel slots 7 & 8 as shown. Make sure to align the top on the block with the top of the keel. **Make sure to remove any excess glue from keel slots 7 & 8.** Once glue has set repeat for the joint block on the other side of the keel. Set aside to allow glue to fully set.





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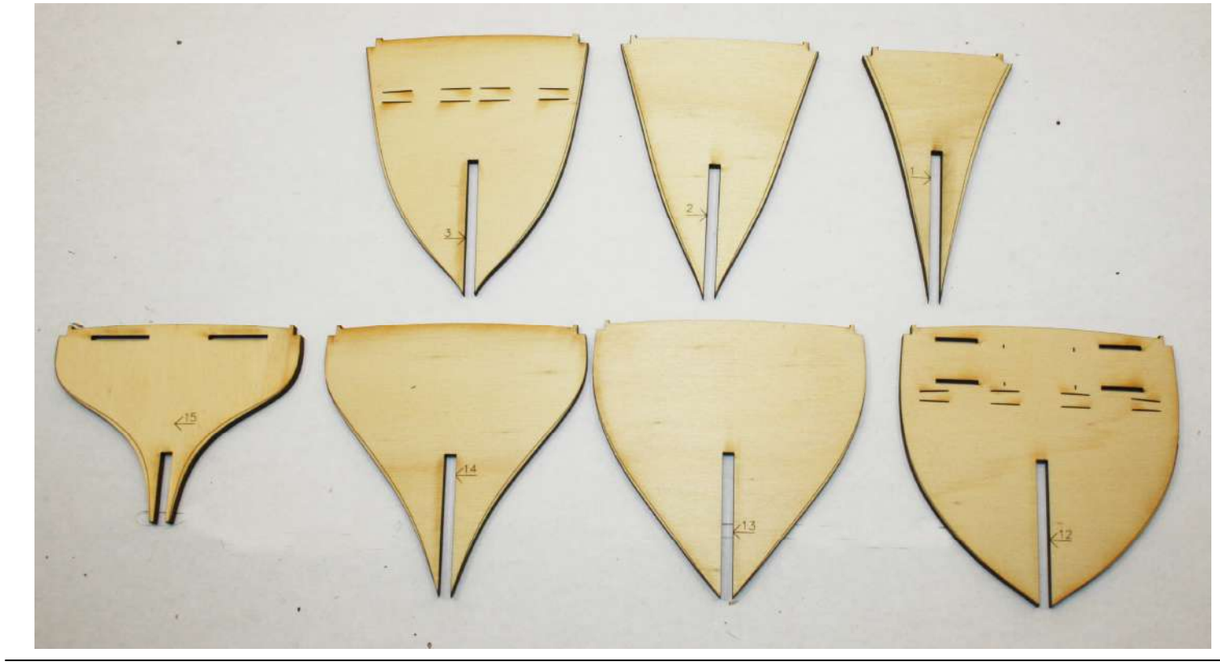
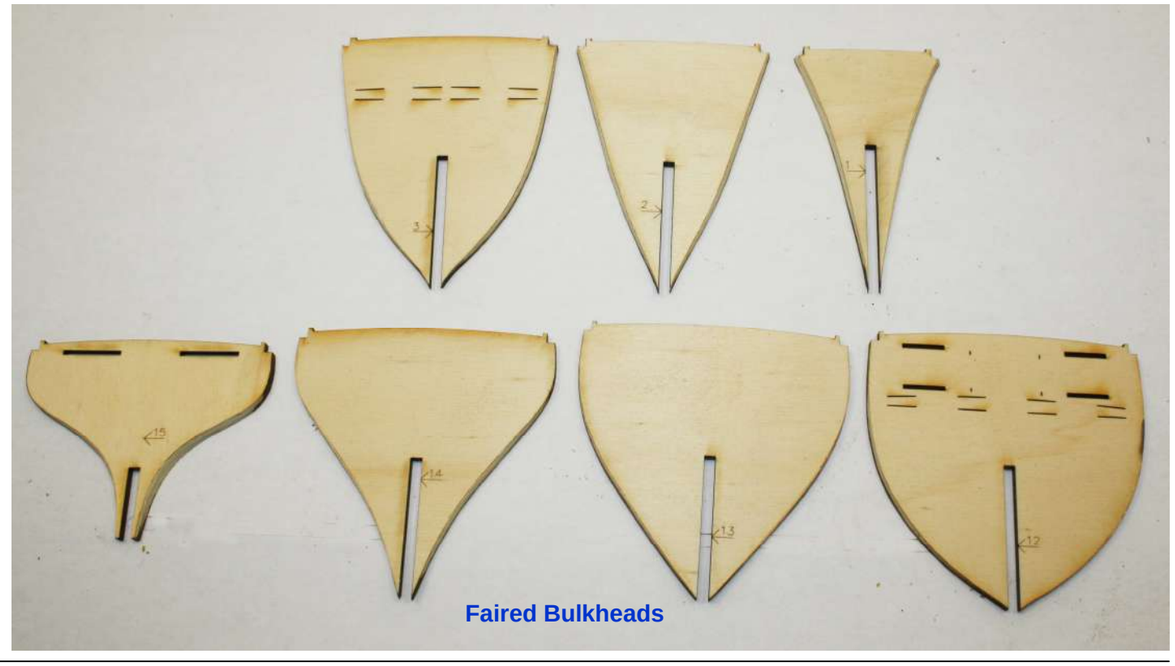
1864
SHEET 14

6.3 Bulkhead Fairing

Fairing the bulkheads is a process to shape the edge of the fore and aft bulkheads so that when planks are placed along the hull the planks will rest on the full face of all the bulkheads. On this model BHs 1, 2, 3, 12, 13, 14 & 15 will need to be faired. **A unique feature of the design of this model is that the bulkheads are faired before being glued in place in the keel slots.**

You will notice these bulkheads have a score line along the outer edge. To fair the bulkhead use a grinding tool to create a chamfer from the score line to the rear edge of the bulkhead - take your time - notice the angle of the chamfer will change as you move along the bulkhead edge. Use a sanding block to finish the process to create a smooth edge on each bulkhead.





Faired Bulkheads

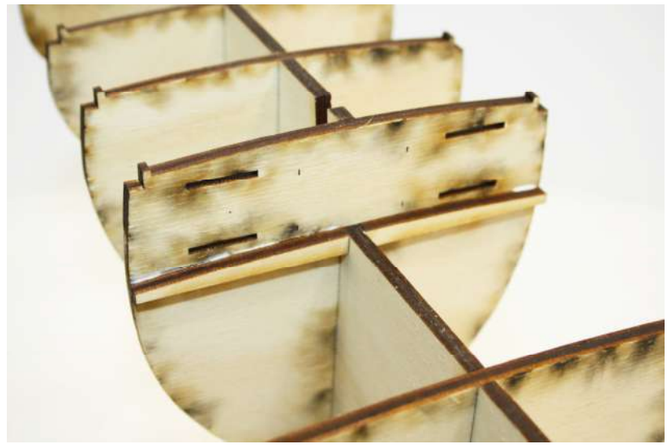
6.4 Fitting the Bulkheads

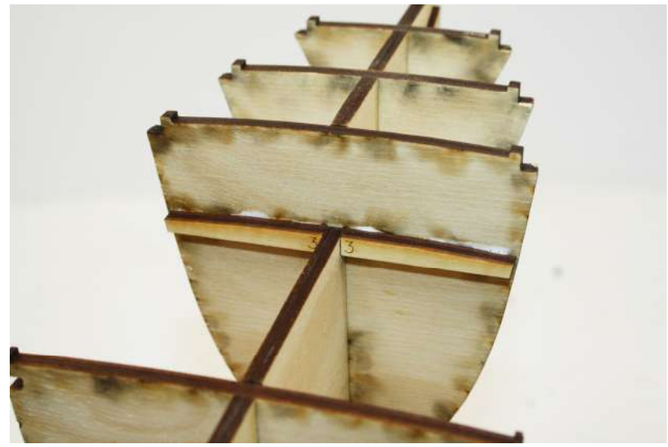
Trial fit the numbered bulkhead into the corresponding numbered keel slot - **do not glue them in place** - the bulkheads will fit firmly into their respective slot - **do not force the bulkhead into the slot** - if needed use a small flat file to marginally adjust the keel slot width - check regularly for a firm fit. Note when the bulkhead arrow aligns with the keel arrow the bulkhead is correctly placed and fitted. Note also the front face of bulkheads 1 to 7 face the bow while bulkheads 8 to 15 face the stern.

CSS SHENANDOAH
1864
SHEET 15

6.5 Main Deck Supports

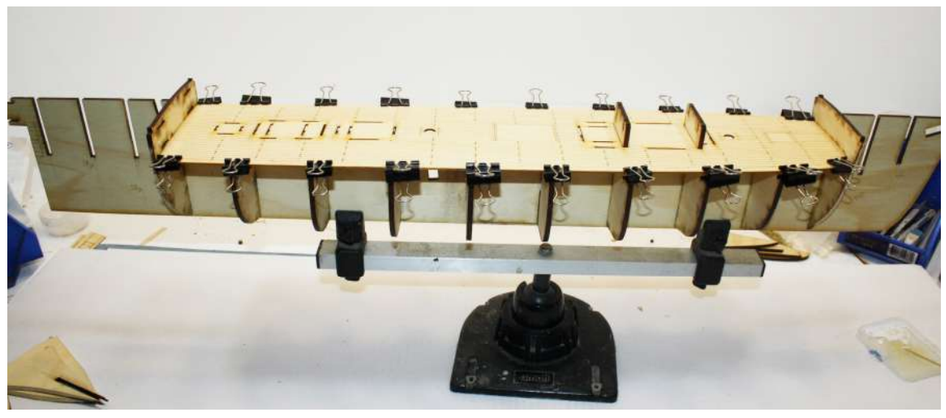
Indentify the main deck supports P18 and P19. Glue the deck supports in place within the cut lines on the rear face of the bulkheads as shown. Remove excess glue.

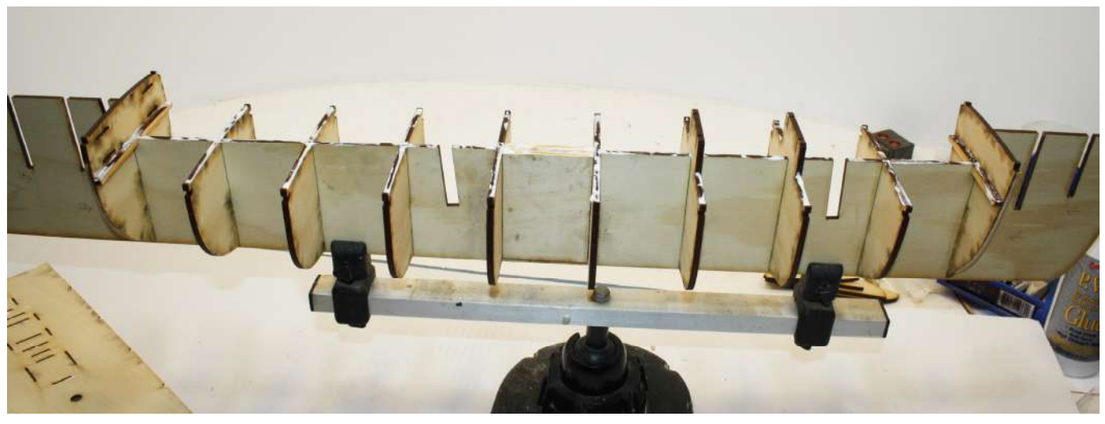




6.6 Main Deck

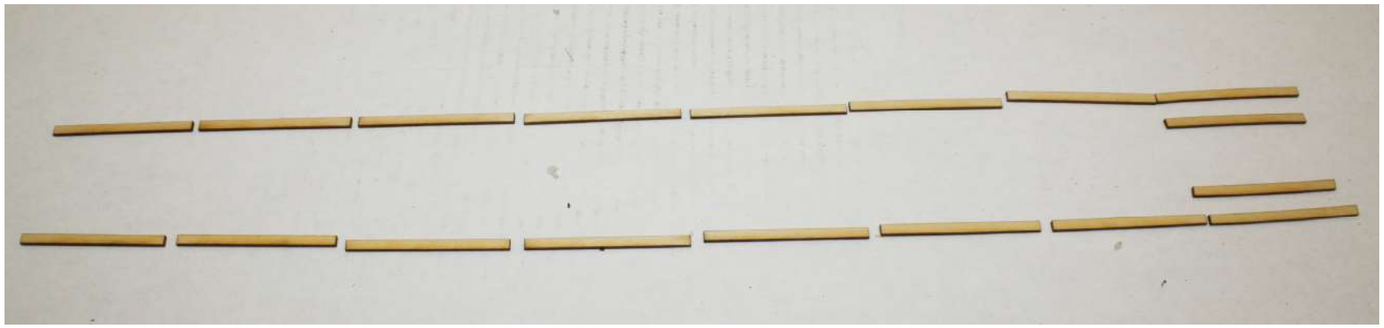
Identify the main deck P20. Remove bulkheads 1, 2, 13, 14 & 15. Trial fit the deck in place - clamp as shown - **do not glue.** If necessary marginally adjust the deck slots for a snug fit. Once satisfied remove deck and bulkheads 3 to 12. Glue the bulkheads 3 to 12 in place - apply glue to the contact points. Remove any excess glue. Apply glue to the top of the bulkheads and keel as shown. Refit the deck and clamp as shown. Set aside for glue to set.

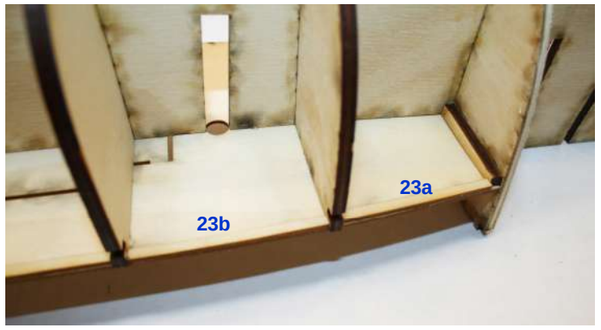




6.7 Under Deck Supports - Main Deck

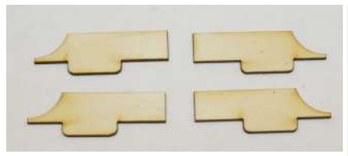
Identify the deck supports P23a-i - number each support before removing from the board. Turn the assembled hull over and glue the parts in place starting with 23a glued between BHs 3 and 4 as shown. Make sure the support is flush with the underside edge of the deck as shown. Repeat the process along the underside on the deck towards the stern. Repeat for the other side of the deck.

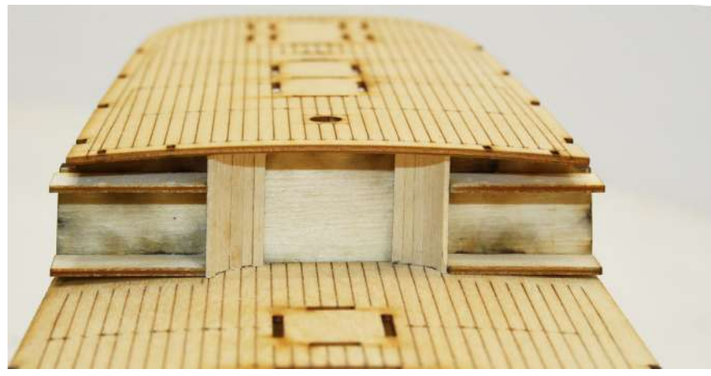




6.8 Wardroom Cabin Walls

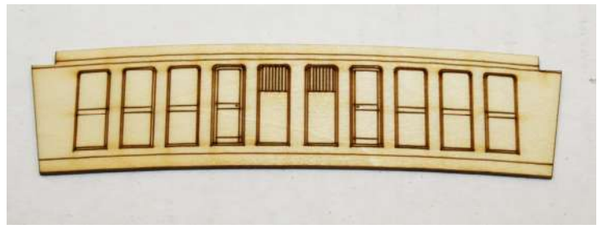
Identify the wardroom cabin wall supports P24 - trial fit into the slots in BH12. Once satisfied glue in place as shown. Identify the batten strips P25A - cut 12 lengths at 25mm and glue in place as shown. Make sure that each strip is vertical. Identify the quarter deck P22 - fit the deck in place. Use a grinding tool to fractionally adjust the plywood lengths to allow the deck to fit flat across curvature of BH 12. Identify the stern cabin doors P26. Lightly sand the face - use a blue pencil to colour the windows. Glue in place as shown.





6.9 Forecastle Cabin Doors and Windows

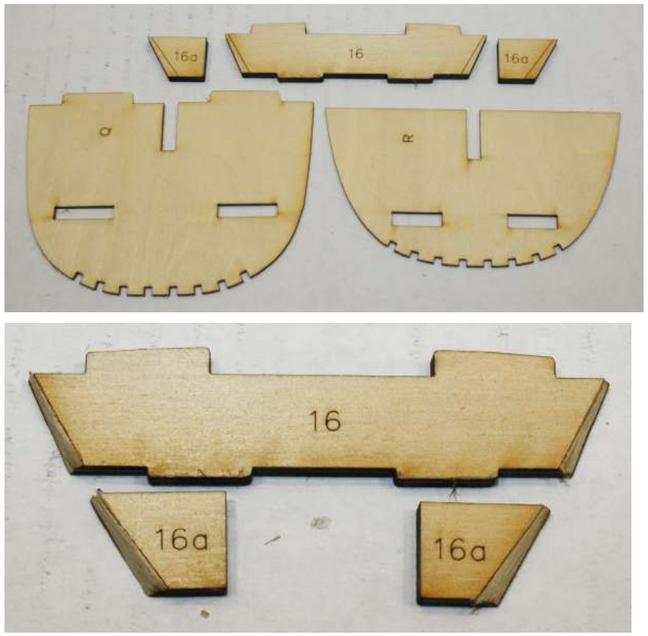
Identify the fore castle cabin doors and windows P27. Lightly sand the face - use a blue pencil to colour the windows. Glue in place on BH3 as shown.

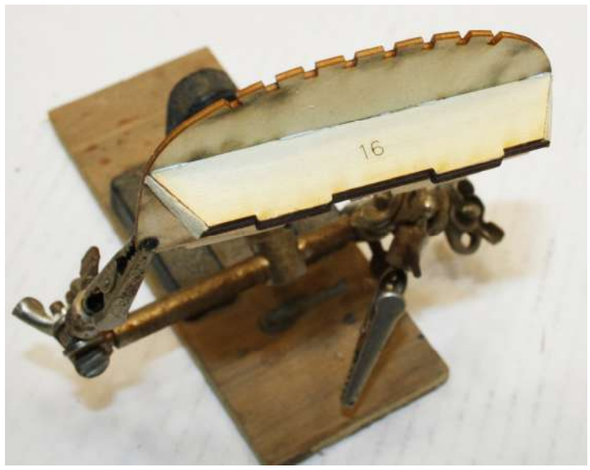


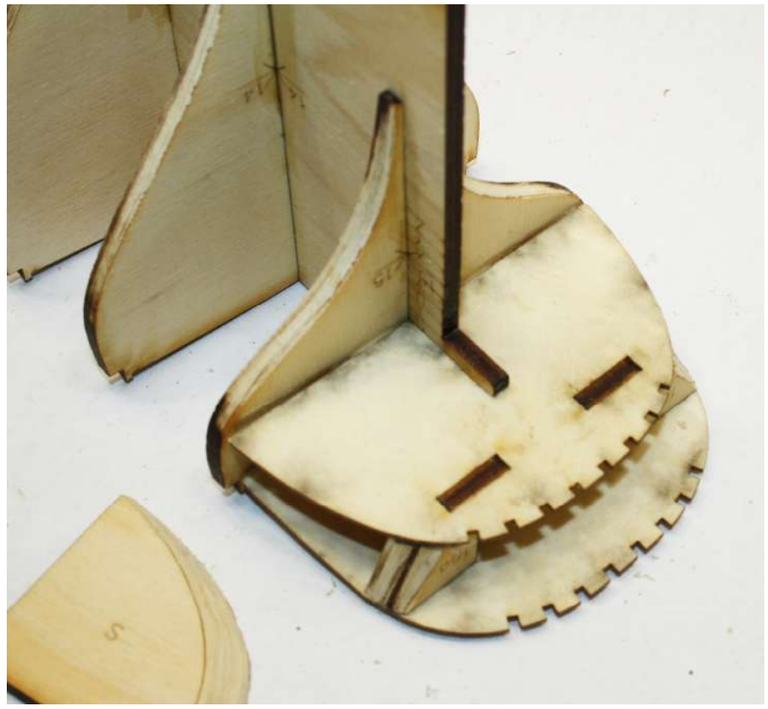
CSS SHENANDOAH
1864
SHEET 17

6.10 Stern Assembly

Identify the stern bulkhead P30, stern BH blocks P31A, stern top P28 and stern bottom P29. Shape the BH blocks as shown. Glue the stern BH in place between the top and bottom stern parts as shown. Glue the BH blocks in place behind the stern BH as shown. Fit the assembled stern parts into the slot in BH15. Clamp and allow glue to dry.



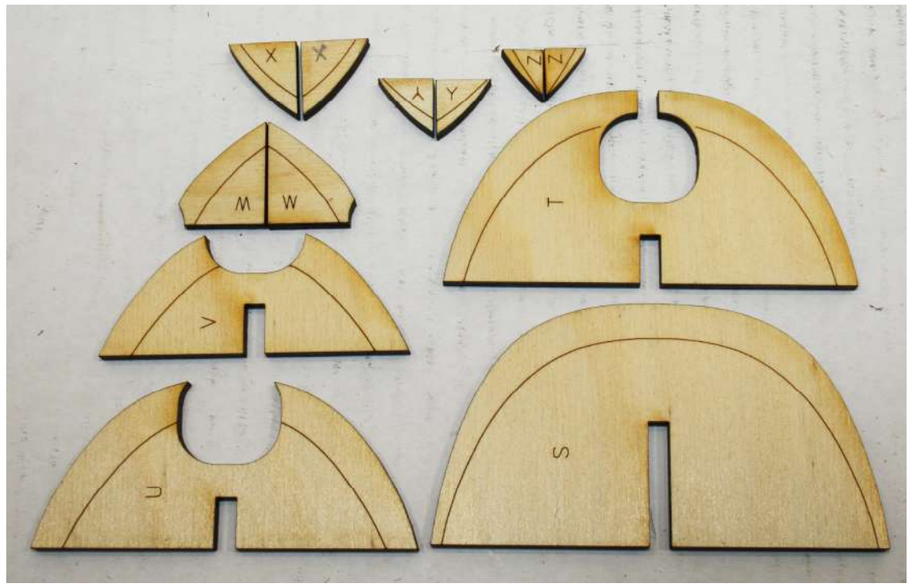


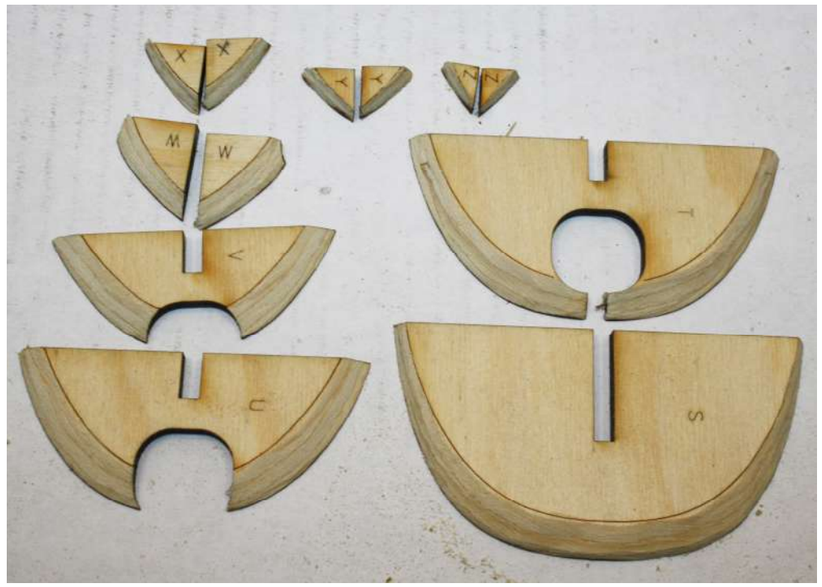


CSS SHENANDOAH
1864
SHEET 18

6.11 Stern Filler Blocks

Identify the stern filler blocks P32A-H. Shape each part as shown. Glue each part in place as shown. Identify the last stern filler block P33 - shape as shown and glue in place as shown. Once glue has set use a sanding board to ensure a smooth transition across the filler blocks and from BH15 to the stern filler blocks.





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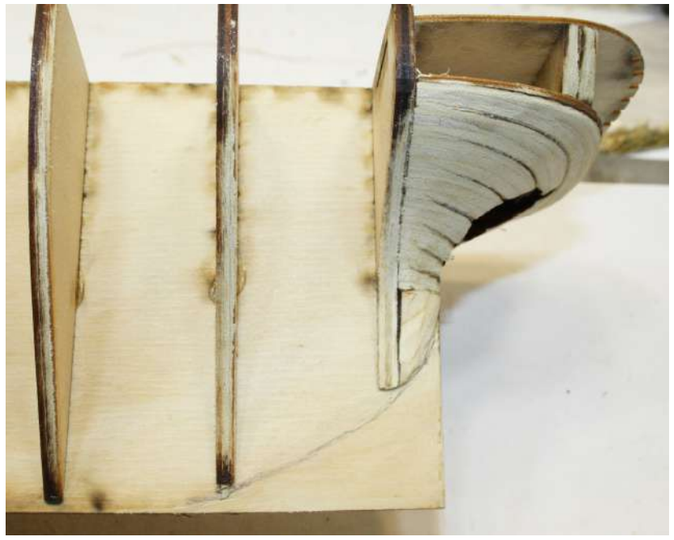
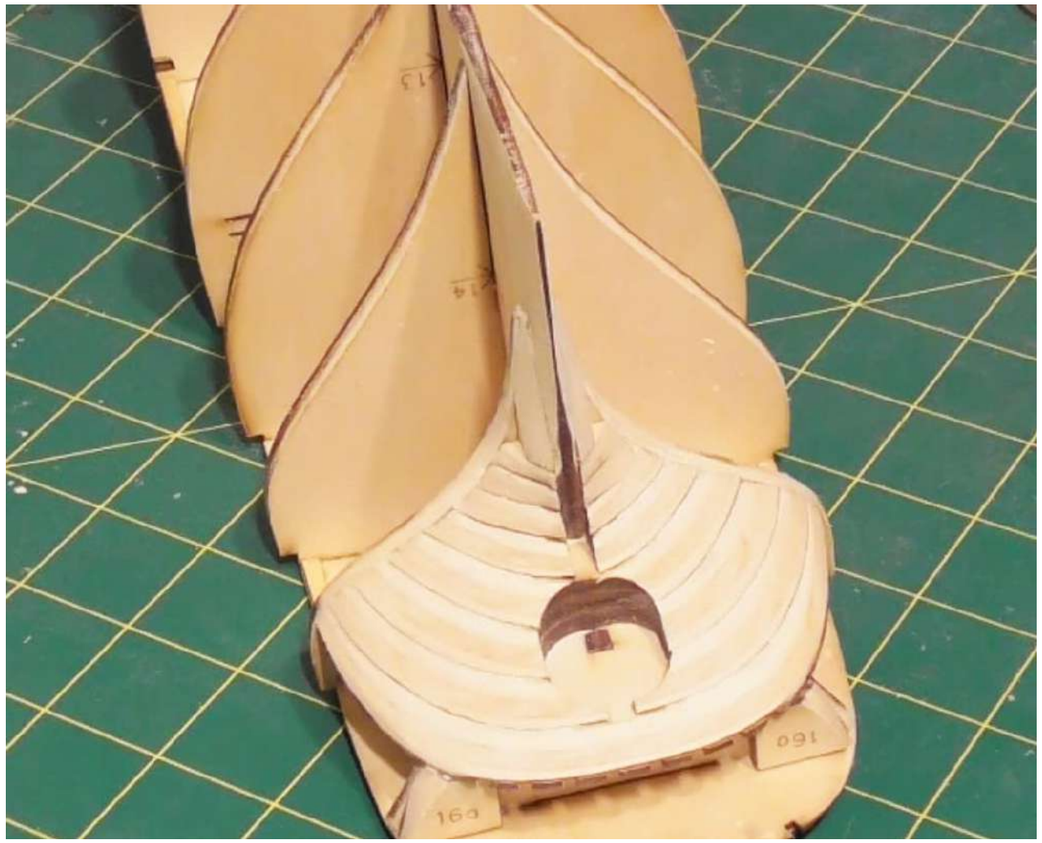
1864
SHEET 19

6.12 Deadwood Area

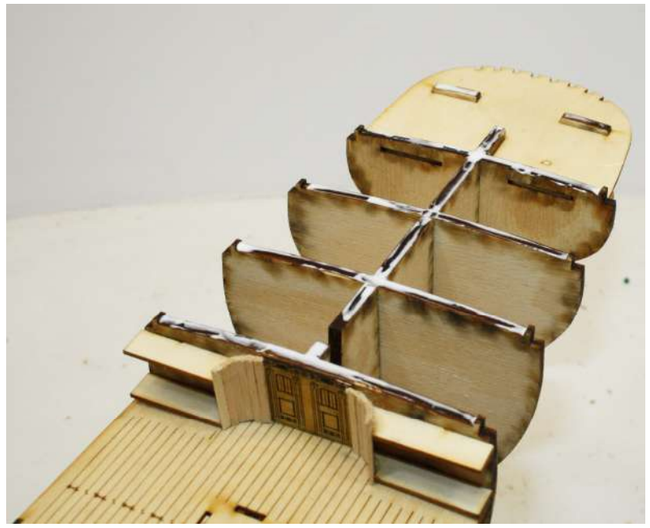
Sketch a line on the keel as shown. The area below this line and the bottom of the keel is known as the deadwood area. The hull will be planked with 2mm thick planking on each side of the hull. The total thickness of the keel at the stern (4mm) and the two layers of planking (4mm) will give a total of 8mm thickness at the end of the keel. The stem post and rudder are each 4mm thick and are not planked. To eliminate this overall 4mm mismatch the deadwood area is reduced in thickness - down to approximately 1mm. Use a grinding tool and a sanding block to shape the deadwood area as shown. Once fully planked the planking will be fractionally reduced in thickness to match the stern post and rudder.

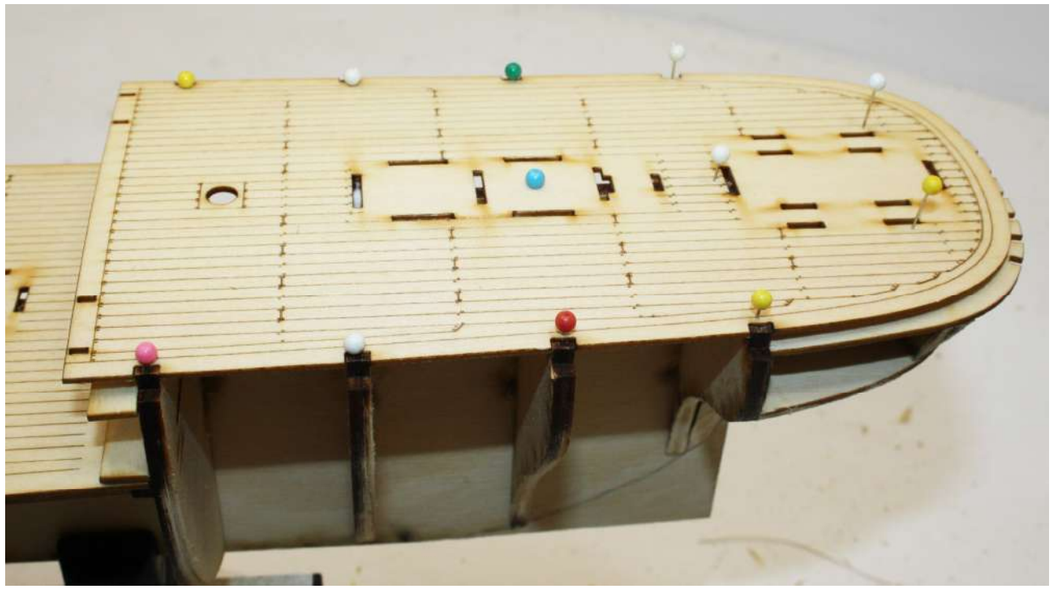


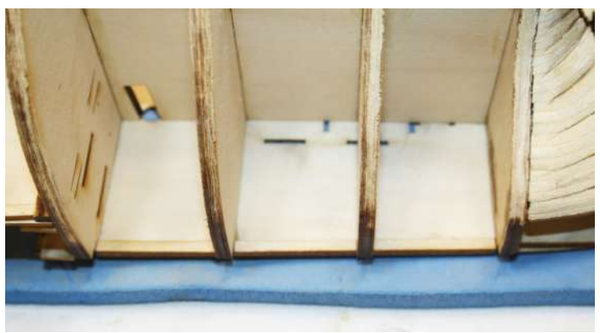


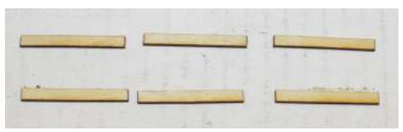
6.13 Quarter Deck

Identify the quarter deck P22. Trial fit the deck in place. To fix the quarter deck in place apply glue to all the contact points between deck and BHs and stern. Fit and pin the deck in place as shown. Identify the quarter deck supports P34a-c. Trial fit then glue the parts in place as shown.









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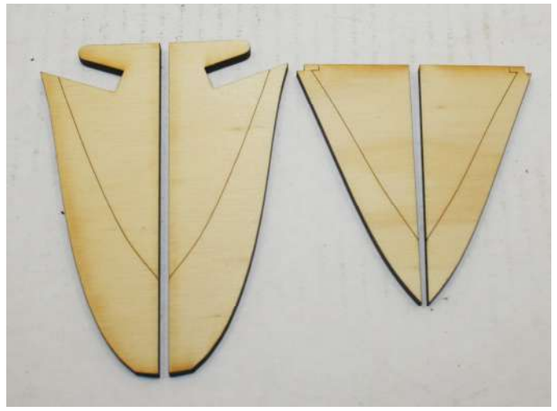
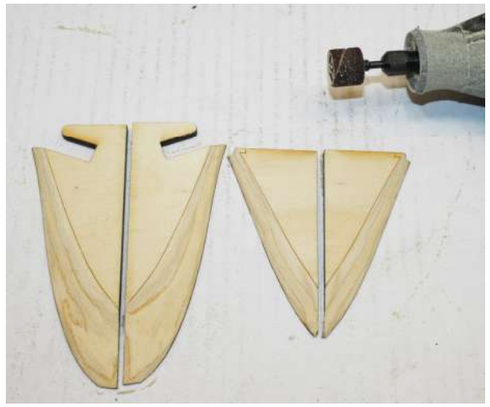
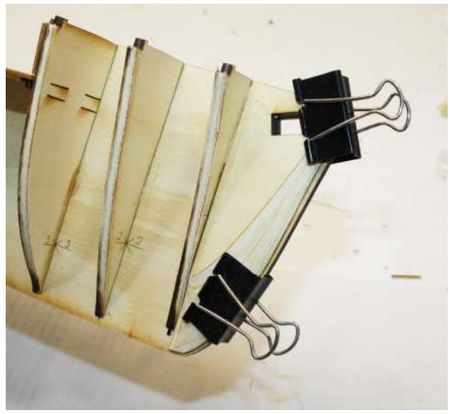
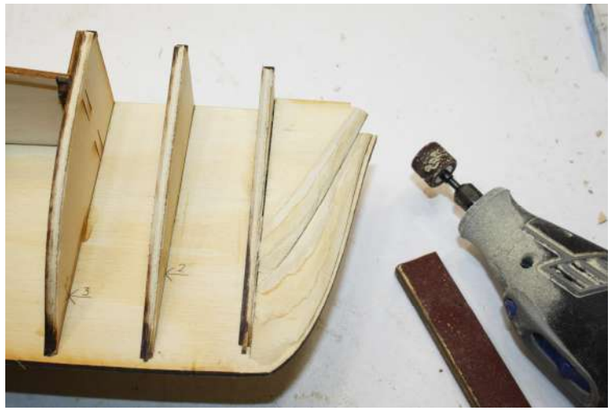
1864
SHEET 20

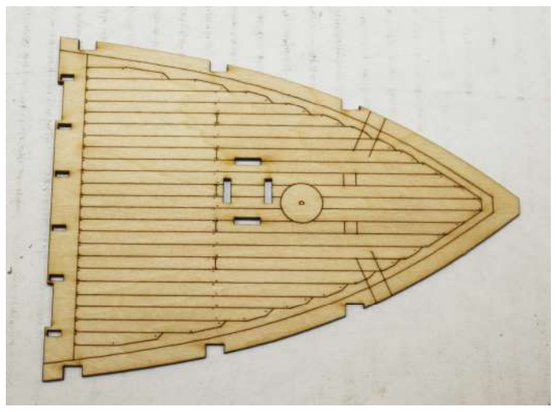
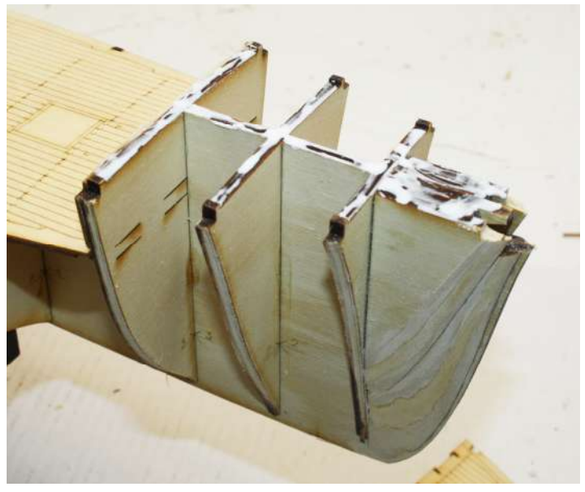
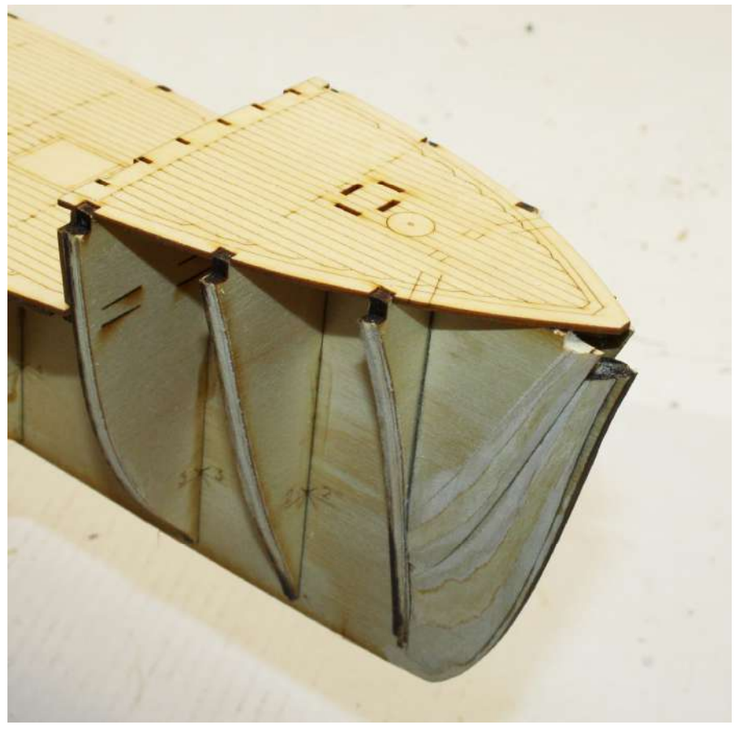
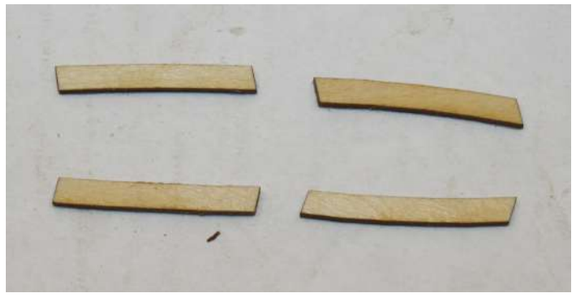
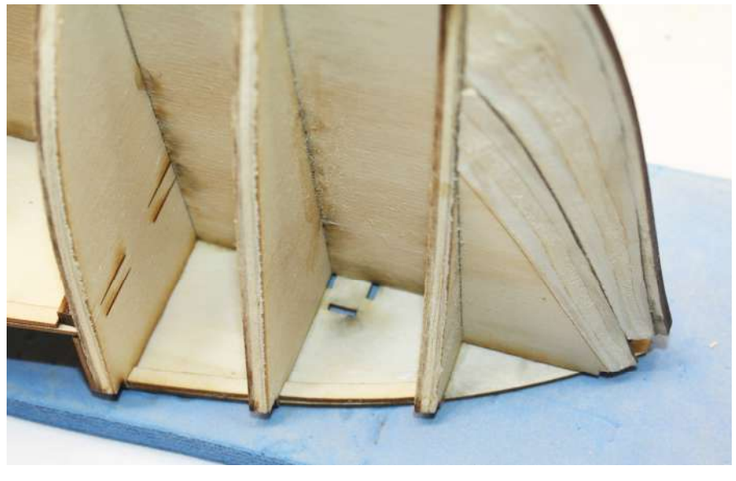
6.14 Bow Filler Blocks

Identify the bow filler blocks P35A-B. Use a grinding tool and a sanding block to shape each filler block as shown. Glue filler block A in place on each side of the hull and clamp in place making sure the block is flush with the top of the keel. Repeat for filler block B. Once glue has set use a sanding board to ensure a smooth transition from BH1 to the bow blocks.

6.15 Forecastle Deck

Identify the forecastle deck P21. Trial fit in place - once satisfied remove and apply glue to the contact points as shown - fit and pin the deck in place. Identify forecastle deck supports P36a-b. Trial fit and glue in place as shown.

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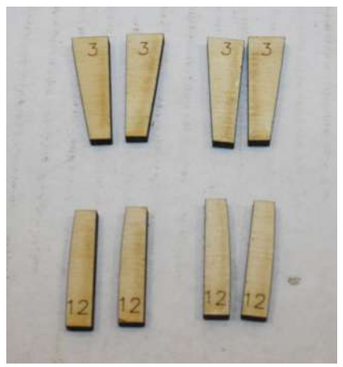
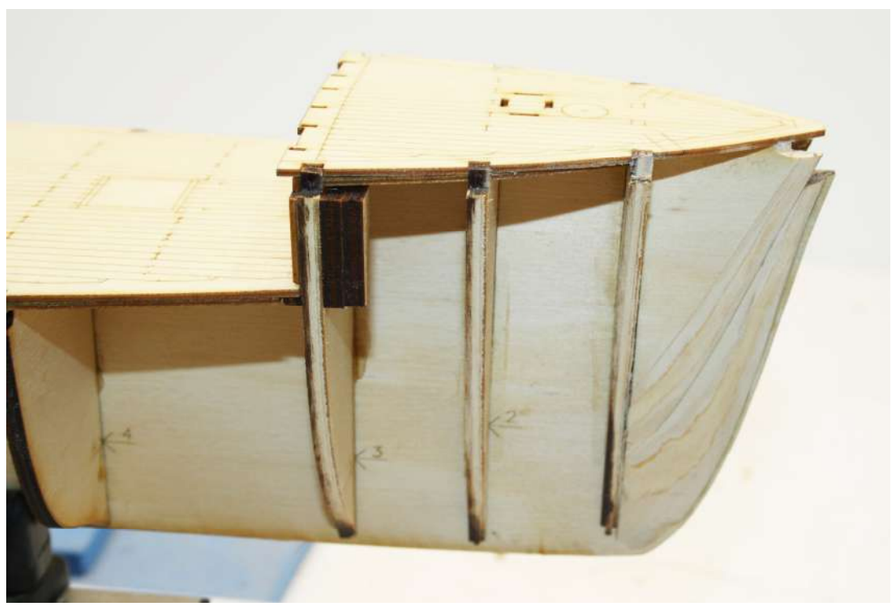
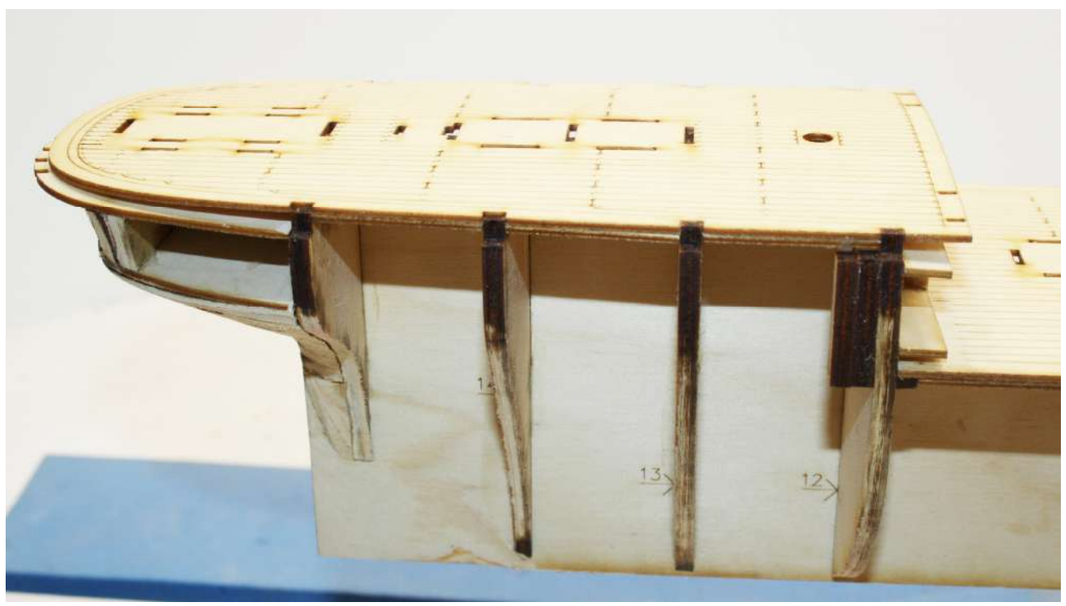
1864
SHEET 21

6.16 Bulkhead Extensions

Identify the BH 3 extensions P37 and BH12 extensions P38. Glue the extensions in place as shown - make sure each is flush with the top of their respective BH. Fair the extensions as shown.



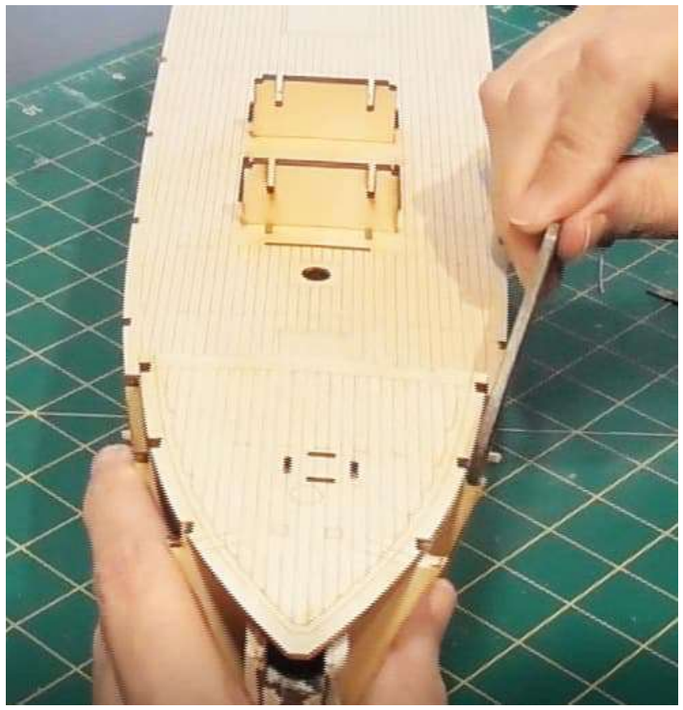


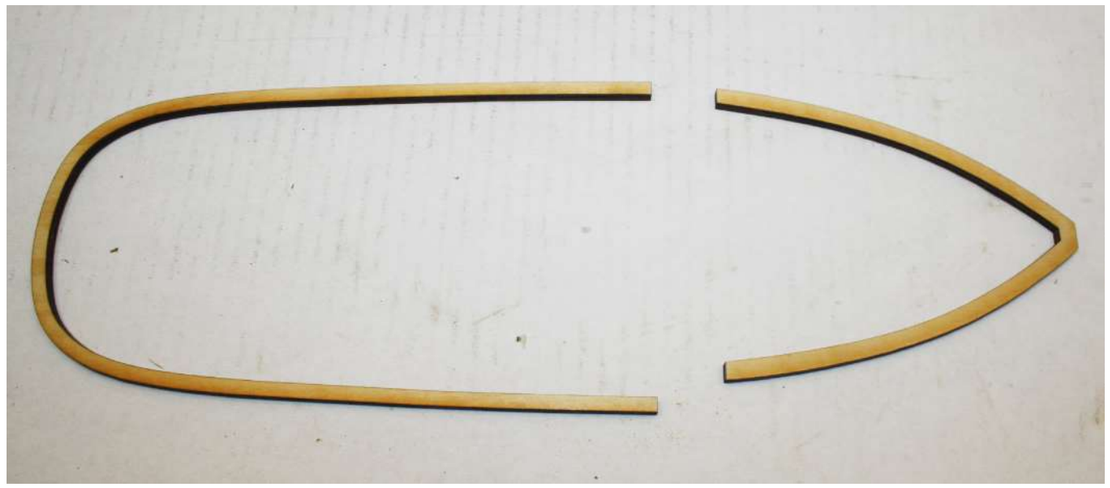


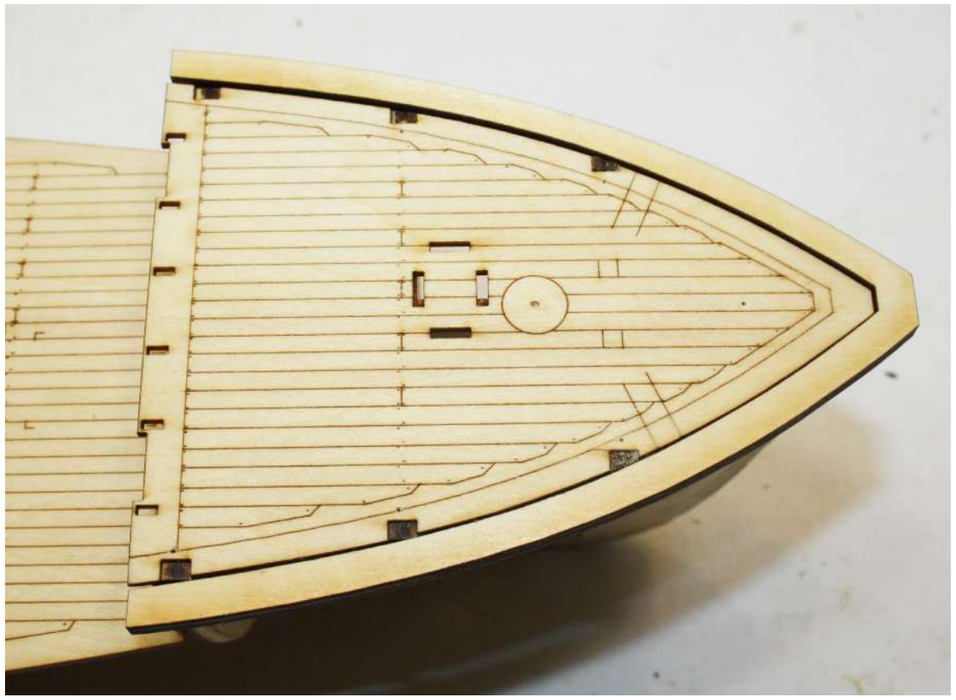
CSS SHENANDOAH
1864
SHEET 22

6.17 Rail Bases

Use a flat file or sanding block to shape the edges of the main, quarter and forecastle decks to ensure the deck edge is flush with the bulkheads. Identify the quarter deck rail base P39 and the fore-castle deck rail base P40. Trial fit each rail base in place - fractionally adjust if required to achieve a close fit round the deck edge.



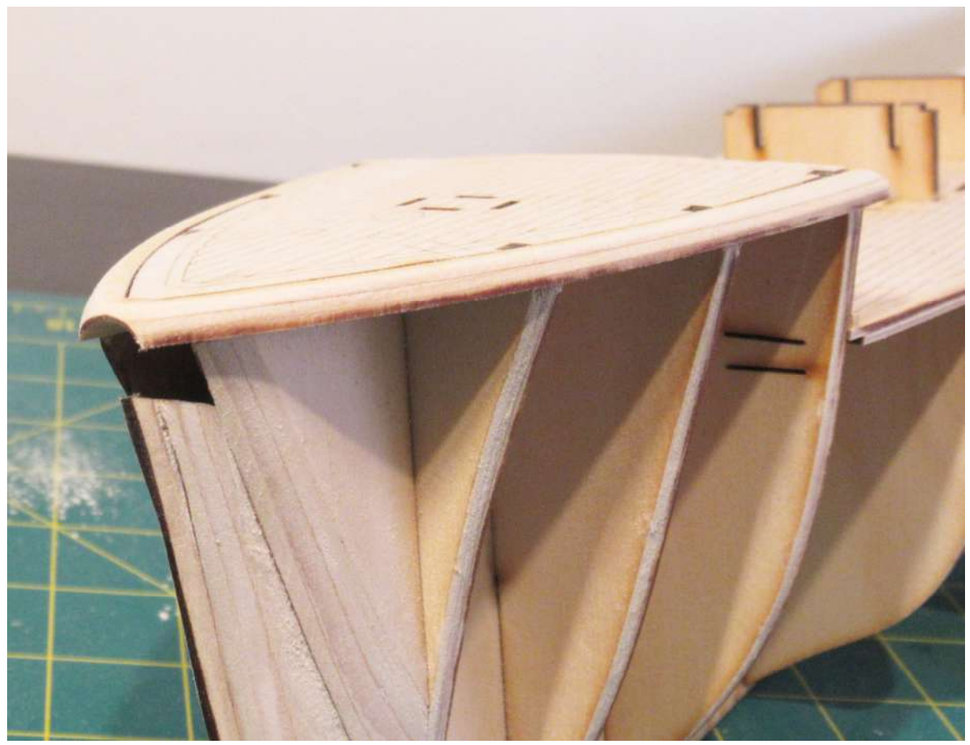


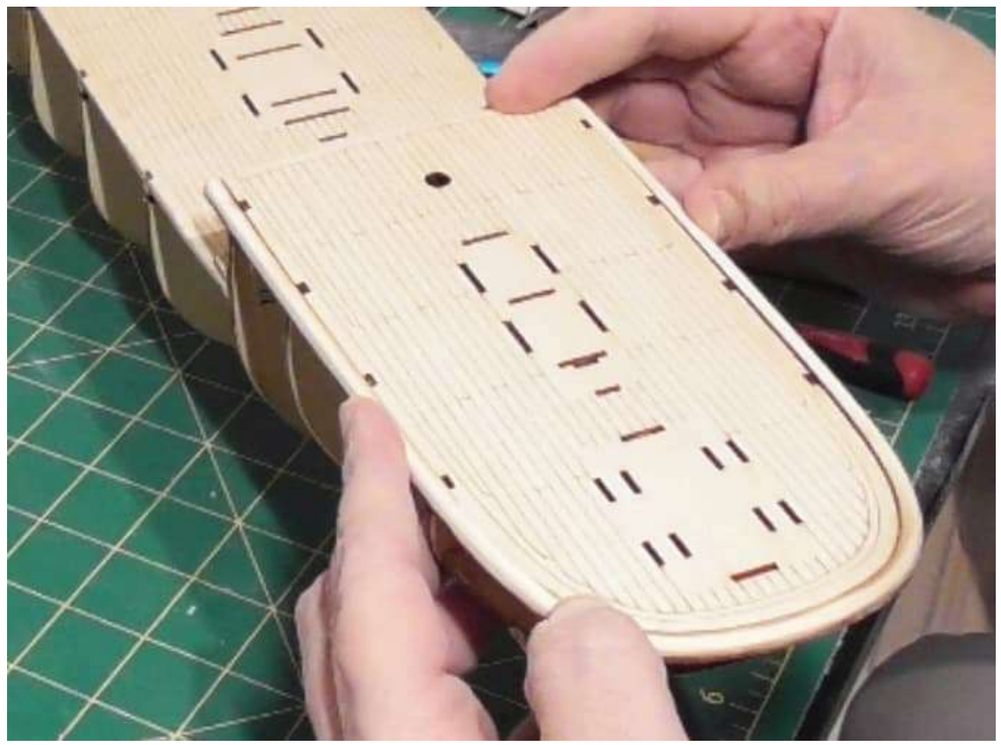


CSS SHENANDOAH
1864
SHEET 23

6.17 Rail Bases continued

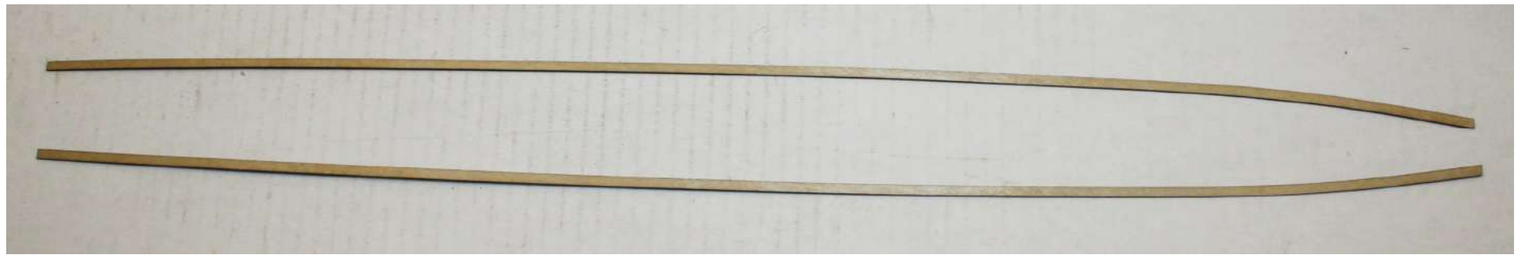
Use a grinding tool and a sanding board to shape a curve on the rail bases - fractionally continue to shape until the base is flush with deck top edge as shown - there may be the need to adjust the depth of the BH notches slots along the deck edge. Identity the 8mm dowel P246 - insert the dowel into the bowsprit slot and shape the underside of the peak of the forecastle rail base to fit over the dowel as shown - fractionally adjust until satisfied. **Do not glue anything is place.**

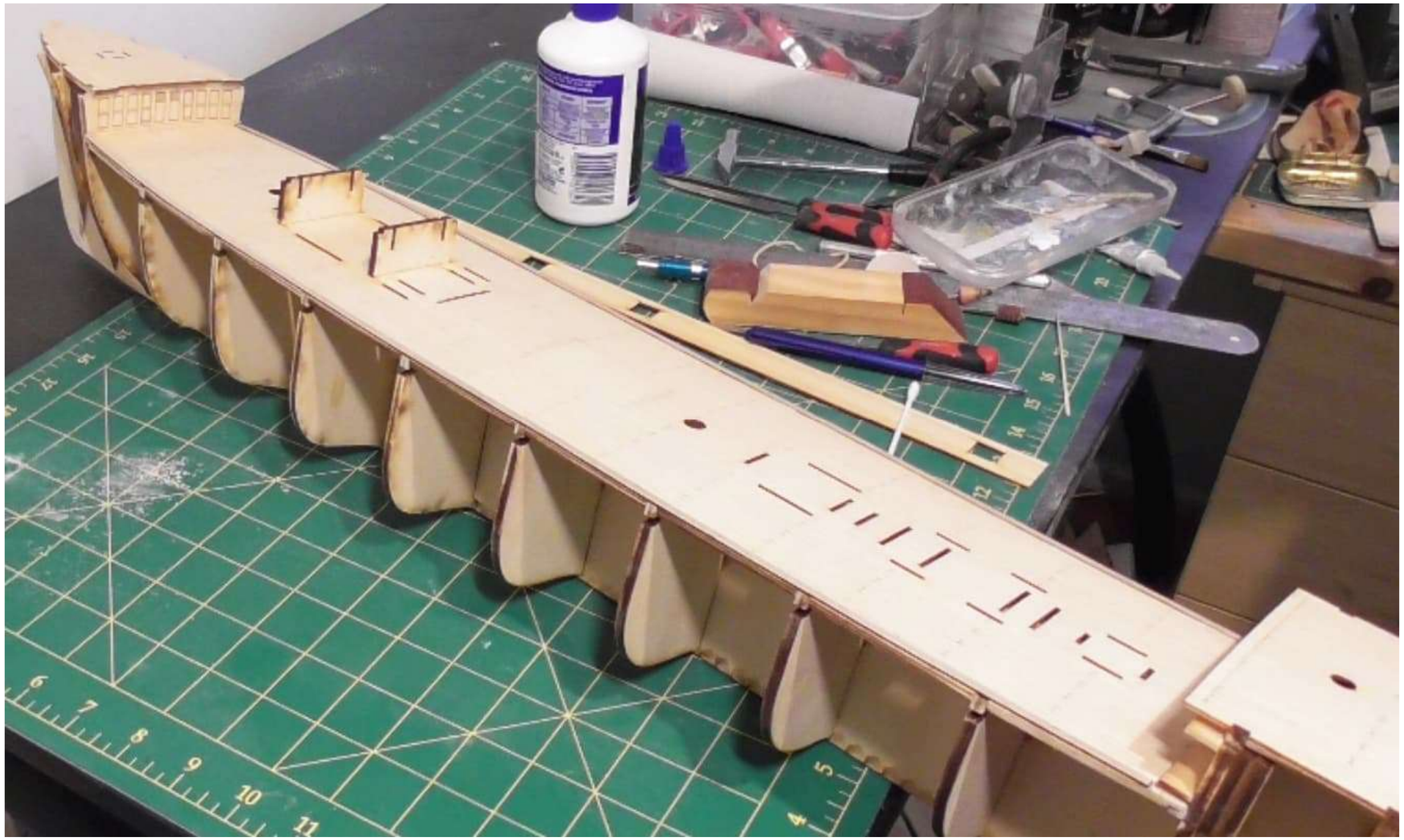




6.18 Main Deck Edge Capping

Identify the main deck edge capping P41. Lightly sand the face and inside edge of each capping. Trial fit each edge capping in place along the edge of the main deck as shown. Once satisfied glue each edge capping in place as shown - make sure the capping is flush with the edge of the deck.





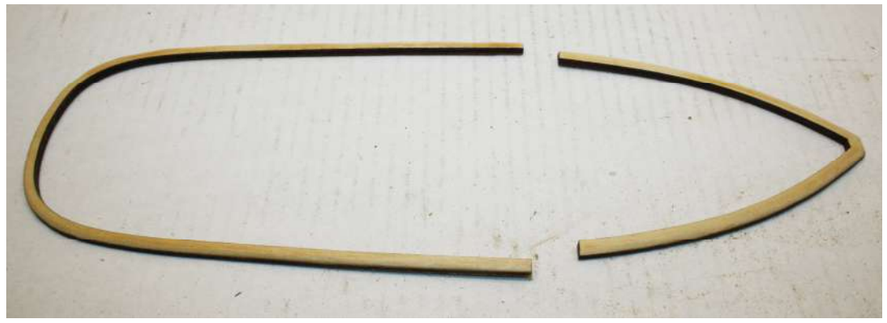
6.19 Wardroom cabin windows

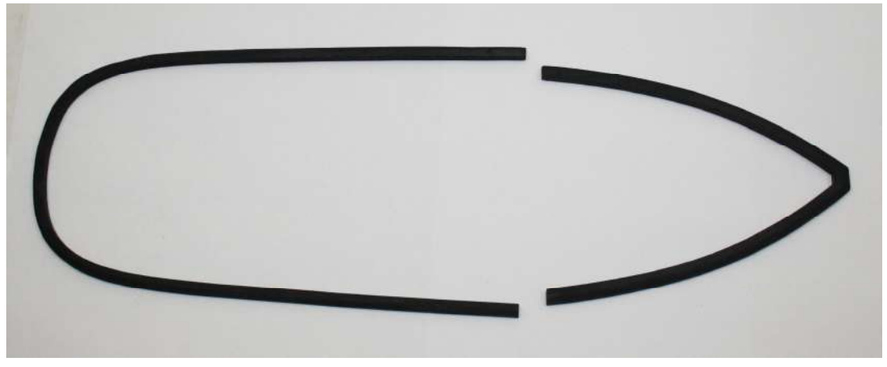
Identify the stern cabin windows P42 and the side trims P43. Glue the side trims to their respective doors as shown. Lightly sand the face of the cabin windows - use a blue pencil to colour the windows. Trial fit the side doors in place - fractionally adjust as required. Once satisfied glue each side door in place as shown.

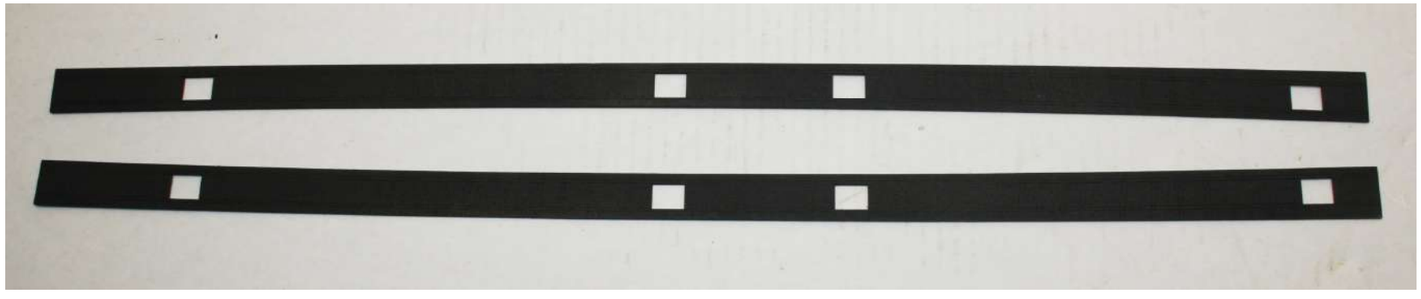
6.20 Rail Bases and Bulwarks

Identify the bulwarks P44.Remove the gun port doors P45 and set aside safely to be fitted later. Retrieve the quarter deck and forecastle deck rail bases. Spray paint the parts with a matt charcoal black acrylic paint - apply a couple of coats allowing to dry fully between coats - apply paint to both sides of the bulwarks.

NOTE: If the model is to be presented as Sea King do not remove the gun port doors - the laser cut can be filled with wood filler before painting.

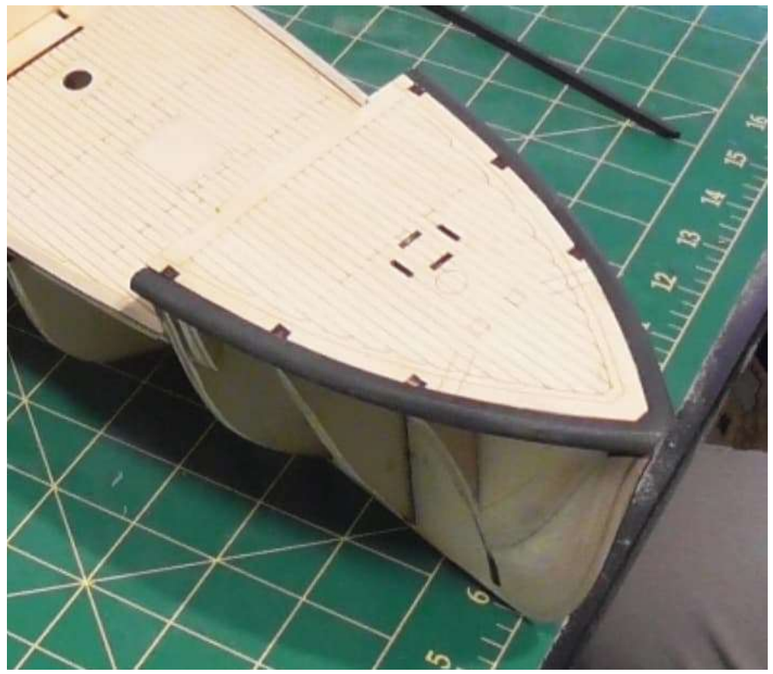


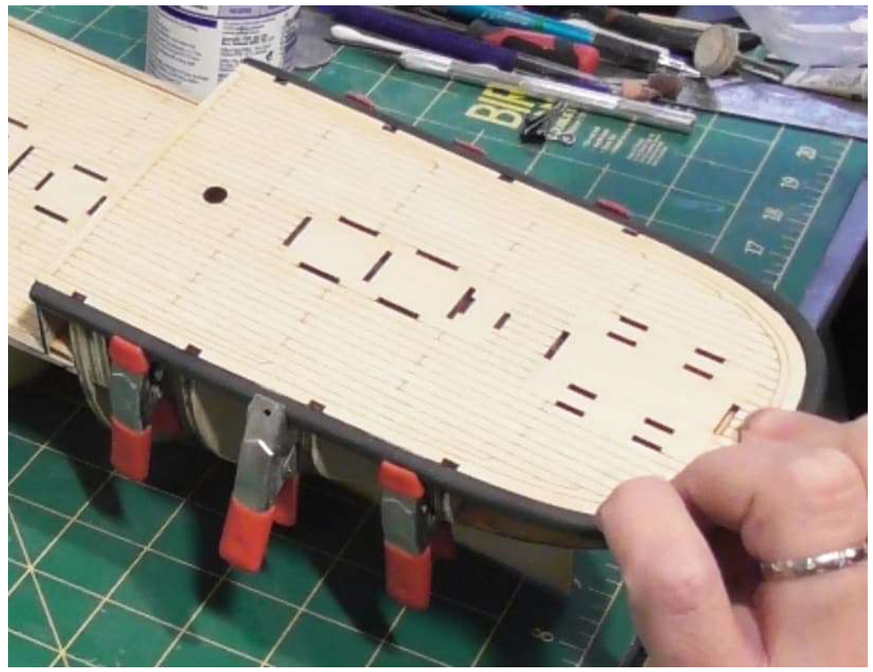




6.21 Forecastle Deck and Quarter Deck Rail Bases

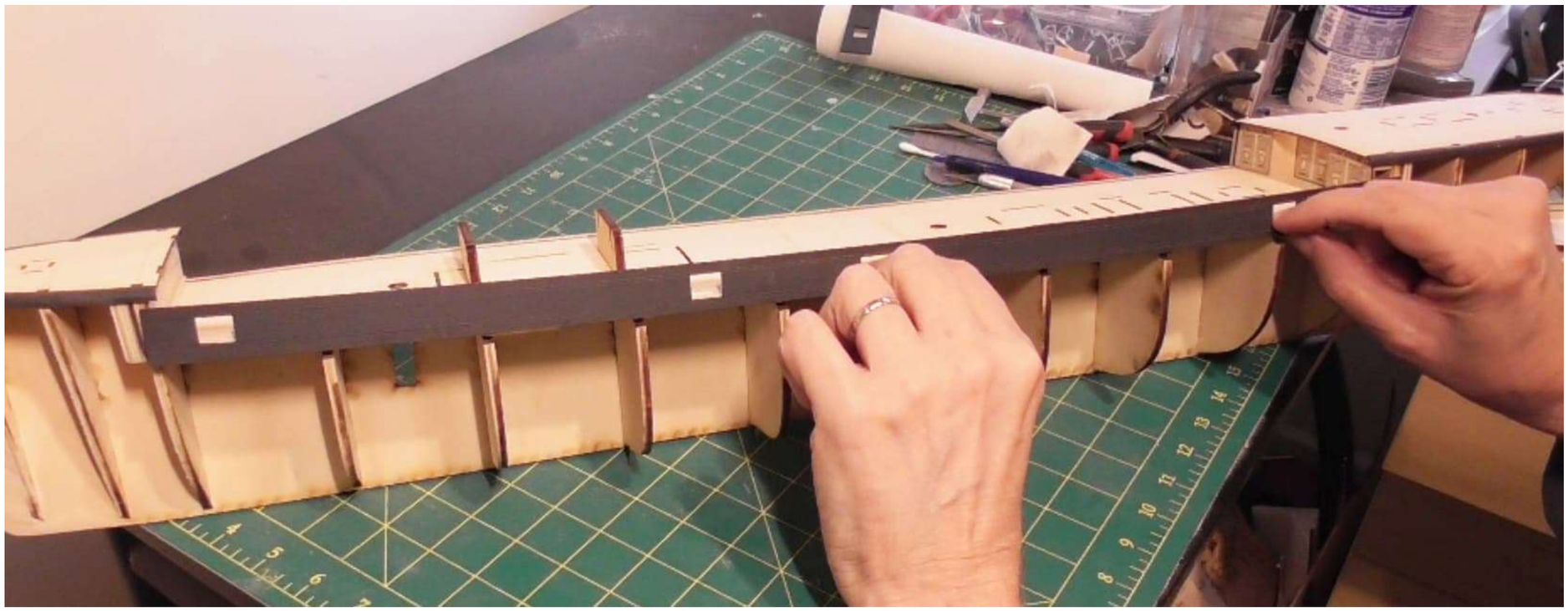
Trial fit the deck rail bases - once satisfied glue each base in place as shown.





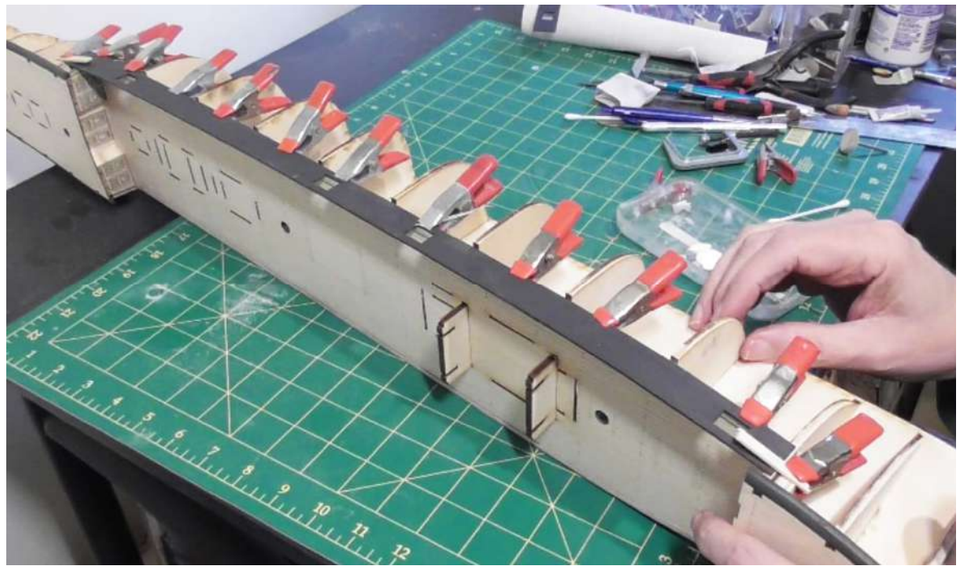
6.22 Bulwarks

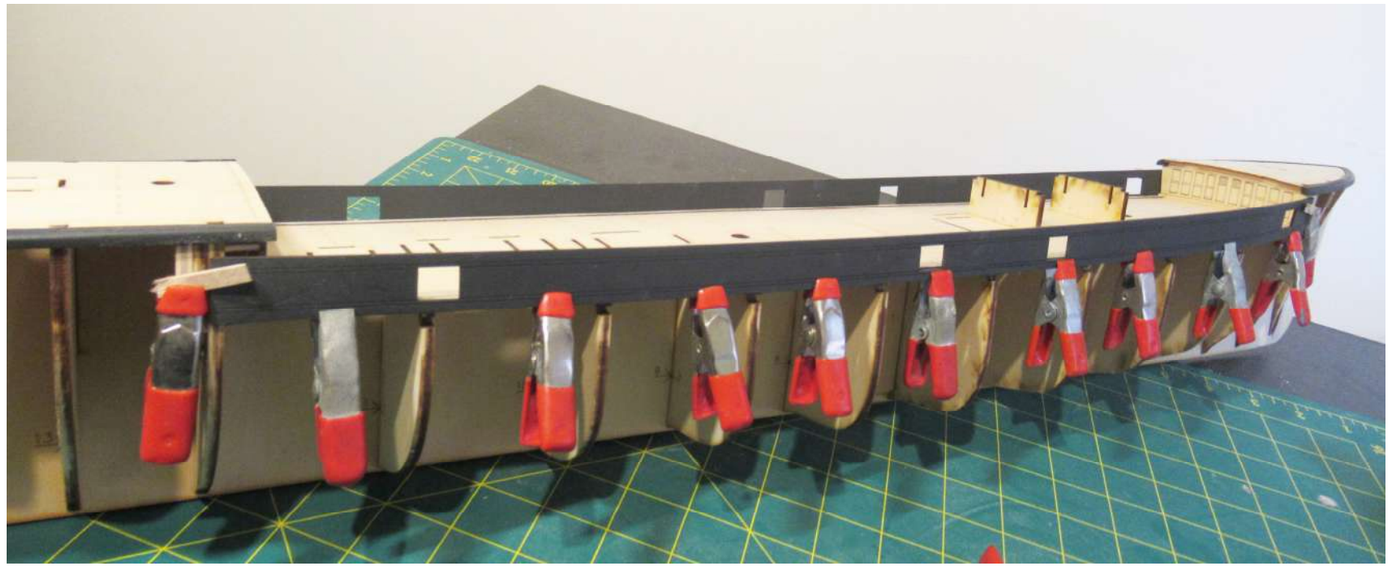
The bulwark fits between BH3 and BH12. The bottom edge of the bulwark fits flush with the underside of the main deck supports. Trial fit a bulwark in place - some fractional adjust of deck edge and cabin sides may be needed. Repeat for the other side of the hull.



6.22 Bulwarks continued

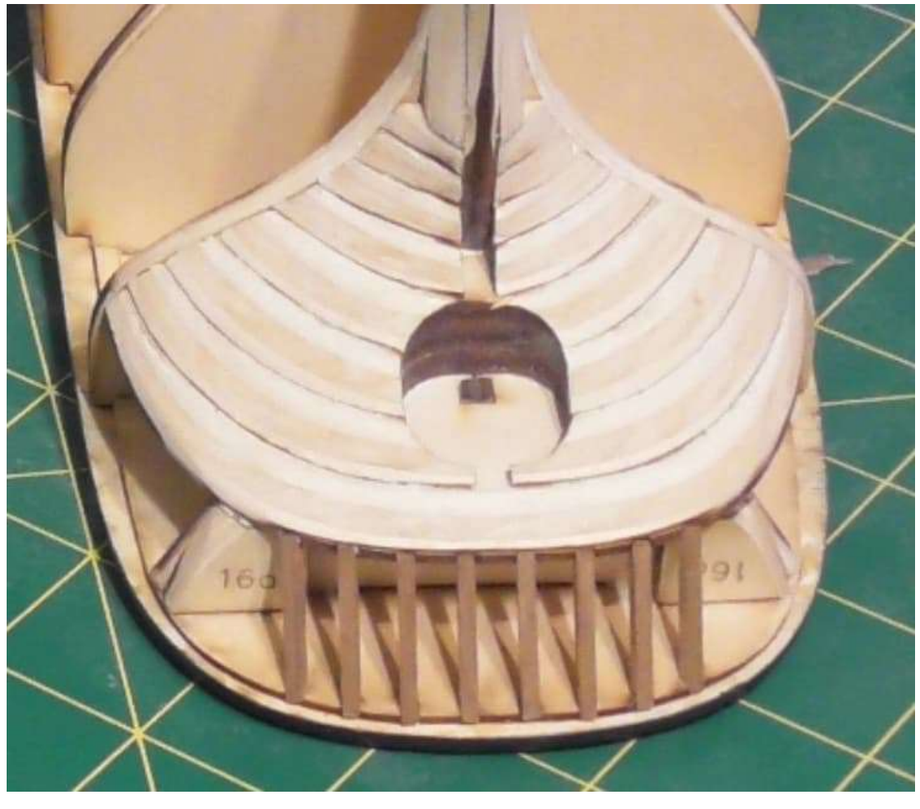
Once satisfied with the fit apply glue to the contact points on the bulwark and along the deck edge including the deck supports. Fit and clamp the bulwark in place. Use a cotton bud to remove any excess glue from the inside of the bulwark at the deck level. Repeat for the other side of the hull.

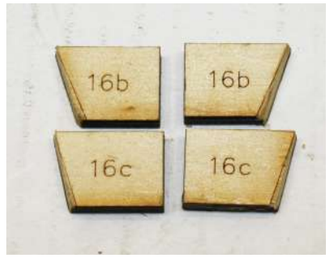




6.23 Transom

Identify the 2x3mm plywood length P46. For the transom supports cut lengths to fit into the slots between the stern top and bottom as shown - fractionally adjust and glue in place. Identify stern BH16 blocks P31B & P31C - chamfer each from the score line to the opposite edge as shown. Trial fit P31B in place in front of BH16 - fractionally adjust as required - glue in place. Trial fit P31C - fractionally adjust as required - glue in place in front of 31B as shown. Repeat for the other side.

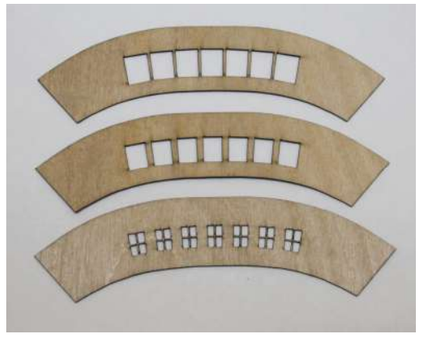


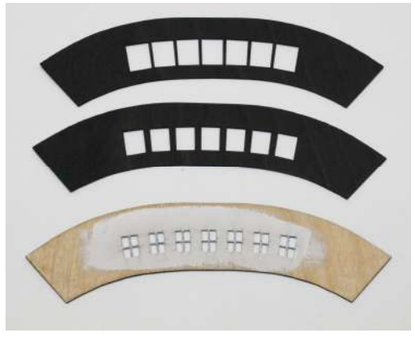


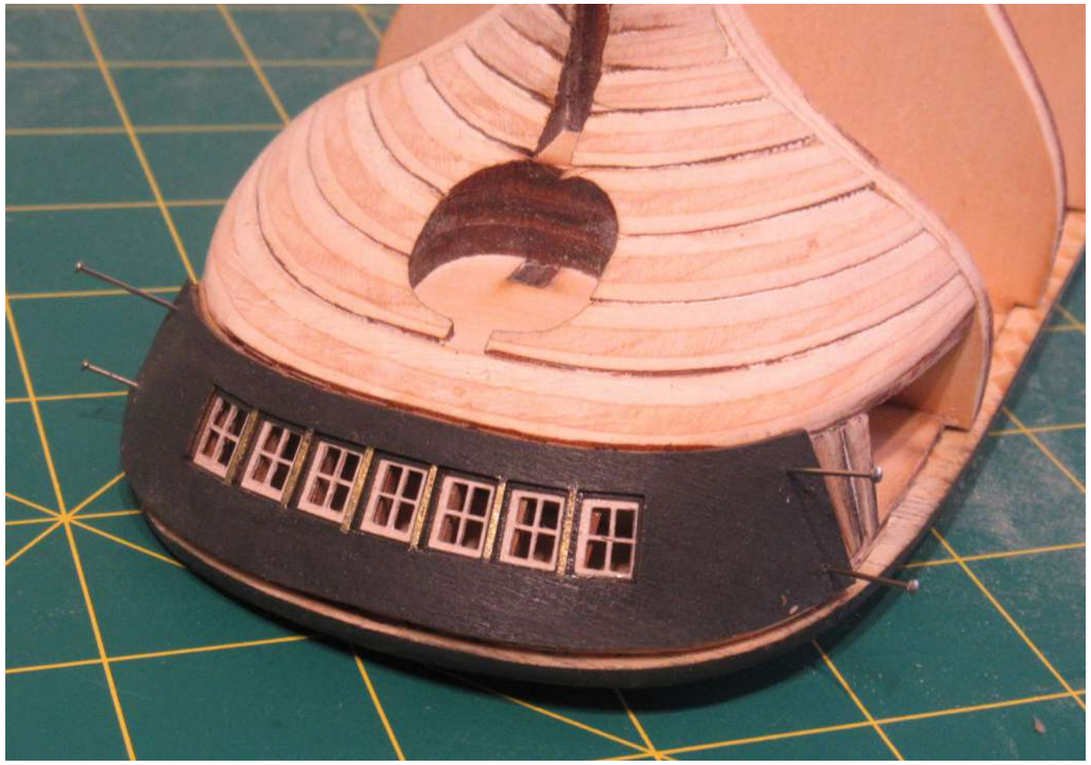
CSS SHENANDOAH
1864
SHEET 28

6.23 Transom continued

Identify the transom window layers P47A-C. Apply matt white paint to layer 1 P47A as shown. Spray paint layer 2 P47B & layer 3 P47C with matt charcoal black acrylic paint as shown. Place the end of layer 1 into a container of hot water for approximately 3 minutes - remove and gently check the flexibility of that end - trial fit in place - repeat until satisfied there is enough flex in the part. Repeat for the other end. Once satisfied apply glue to the transom supports and stern BH blocks 16a as shown. Place layer 1 around the supports coming to rest on stern blocks 16a - pin in place and allow glue to set and ply to dry naturally. Repeat the process for layer 2 P47B - glue the part in place as shown. For layer 3 P47C apply gold paint to the window uprights as shown. Repeat process to shape and fix layer 3 in place as shown. Set the 7 window cut-outs from P47C aside to be used as protective covers later in the build.







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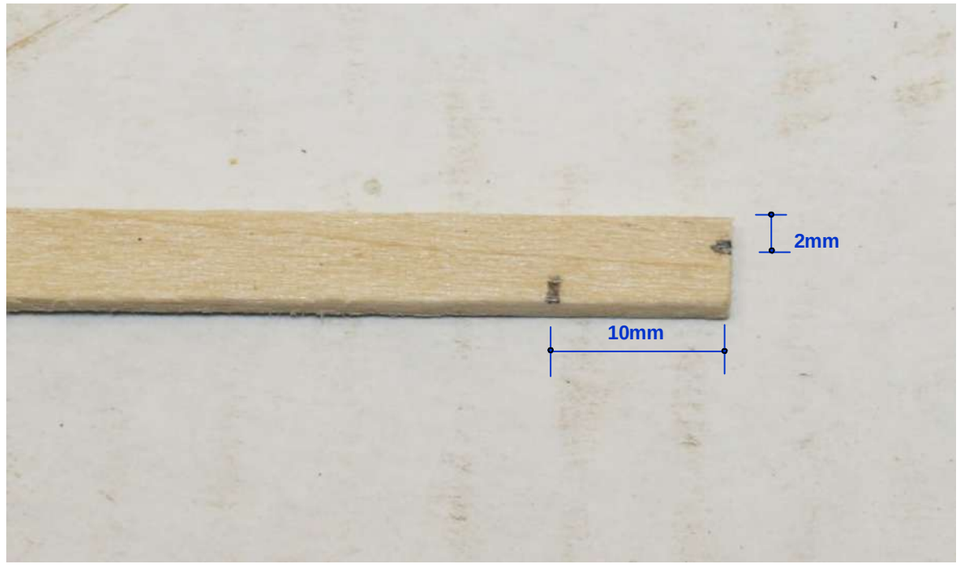
1864
SHEET 29

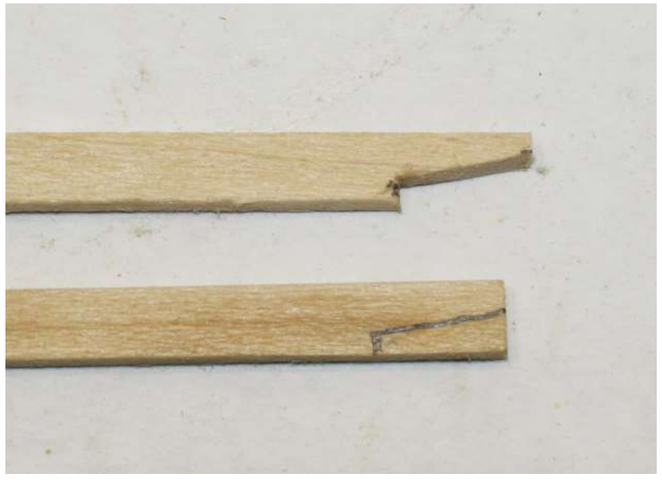
7.0 Hull Planking

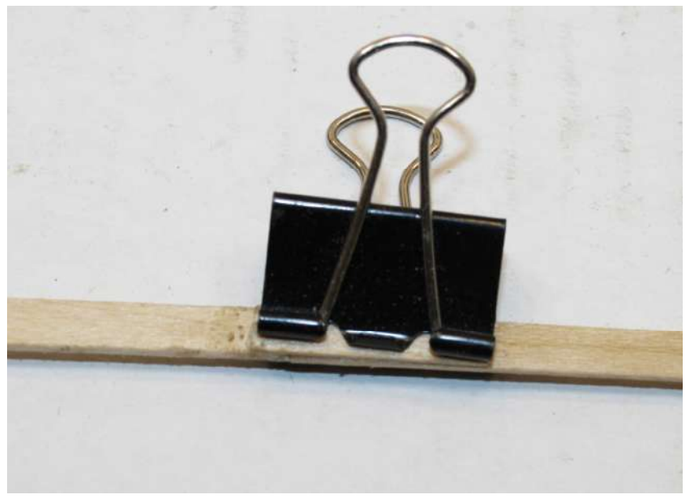
This model kit is for experienced model ship builders and, as such the model builder is expected to be able to apply a range of techniques to complete the hull planking. The hull planking techniques presented in these instructions are but one of many approaches to plank the hull of a wooden model ship.

7.1 Extended Planks

Identify the 2x5x700mm basswood planking P47 and the 2x5x500mm planking P48 - these are to plank the hull. Some planks need to be longer than 700mm - in these cases use a length of P48 by the use of a scarf joint as shown. To create the scarf joint mark one end of a plank with the dimensions as shown. Use a snap blade knife to cut the shape as shown. Duplicate that shape on one end of the extension plank and cut the timber away. Trial fit the two plank ends together - some fractional adjustment may be required using a flat file or sanding board. Once satisfied cut a 25mm length of planking and glue and clamp in position on one side of the joint as shown. Allow glue to fully dry before using the plank. When placing one of these extended planks in position on the hull be sure to position the brace piece between bulkheads. As the planking progresses down the hull stagger the location of the scarf joint along the hull between bulkheads.







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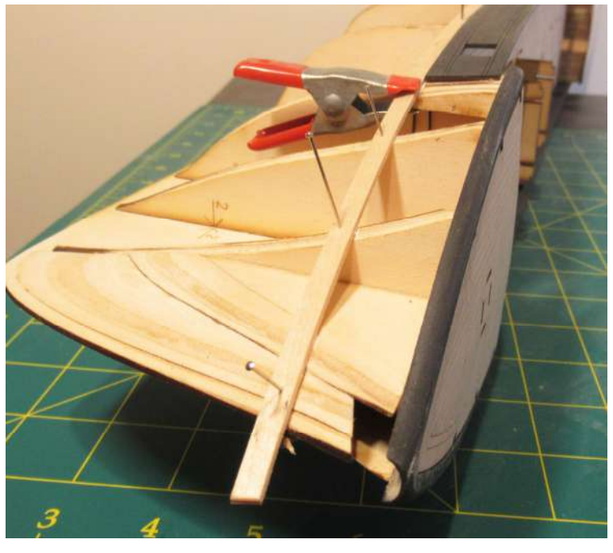
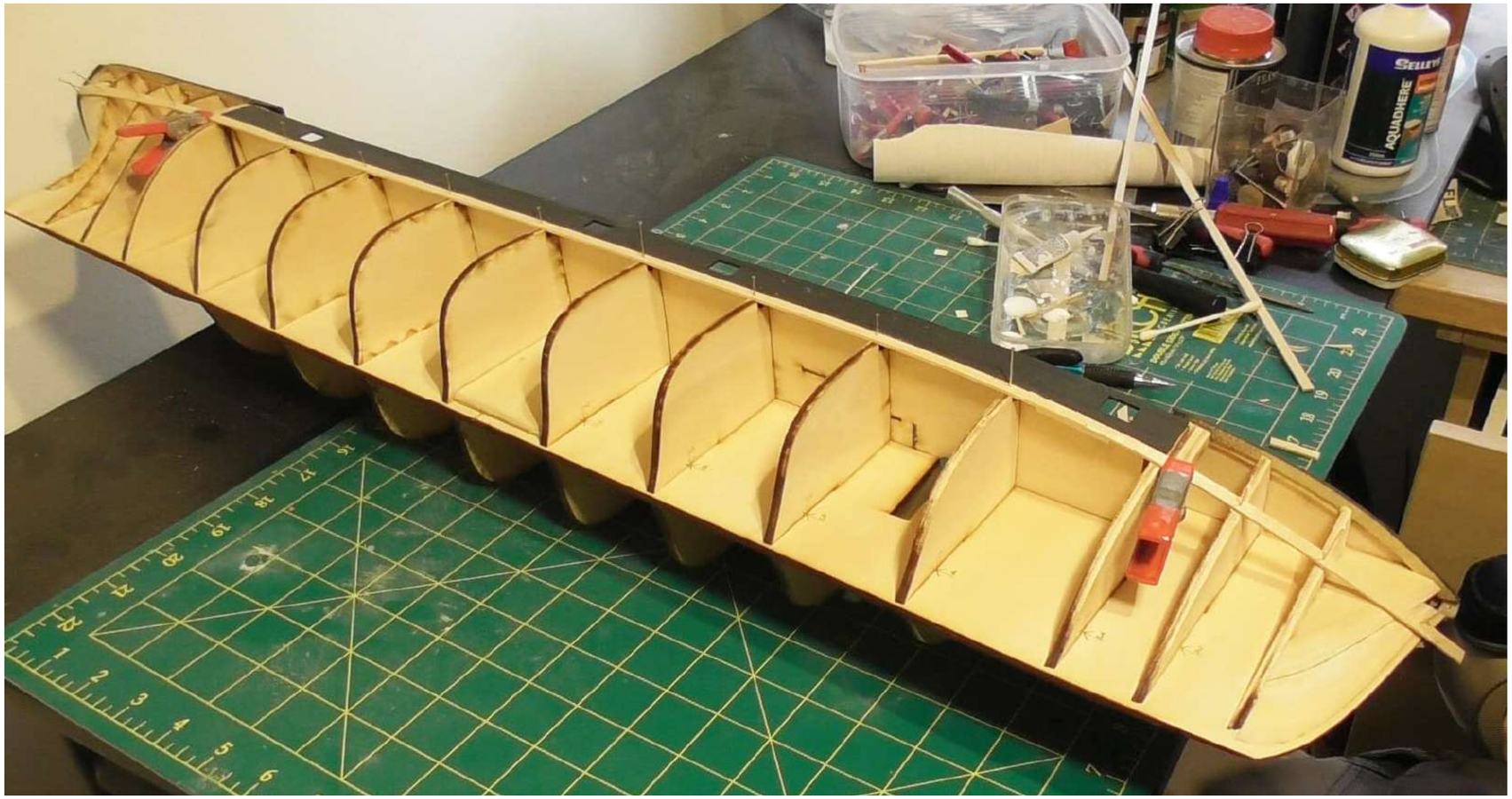
1864
SHEET 30

7.2 First Plank

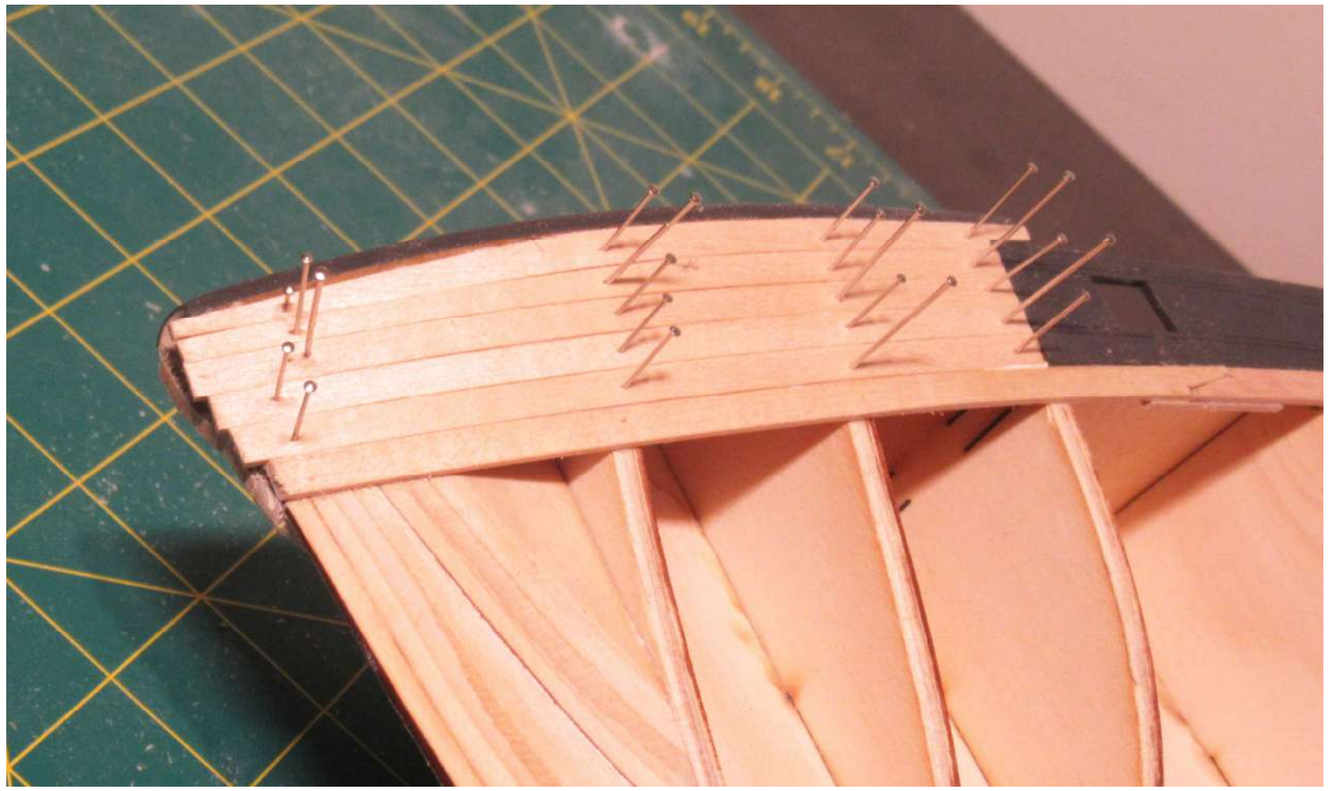
Take an extended plank and trial fit it in place - this first plank is fitted immediately below the bulwark. Temporarily pin the plank in place along the underside of the bulwark. Allow the plank to first run its natural course to the stern - temporarily pin the plank in place - mark where the plank butts under the transom - mark with a pencil the line to shape the plank to fit snugly under the transom. Next allow the plank to run its natural course to the bow - temporarily pin in place. Trim-off any excess plank. Once satisfied remove the plank and shape its stern end. Use a hand held plank bender to lightly bend the plank at the bow crimping across the plank. At the stern crimp the plank across the plank and then at an angle to create a twist in the plank so it fits snugly beneath the transom as shown. Once satisfied remove the plank. Apply glue to the contact points of the plank and to the underside of the bulwark - pin the plank in place as shown. Repeat for the other side of the hull.

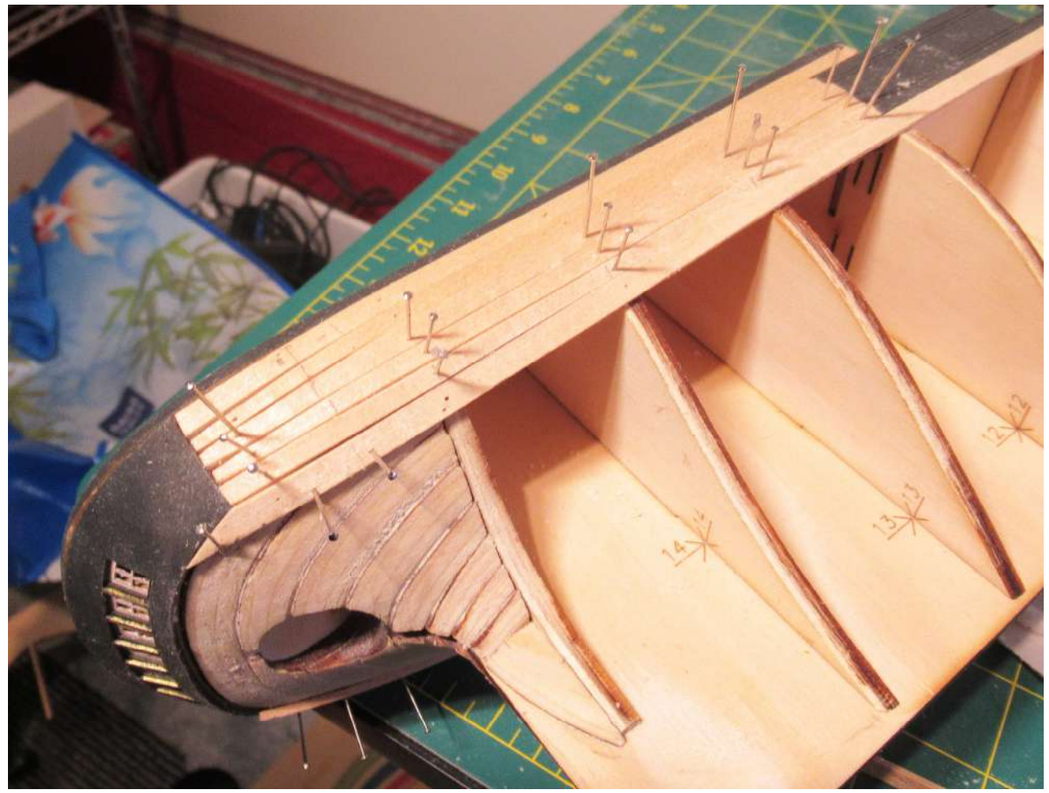




7.3 Planking - above first plank

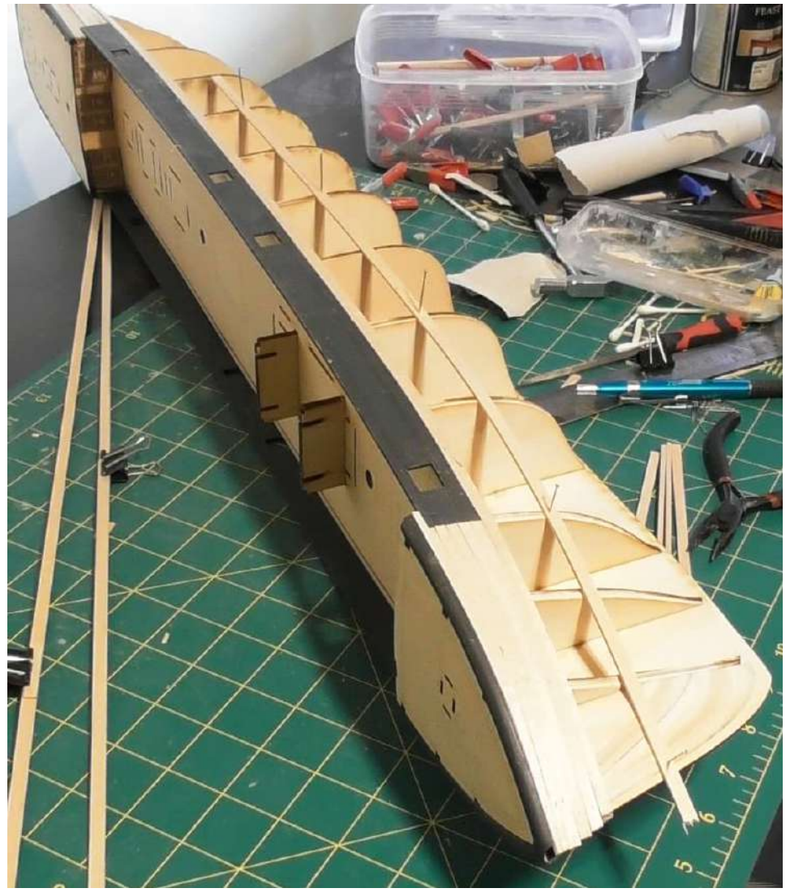
Cut, shape, taper and glue planks in place between the first plank and the forecastle deck edge as shown. Cut, shape, taper and glue planks in place between the first plank and the quarter deck edge as shown. Repeat for the other side on the hull.





7.4 Planking - Band One

The hull planking will be achieved in bands. Cut 4 lengths of planking long enough to fit across bulkheads 7 to 9 as shown. Place these lengths across the bulkheads immediately below the first plank fitted. Take a normal length of the planking - pin this plank temporarily in place below this band of 4 planks allowing it to run its normal course to the bow. Measure and record in a table the distances on each bulkhead between the underside of the first plank and the top of the temporary plank. Repeat the process with the temporary plank running its normal course to the stern as shown. The measurements at the mid-ship BHs will be 20mm (4x5mm). The measurements toward the bow will remain at 20mm - meaning these 4 planks will not need to be tapered as they progress towards the bow. However across the stern BHs it can be seen that the gap is widening - meaning a stealer will need to be fitted in the stern planking. Once all measurements have been taken and recorded remove the temporary plank. The following photos of planking within Band 1 will focus on the stern area only as there is no tapering required for the planks at the bow.

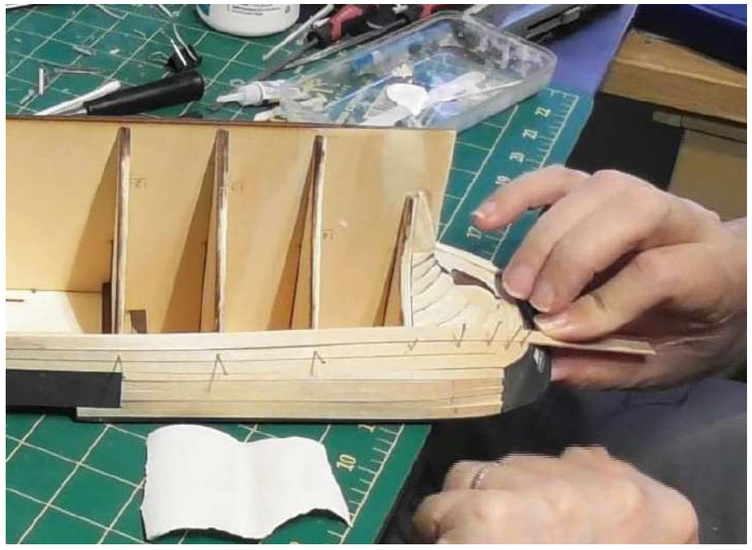


7.4.1 Planking - Band One - Plank 1

Retrieve the 7 window cut-outs from P47C - place each one in place to protect the window frames using tape. Trial fit plank 1 along the hull as shown. Shape the stern end to fit snugly under the transom. Fractionally adjust as required - once satisfied glue and pin the plank in position. Repeat for other side of hull.

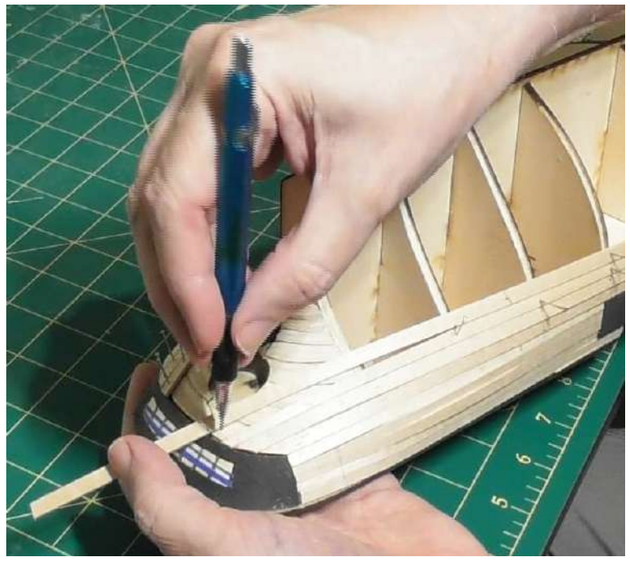
7.4.2 Planking - Band One - Plank 2

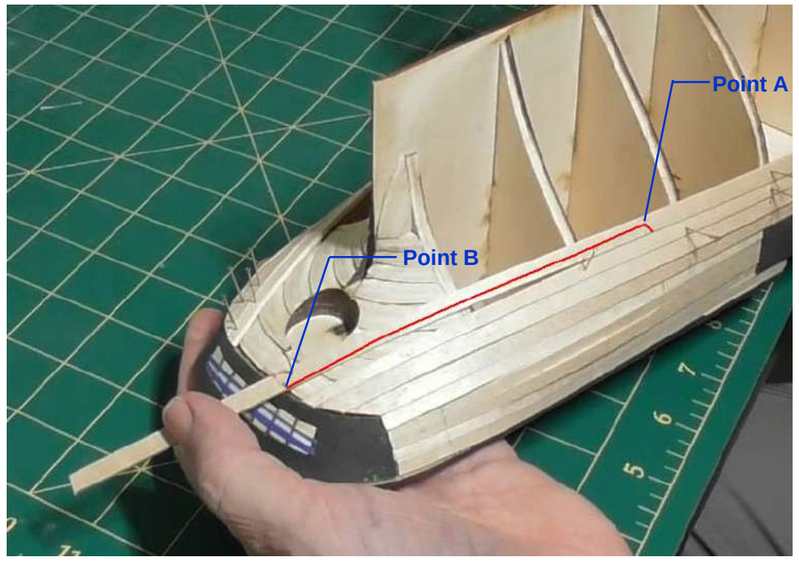
Trial fit the second plank - at the stern the plank may ride over plank 1 by approximately 1mm. Mark on plank 2 where this occurs - remove the plank and trim excess off. Fractionally adjust as required. Shape the stern end to fit snugly under the transom. Fractionally adjust as required - once satisfied glue and pin the plank in position. Repeat for other side of hull.

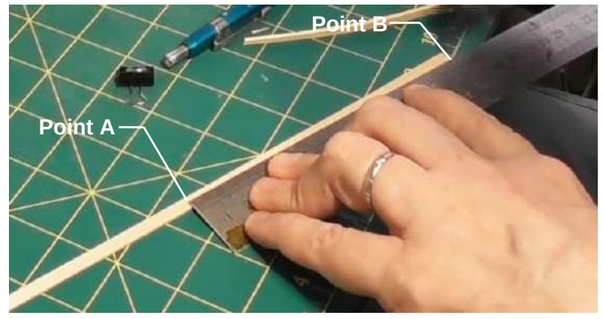


7.4.3 Planking - Band One - Plank 3

Trial fit plank 3 along the hull. Allow the plank to run its natural course - a gap will be created at the stern as shown - a stealer will need to be fitted into this gap. Make the gap 5mm wide - this will allow a full width stealer to be fitted in place. Temporarily pin the plank in place as shown - make a 3mm pencil mark at an angle at point A as shown. Remove the plank and lay it flat on the bench - use a steel rule and pointed blade knife to cut from point A to point B - leaving the plank width at point B 5mm. Completed shaping as shown.







CSS SHENANDOAH
1864
SHEET 34

7.4.3 Planking - Band One - Plank 3 continued
Cut and shape a stealer to fit in place - once satisfied glue and pin in place. Trial fit the reshaped plank 3 in place - fractionally adjust as required. Once satisfied glue and pin in place as shown. Use a rotary grinding tool to remove the plank over hang as shown. Repeat for the other side of the hull

7.4.4 Planking - Band One - Plank 4
Trial fit the plank in place. Once satisfied glue and pin in place. Use a pointed blade to slowly and carefully remove the plank over hang as shown. Repeat for the other side of the hull.

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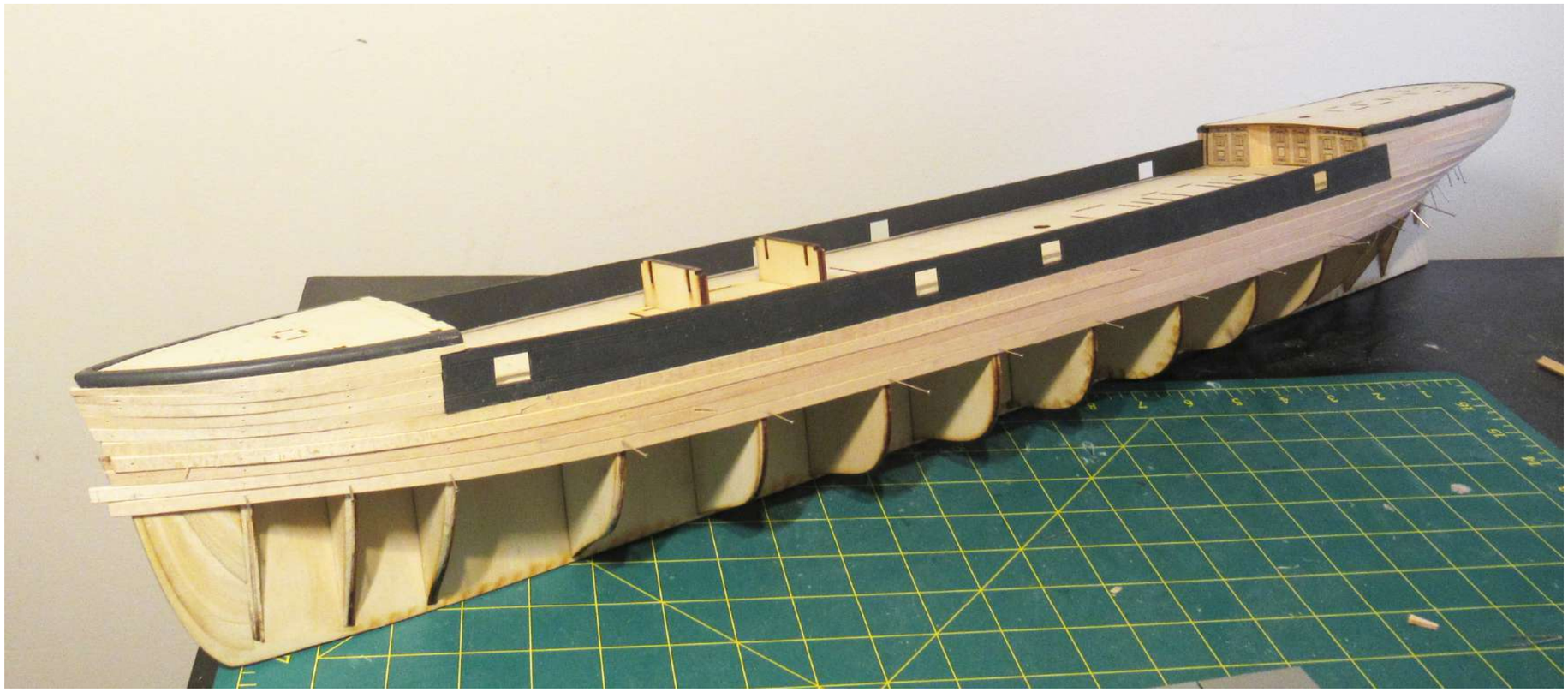
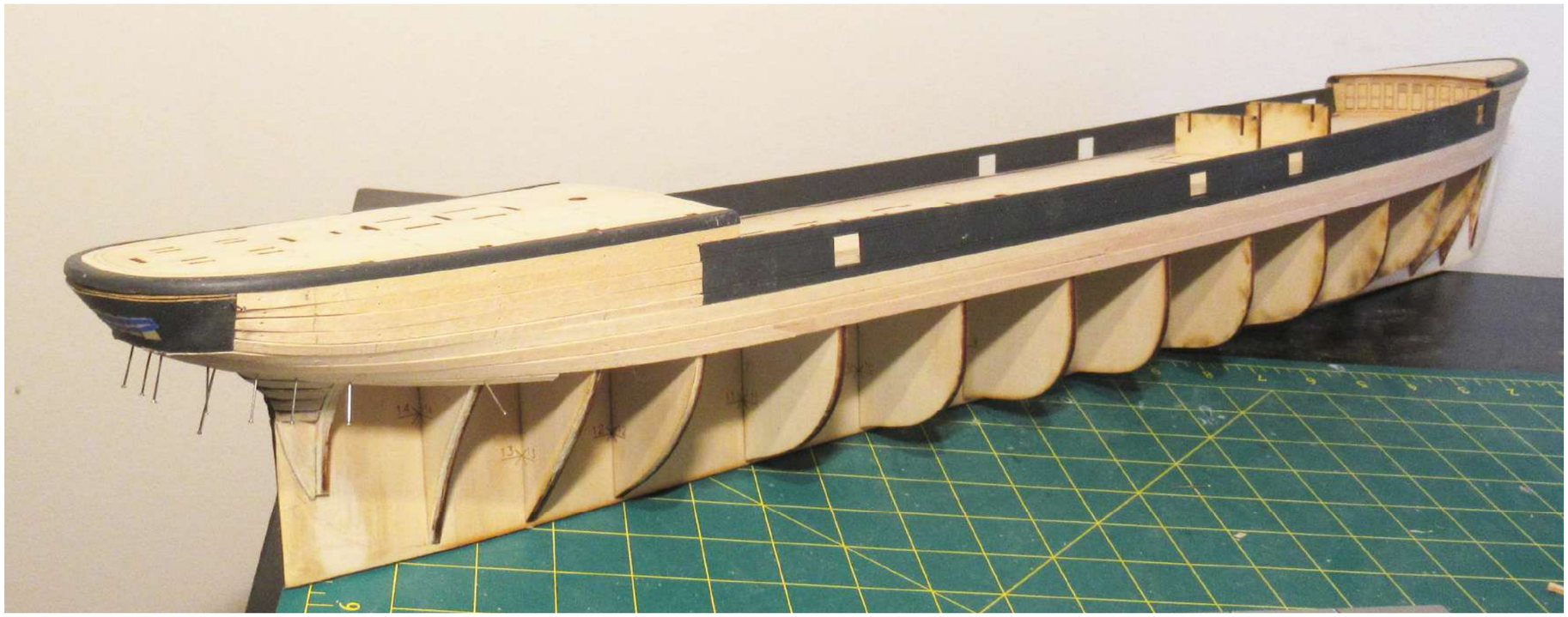
1864
SHEET 35

7.4.5 Planking - Band One - Completed

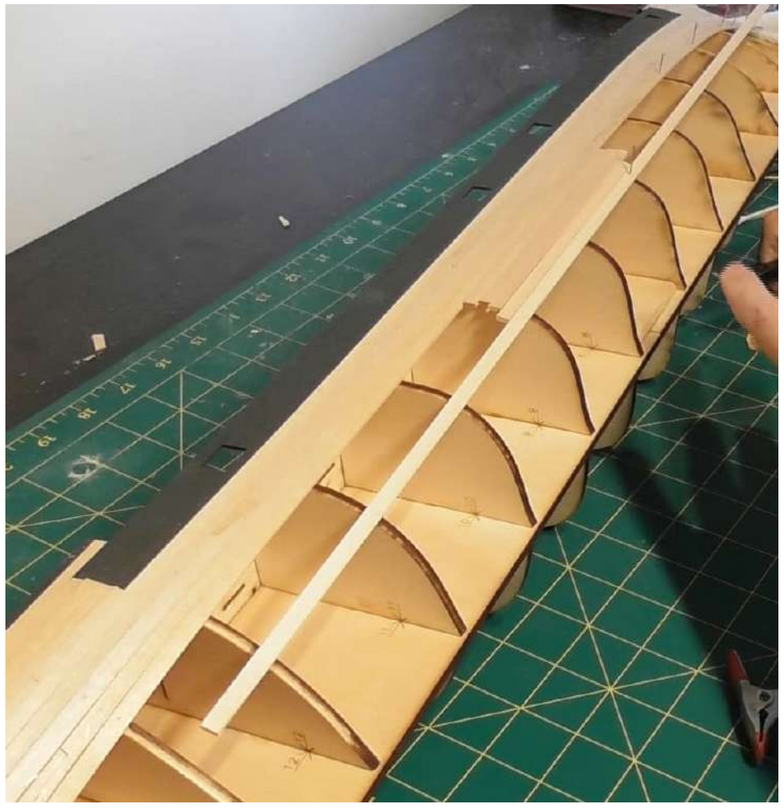


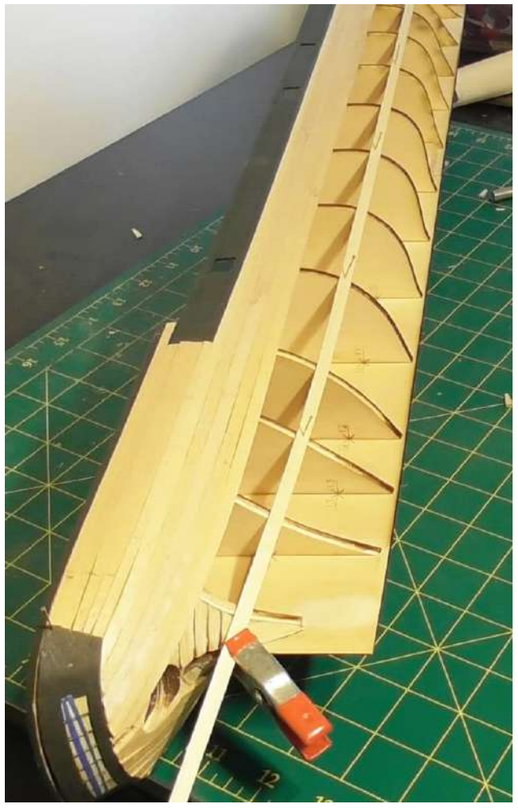


CSS SHENANDOAH
1864
SHEET 36

7.5 Planking - Band Two

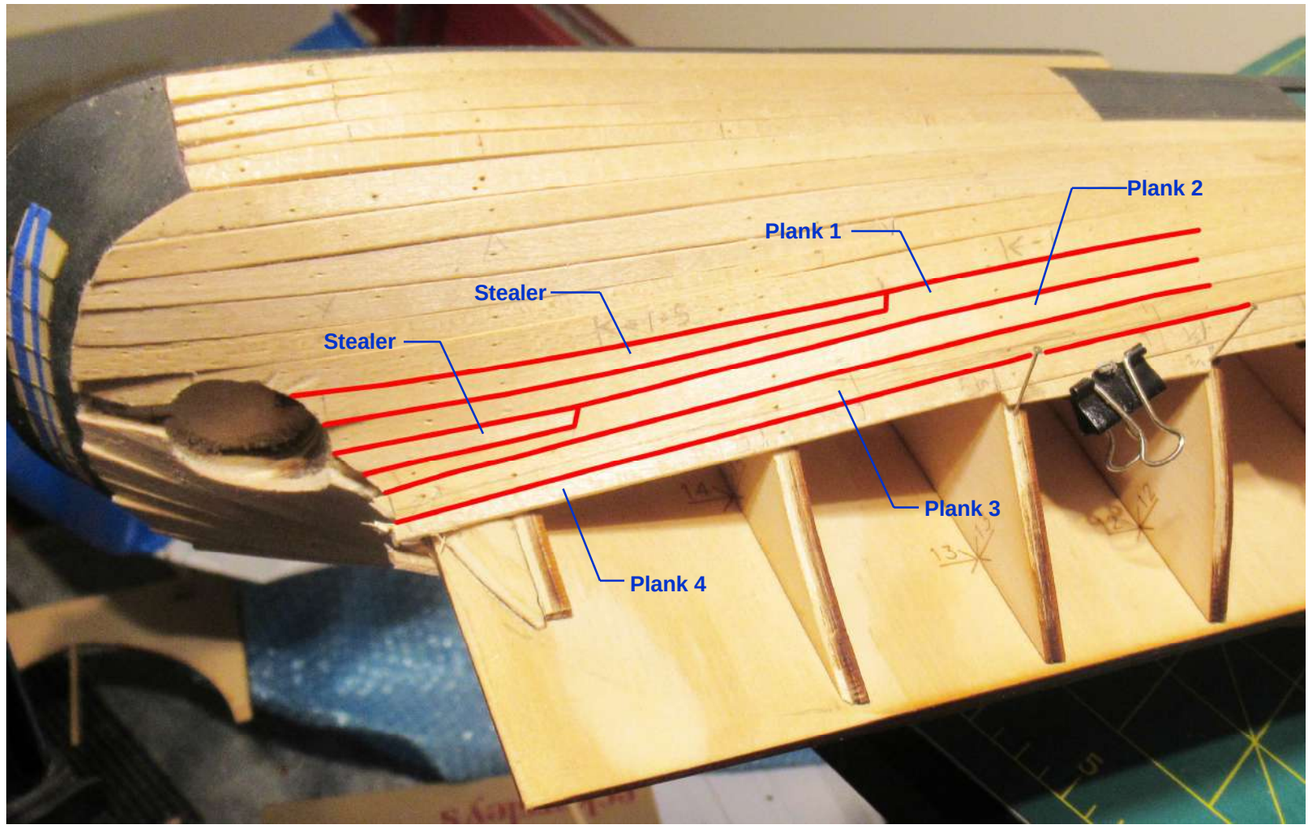
Use the 4 short lengths of planking and place across bulkheads 7 to 9 as shown. Place these lengths across the bulkheads immediately below the last plank fitted. Take a normal length of the planking - pin this plank temporarily in place below this band of 4 planks allowing it to run its normal course to the bow. Measure and record in a table the distances on each bulkhead between the underside of the last plank fitted and the top of the temporary plank. Repeat the process with the temporary plank running its normal course to the stern as shown. The gap reduces both fore & aft - this means there will be the need to taper and shape the planks within this band. The following photos of planking within Band 2 are a guide - the model builder can choose their own planking technique to achieve the same result.

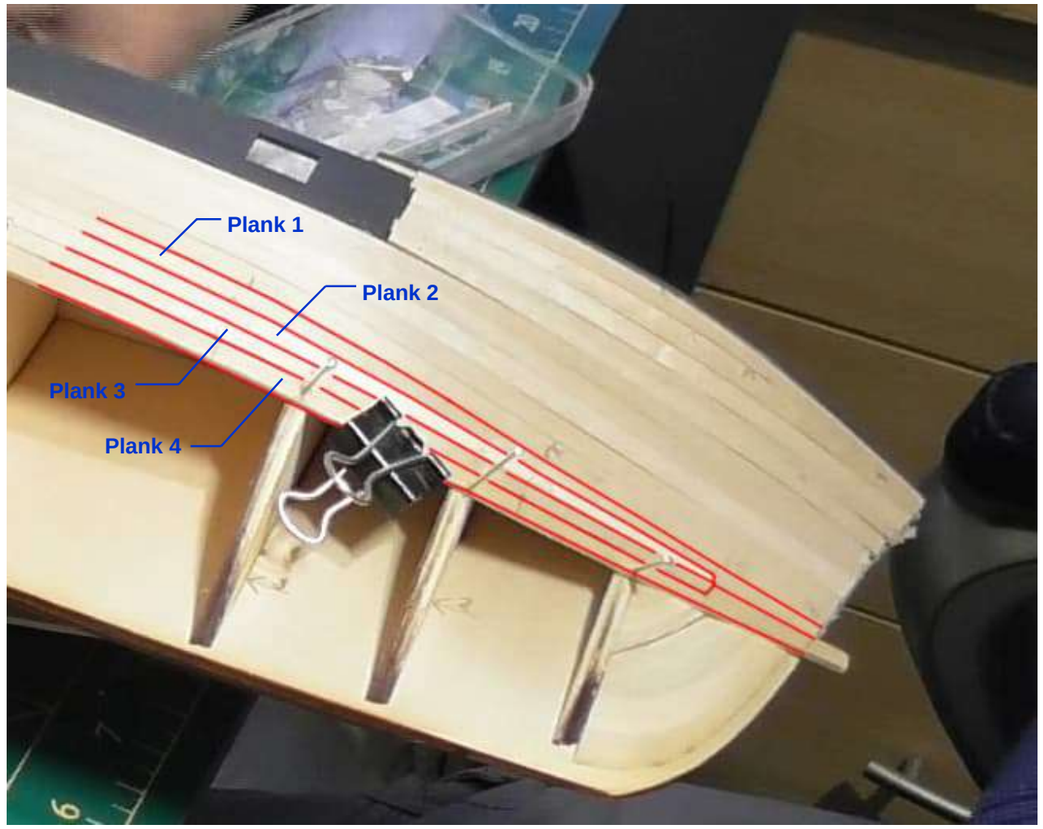




7.5.1 Planking - Band Two - Planks 1 to 4
At the stern trial fit planks - allow the planks to run their natural course - determine where stealers will be required. Cut and shape planks and stealers accordingly.

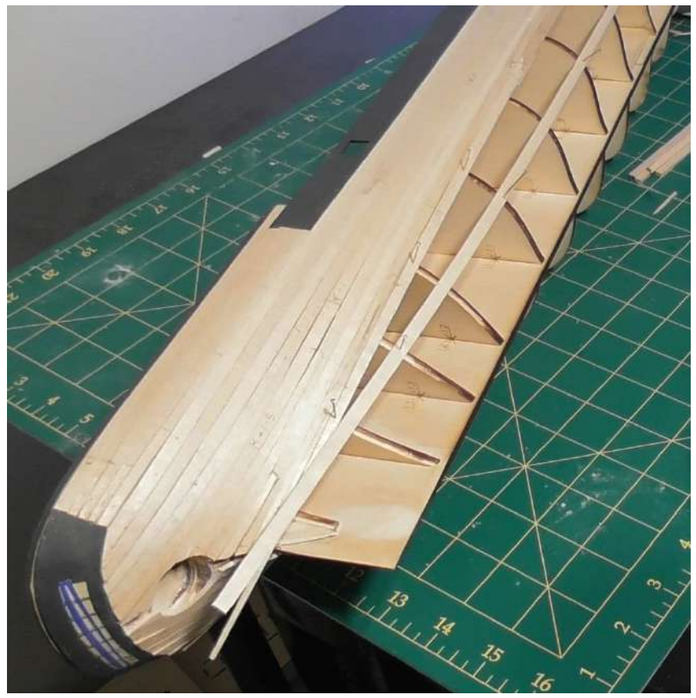
At the bow 4 planks are reduced to 2 - measure and shape the planks accordingly as shown.

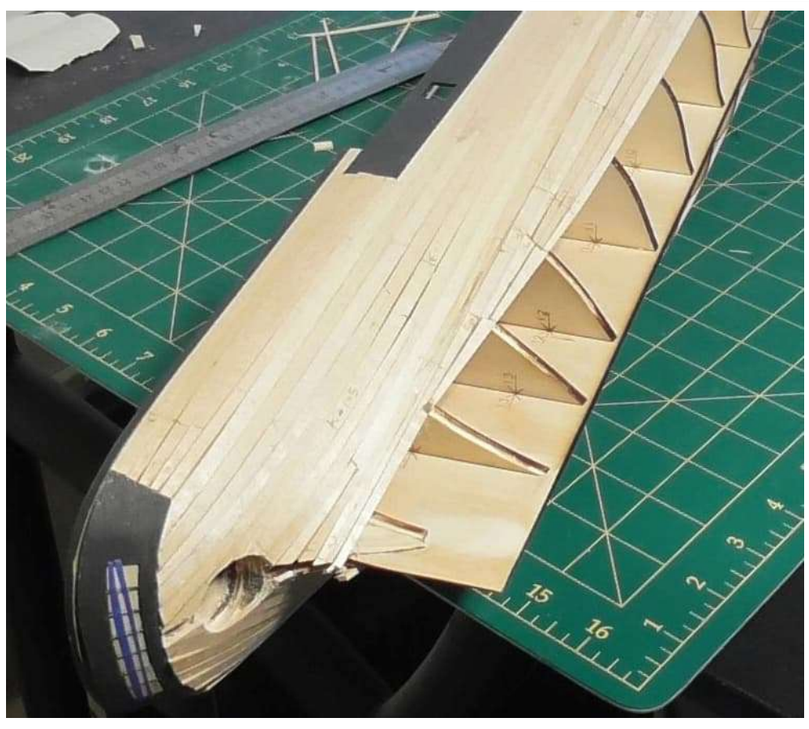




7.6 Planking - Band Three

Use the 4 short lengths of planking and place across bulkheads 7 to 9 as shown. Place these lengths across the bulkheads immediately below the last plank fitted. Take a normal length of the planking - pin this plank temporarily in place below this band of 4 planks allowing it to run its normal course towards the bow. Measure and record in a table the distances on each bulkhead between the underside of the last plank fitted and the top of the temporary plank. Repeat the process with the temporary plank running its normal course towards the stern as shown. Notice the temporary plank does not reach the bow or stern - instead coming to a point intersection with the last plank of band two as shown. Utilise the measurements taken, apply the planking techniques of tapering, reducing 4 planks to 2 and plank joints creating interlocking joints as shown to close band three as shown.





CSS SHENANDOAH
1864
SHEET 39

7.7 Planking - Band Four

Use the 4 short lengths of planking and place across bulkheads 7 to 9 as shown. Place these lengths across the bulkheads immediately below the last plank fitted. Take a normal length of the planking - pin this plank temporarily in place below this band of 4 planks allowing it to run its normal course towards the bow. Measure and record in a table the distances on each bulkhead between the underside of the last plank fitted and the top of the temporary plank. Repeat the process with the temporary plank running its normal course towards the stern. Notice the temporary plank reaches the stern but does not reach the bow - instead coming to a point intersection with the last plank of band three.

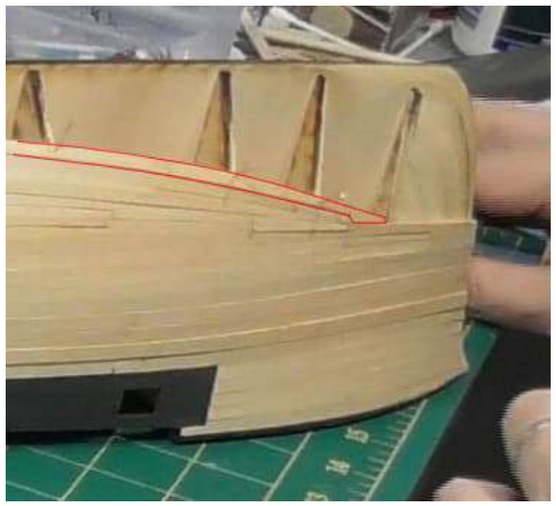
Utilise the measurements taken, apply the planking techniques of tapering, reducing 4 planks to 2 and plank joints creating interlocking joints as shown to close band four.

7.8 Planking - Last Band

Take measurements, apply the planking techniques of tapering, and creating plank joints and interlocking joints as shown to close the band.

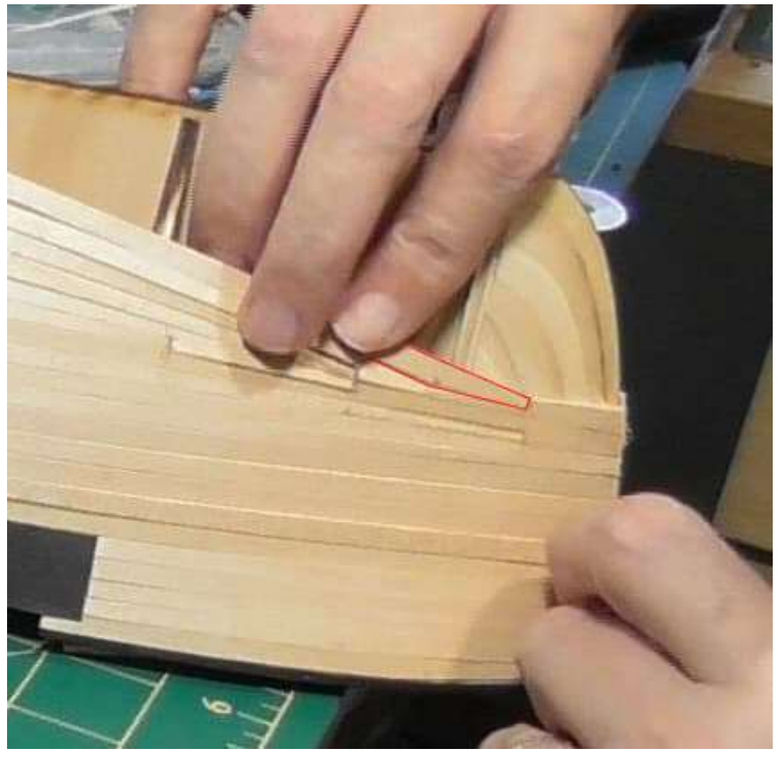
7.8.1 Planking - Last Band First Plank

Fit this plank as shown - note at the stern the plank is allowed to run its natural course. At the bow an interlocking joint is created as shown. Repeat for the other side of the hull.

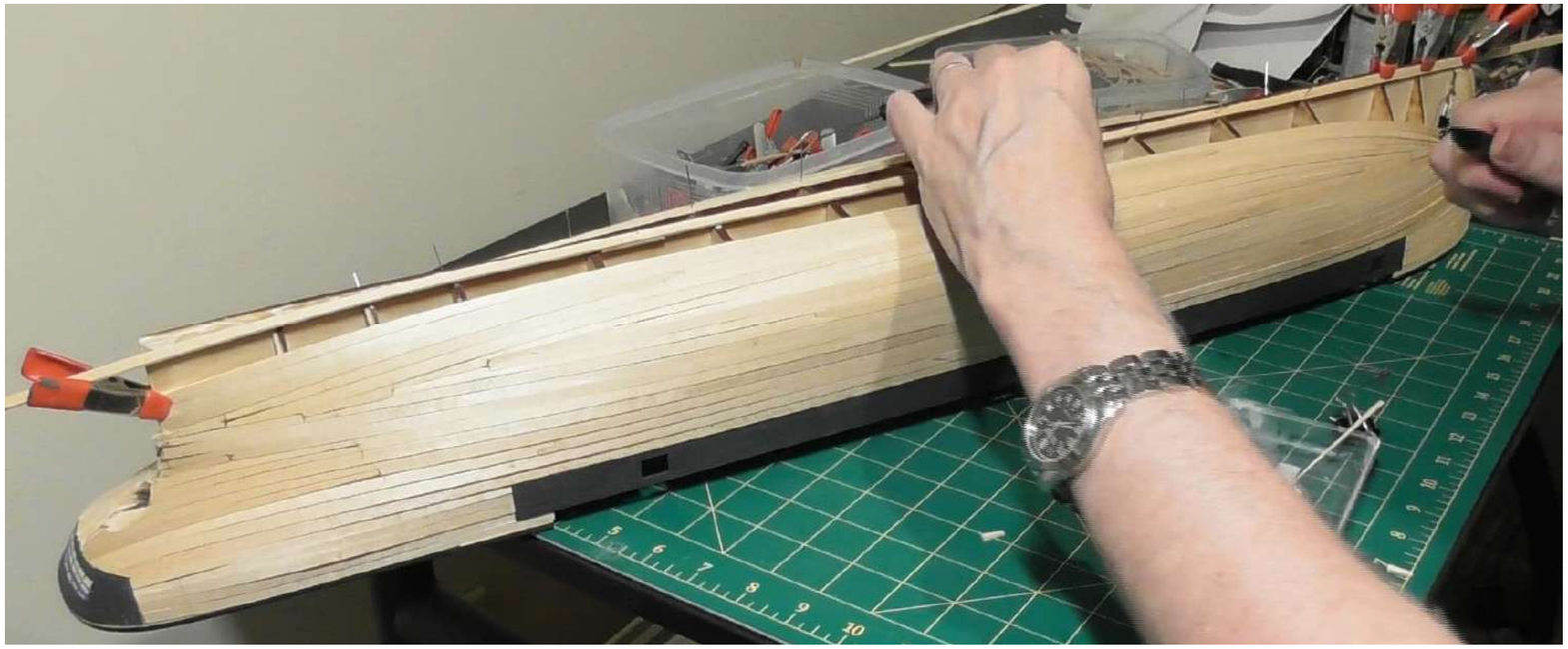


7.8.2 Planking - Last Band - Second Plank

Fit a wedge at the bow as shown. Lay a plank along the hull allowing it to run its natural course to the bow as shown - mark when it overlaps with the wedge. Remove the overlap area in the wedge. Shape the bow end of the plank to fit into this area as shown - fractionally adjust as required. Glue and pin the plank in place along the length of the hull - allow the plank to follow its natural course to the stern. Repeat for the other side of the hull



7.8.3 Planking - Last Band - Third Plank
This plank is the garboard plank - it is fitted along the length of the hull immediately adjacent to the base of the keel. Glue, pin and clamp the plank in place as shown. Repeat for the other side of the hull.

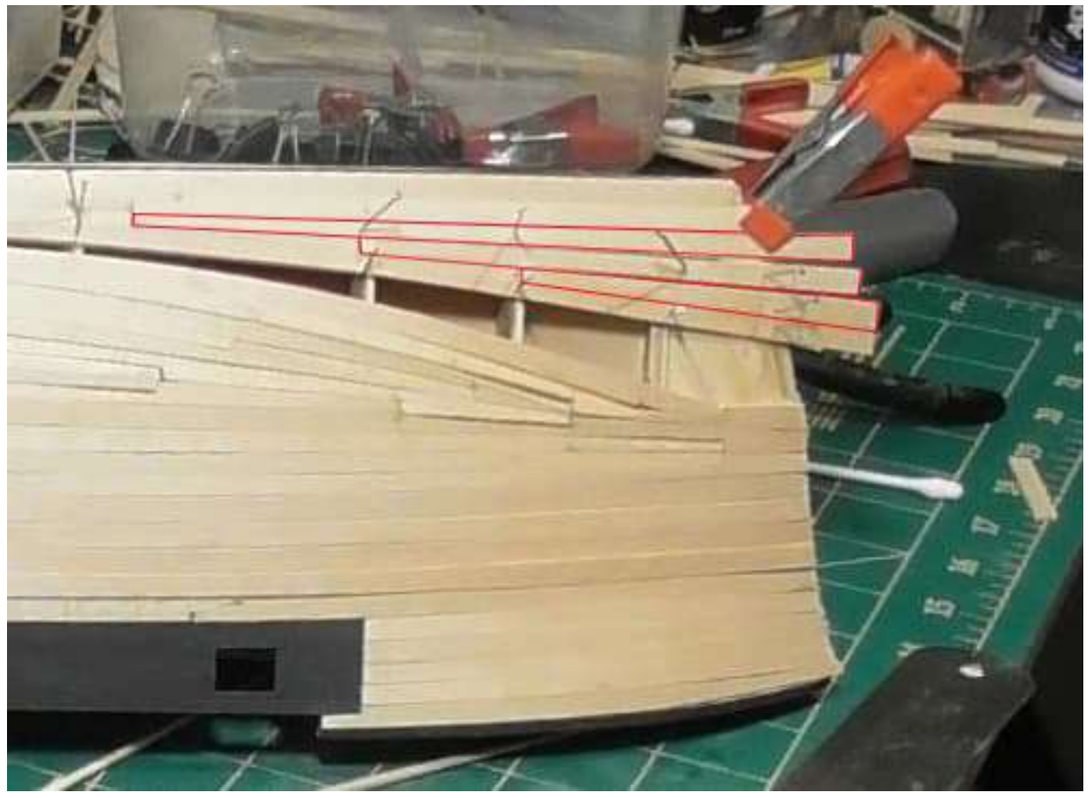


7.8.3 Planking - Last Band - Fourth Plank

As can be seen the gap at the bow is wide - progressing along the hull the gap narrows before becoming wide again at the stern. Take measurements, apply the planking techniques of creating wedge joints along the plank as shown. The 4th plank will require a wedge to be fitted at the stern as shown. Notice a wedge joint has been made further along the plank - see the following sheet. At the bow the plank is fitted immediately below the garboard plank as shown.

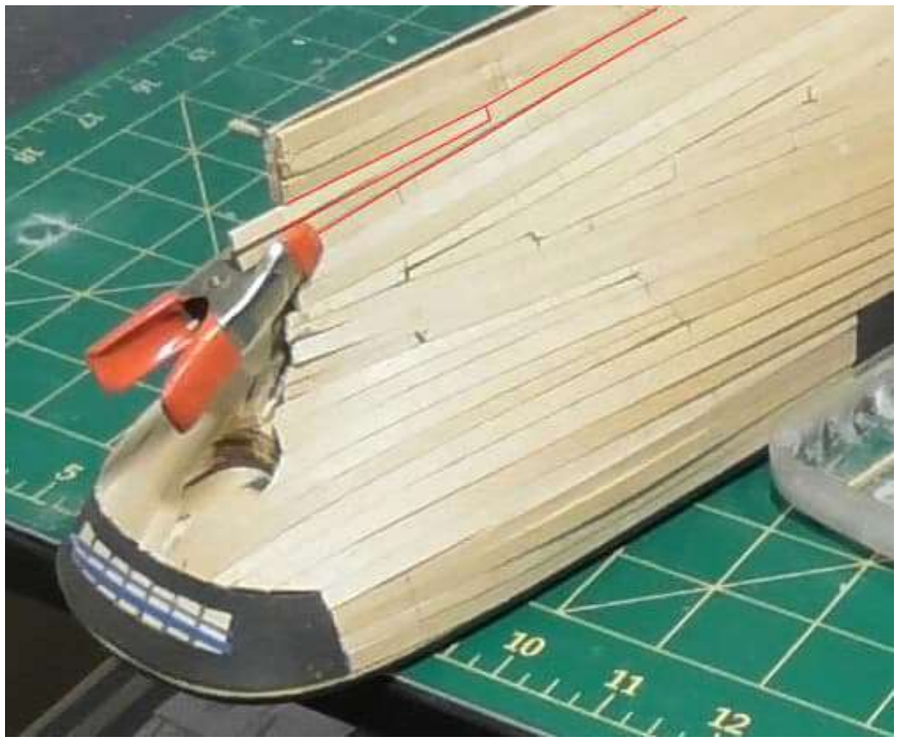
7.8.3 Planking - Last Band - Fourth Plank continued

The continuation of the 4th plank is shown from the wedge joint - taper the plank to meet the wedge joint to the full plank width at the bow. Allow the plank to run its natural course towards the bow as shown. Once satisfied glue and pin the plank in place. To fill this gap shape and fit wedges in place as shown.



7.8.3 Planking - Last Band - Close the band

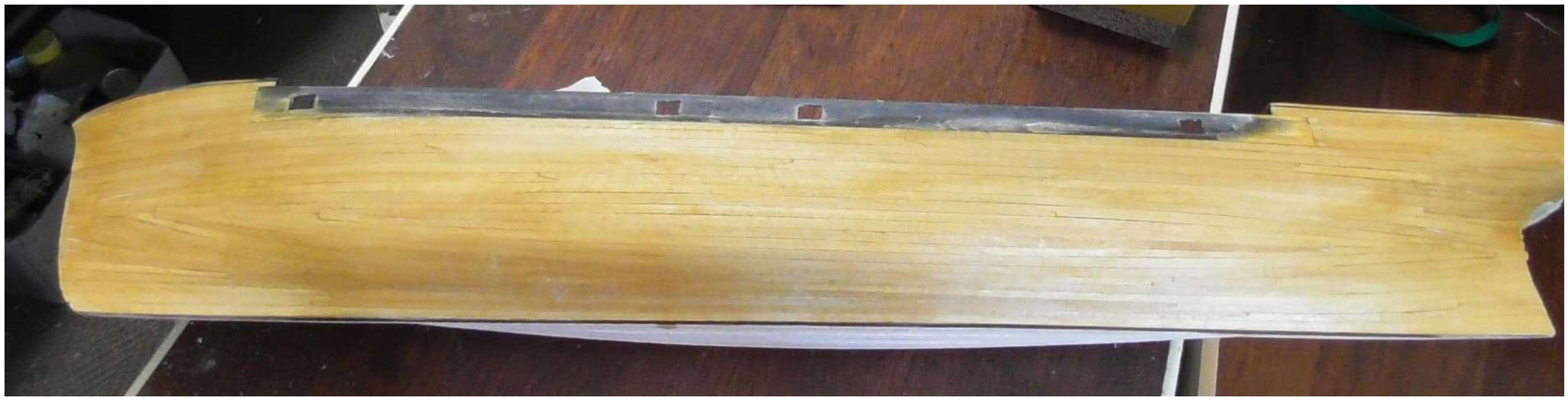
The remaining gap is closed by trial fitting a plank along the hull - there maybe the need to fractionally adjust the width of the gap mid-ship to fit the plank in place. At the stern shape and fit a wedge to close the band. At the bow shape and fit a number of wedges to close the band. Once satisfied glue, clamp and pin the plank and wedges in place. Repeat for the other side of the hull.



CSS SHENANDOAH
1864
SHEET 45

7.9 Sanding the Hull

Take the hull to a well ventilated area and using a medium and fine grade sanding blocks sand the hull until it is completely smooth. Fill any minor gaps with a mixture of sanding dust and white wood glue - once dry sand again. Use a small piece of sandpaper to reach any hard to access areas on the hull. Take your time in this process to achieve a good result. Next apply shellac (French Polish) to the hull - allow to dry and then review the hull. The shellac will reveal any small remaining imperfections - use fine grade sandpaper to address these imperfections.



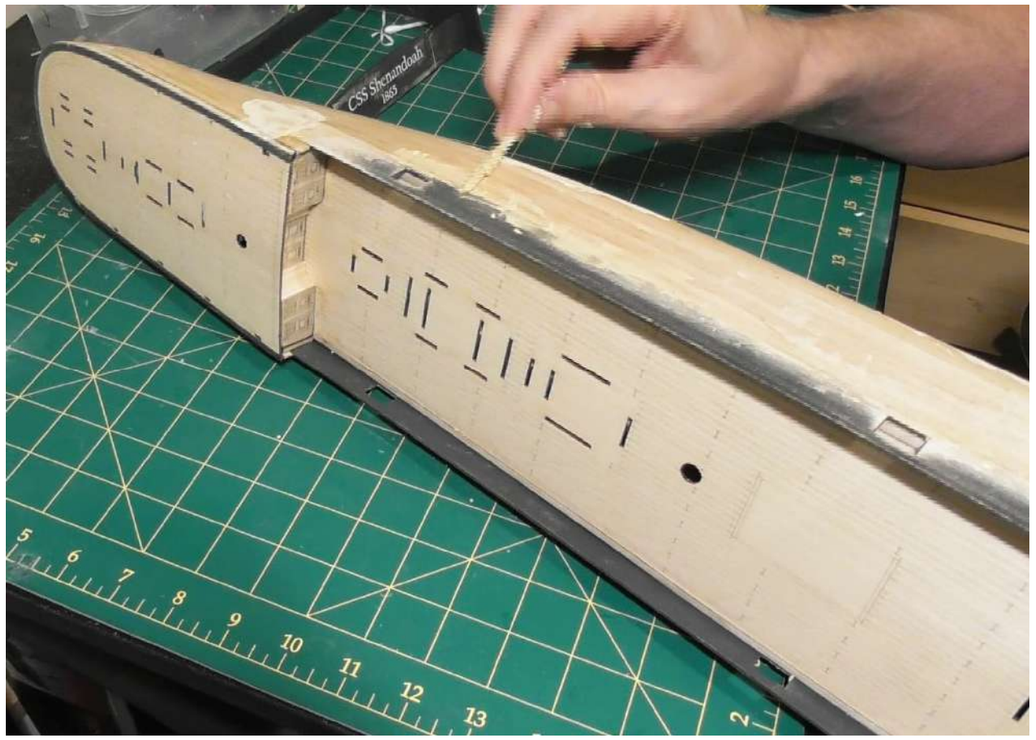
7.9 Sanding the Hull continued

Continue to sand the hull - the stripes of shellac indicate the planks are a little uneven - as you continue to sand the stripe of shellac will be removed and there will be a smooth transition across the planks. Take your time with this process. Continually review the hull to identify any remaining shellac.

Remember in the deadwood area to gradually reduce the plank thickness so there is a smooth transition from the planks to the stern post thickness of 4mm.

7.9 Sanding the Hull continued

Using a water based wood filler - mix with some water to form a soft paste - apply this paste to parts of the hull to fill any gaps and to achieve a smooth transition across all the planks. Keep working the paste into the hull as shown. Once satisfied allow the paste to fully dry - then in a well ventilated area sand the hull fully again.



7.10 Stem Post, Stern Post and Keel

Identify the stem post P50, stern post P51 and the keel parts P52A and P52B. Trial fit the parts in place - ensure the slots for each parts are clear of any glue residue. Once satisfied glue and pin the stem post in place as shown - drill a few 0.8mm holes in the stem post and use map pins to hold it in place while the glue sets then remove map pins. Glue and clamp in place the stern post as shown. Starting from the stem post glue and pin in place the keel P52A followed by P52B. Once all the parts are fixed in place use wood filler to fill any gaps. Lightly sand the parts. Make sure there is a smooth transition from the planking to the stem post and to the stern post.

7.11 Bowsprit Hole

Insert a length of 8mm dowel into the bowsprit hole as shown to make sure the hole is clear of any impediment.

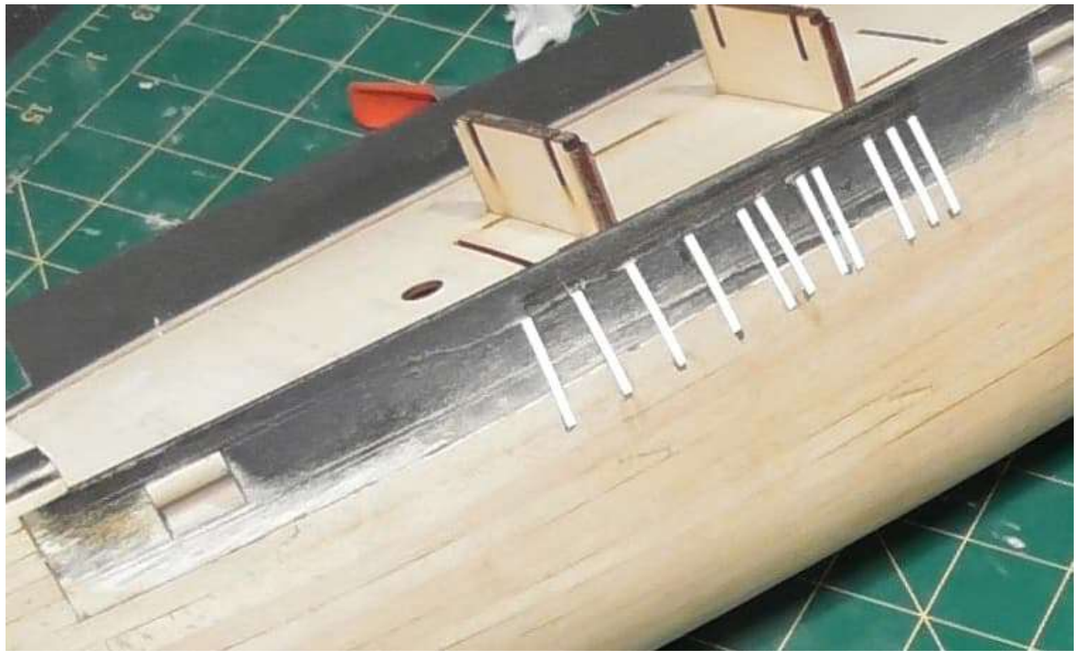
7.12 Transom Detail

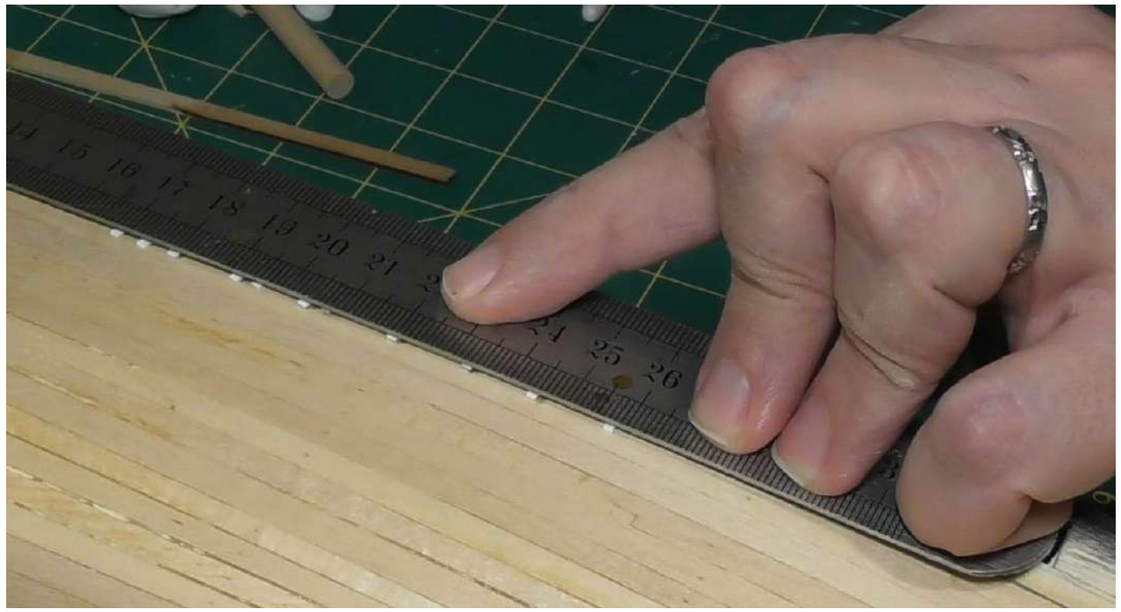
Identify the transom detail P53 - briefly insert into a container of hot water - remove and glue in place as shown - tape may be needed to hold the edges in place while the get sets.

CSS SHENANDOAH
1864
SHEET 49

7.13 Deadeye Straps

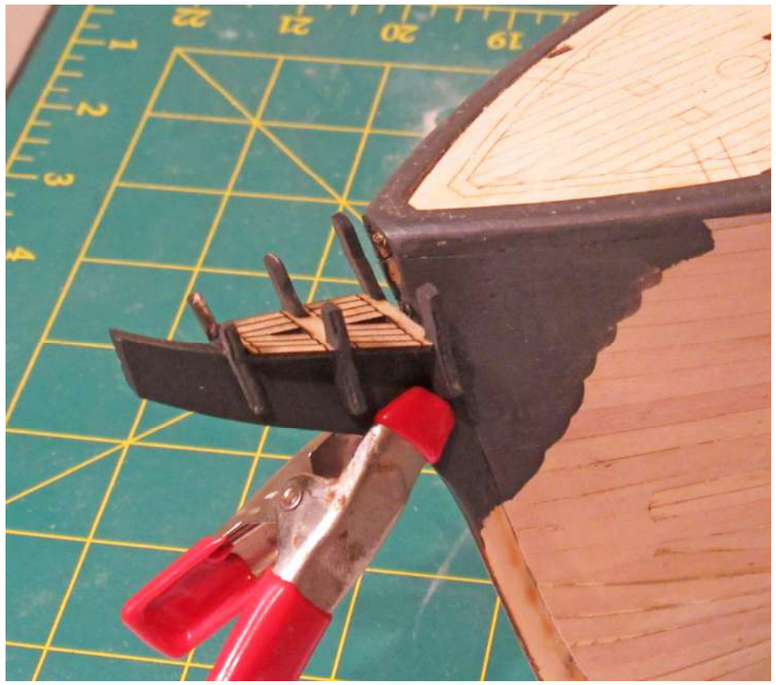
Identify the deadeye straps for the main and fore masts P54. Cut at the score lines 48 x 22mm lengths. On the bulwark see the score lines for the straps. Highlight these score lines with a pencil as shown. Take a length of batten strip P25A - starting with the foremast straps clamp the strip in place along the underside of the top edge of the two gun ports as shown. Glue in place the cut straps immediately below the strip and following the score lines as shown. Identify on the hull the bottom of the first plank fitted - pencil mark as shown. Align a metal rule with these lines and use a knife to trim the excess strap length as shown. Repeat for the other side of the hull.





7.13 Deadeye Straps continued
Apply the same approach for the main mast straps as shown. Repeat for the other side of the hull.

7.14 Head trusses and Head Floor
Paint the bow area matt black as shown. Identify the Head trusses P55A-C - notice the fairing score line - shape each truss accordingly. Paint the trusses matt black as shown. Trial fit the trusses in place - fractionally adjust as required - once satisfied glue in place as shown. Identify the Head floor P56 - trial fit and fractionally adjust as required - once satisfied glue in place across the base of the trusses.

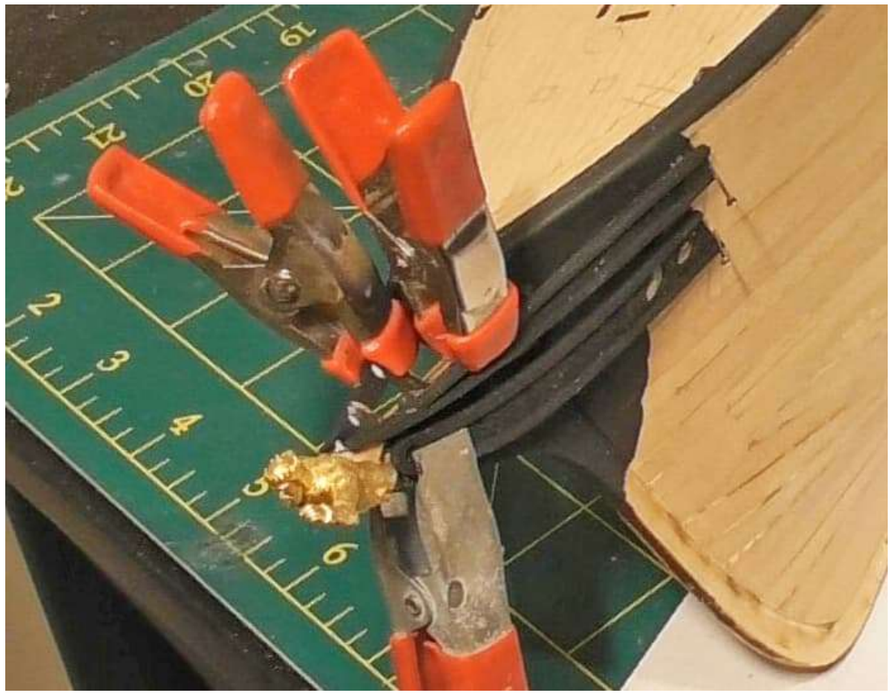


7.15 Head board and Trail board

Identify the head board P57 and head board trim P58. Glue the trim in place onto the board as shown. Identify the trail board P59 and trail board trim P60.Glue the trim in place onto the board as shown. Paint both assembled boards matt charcoal black as shown.

7.16 Sea King figurehead, Head board and Trail board

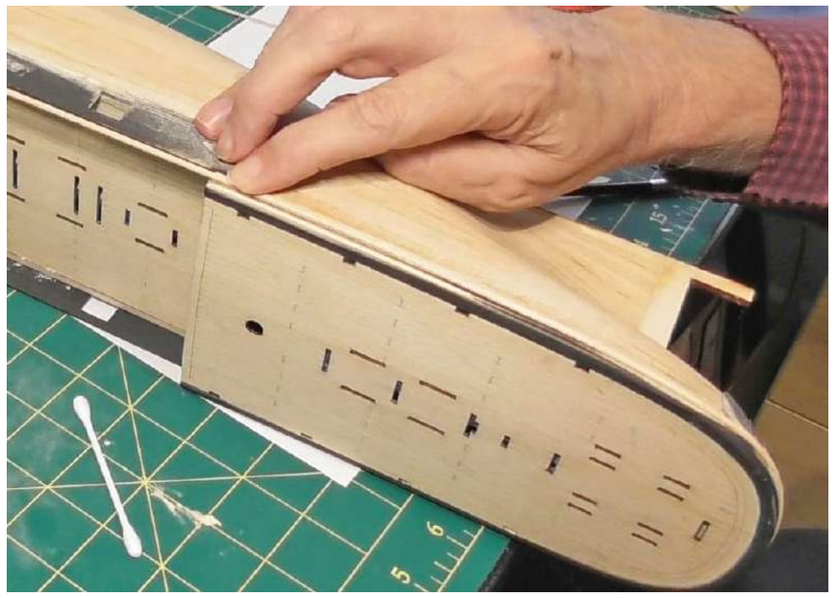
Identify the Sea King figurehead P61 - temporarily fit in place - glue packing pieces in place if needed. Trial fit the assembled head board in place - the board fits from the top back of the figurehead and the top edge rests across the top of the head trusses as shown - fractionally adjust as required - glue in place once satisfied. Trial fit the assembled trial head board in place - the bottom edge of the board rests across the lower edge of the head trusses as shown - fractionally adjust as required - before gluing in place mark the hawse holes - remove the trail board and drill the holes - once finished glue the trail board in place as shown. Remove the figurehead and store safely for fitting later.

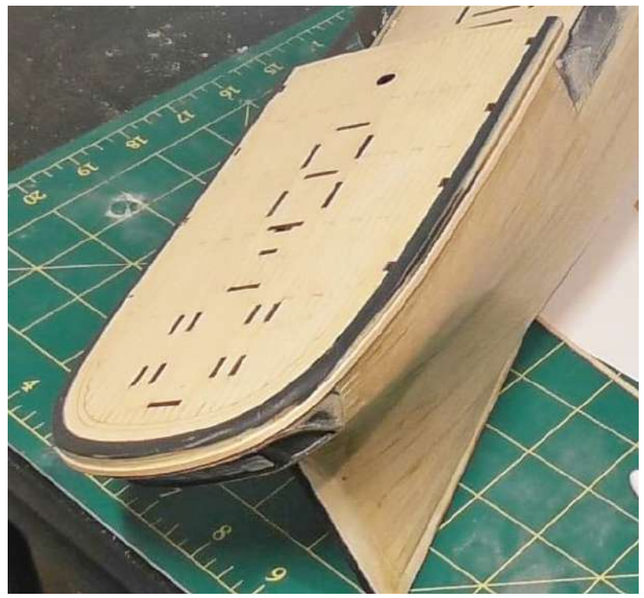


8.0 Battens

8.1 Quarter Deck Batten

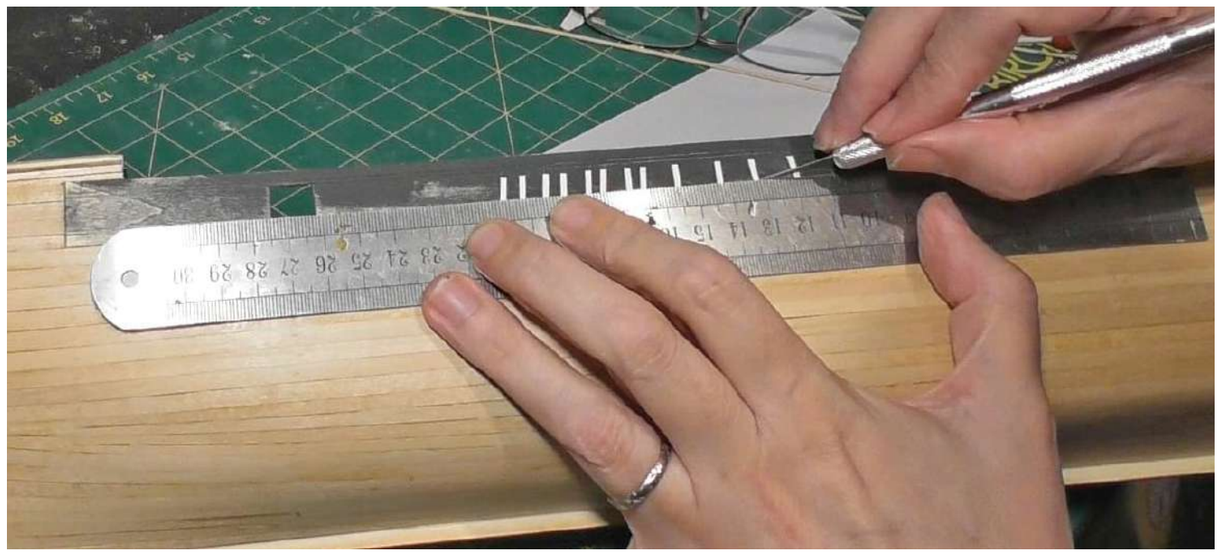
Take a length of batten strip P25A as a batten - using a cyanoacrylate (super glue) start at the forward edge of the top plank of the quarter deck - immediately below the quarter deck base rail - slowly and carefully glue stitch the strip around the top edge of the quarter deck as shown. Trim-off excess strip.





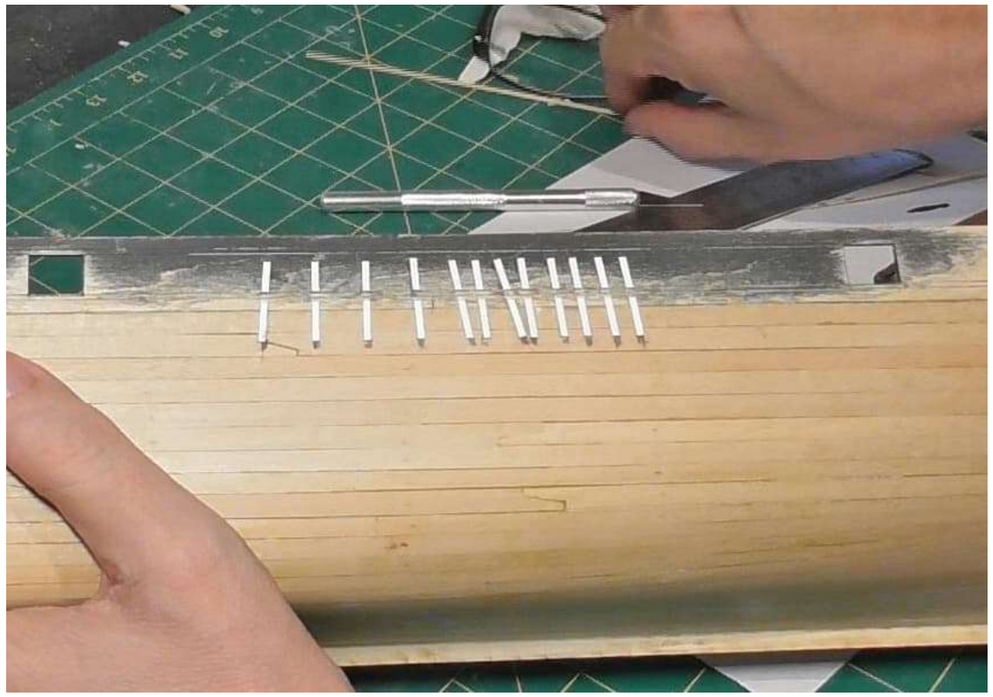
8.2 Lower Hull Battens

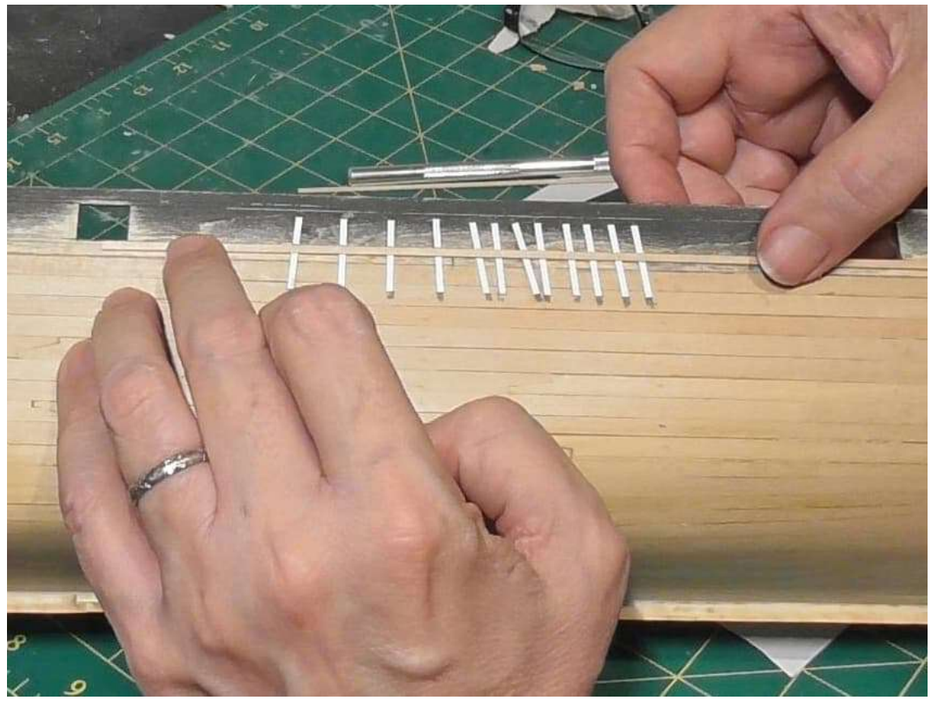
Starting with the foremast straps align a steel rule along the bottom edges of the gunports - following the score line of the bulwark. Use a pointed blade knife to slowly and carefully cut through each of the straps. Next move the rule down to the next score line and again cut through the straps.

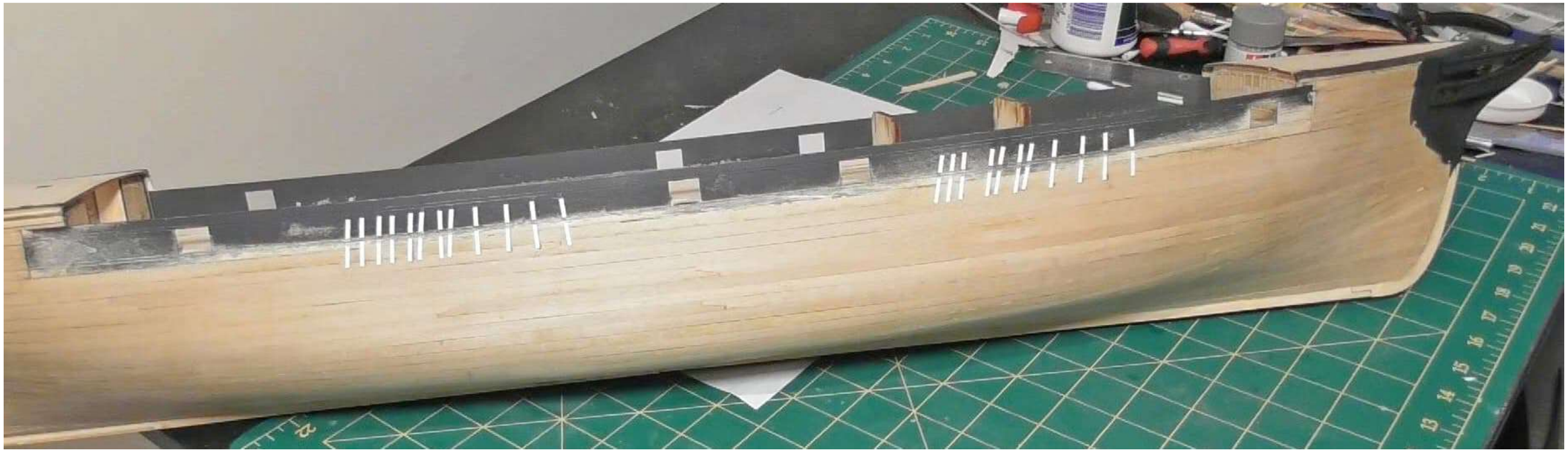


8.2 Lower Hull Battens continued

Once the two cuts on each strap are complete remove the strap pieces as shown. Trial fit a length of batten strip P25A in the gap. Fractionally adjust the gap as required. Repeat for the main mast and then the other side of the hull.







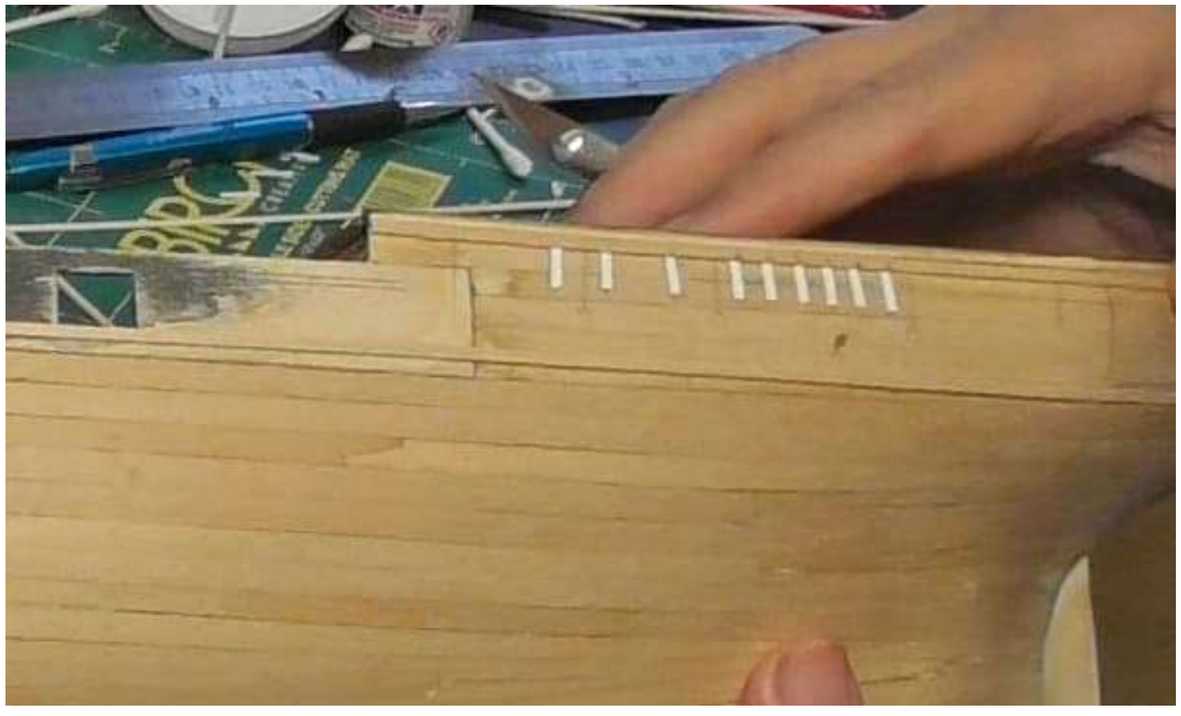
8.2 Lower Hull Battens continued and Forecastle Deck Battens

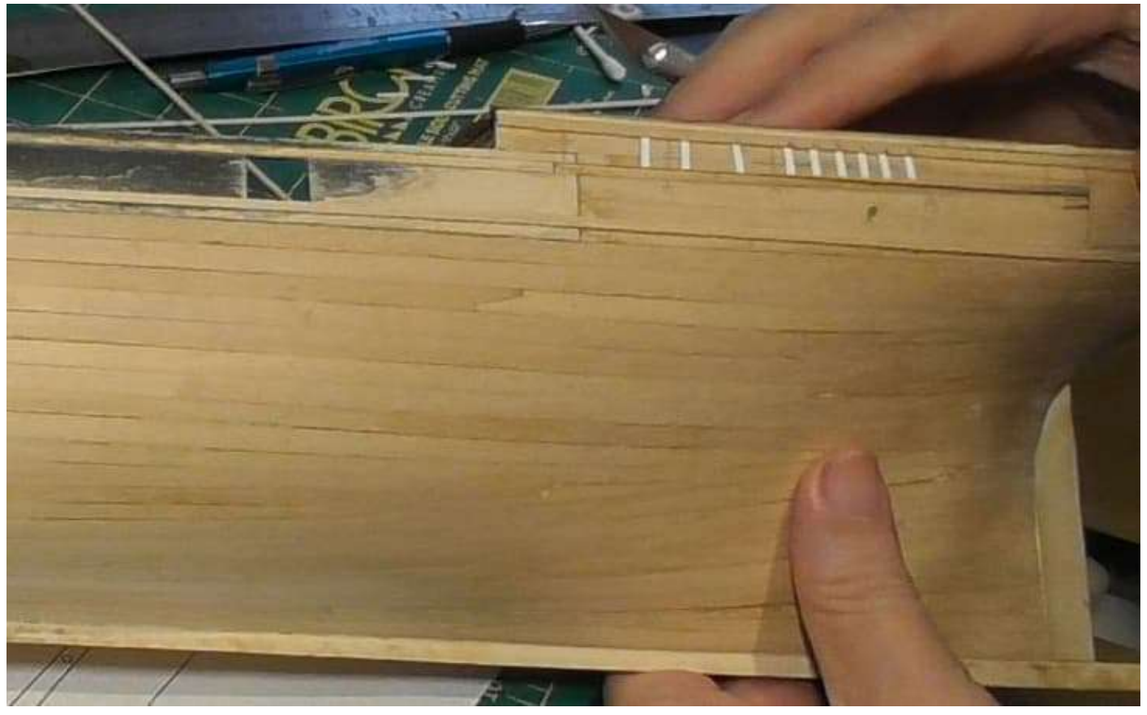
Take lengths of batten strips P25A. Using a cyanoacrylate (super glue) start at the top edge of the trail board - slowly and carefully glue stitch the strip along the hull aligning with the base of the gunports and passing through the gap in the straps as shown - finishing at the lower corner of the transom as shown. Note: There will be the need to joint lengths of the batten strips to complete the run along the hull. Cut and glue in place a length of batten strip P25A to run along the lower edge of the forecastle deck rail base as shown - repeat for the other side. Identify the fairleads P74 - glue each in place 15mm from the end to the forecastle deck batten as shown.

CSS SHENANDOAH
1864
SHEET 55

8.3 Mizzen Mast Deadeye straps

Identify the mizzen mast D/E strap and quarter deck port hole template P62 Sheet 128. Cut-out the template and place starboard template immediately below the quarter deck batten and aligned with the forward edge of the cabins as shown. Mark the location of the straps above and below template - also mark the location of the portholes. Identify the mizzen D/E straps P63 - cut to length using the score lines. Glue the straps in place as shown. Align a length of batten strip P25A along the top edge of the gunports - allow the plank to run its course along the hull as shown - clamp in place - allow to run over the mizzen mast straps as shown - use pointed blade knife to trim excess length of straps.

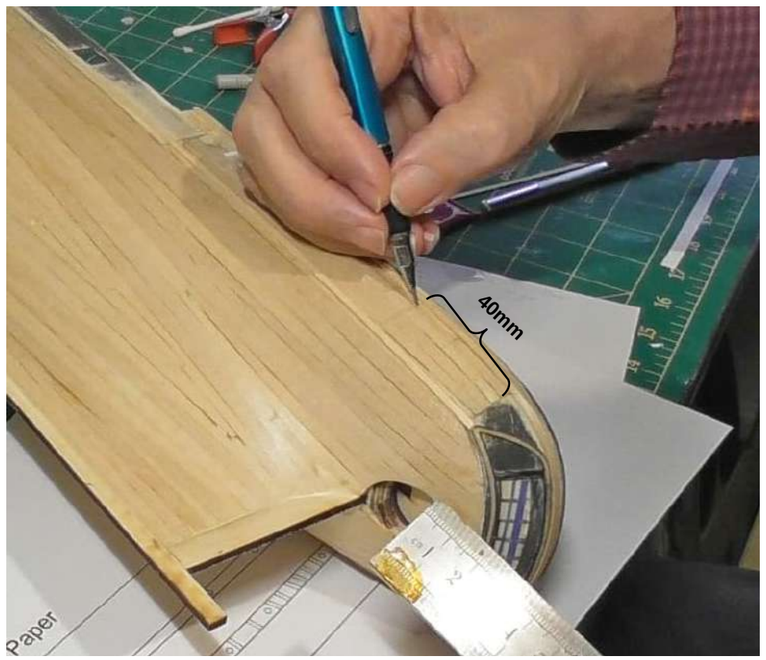


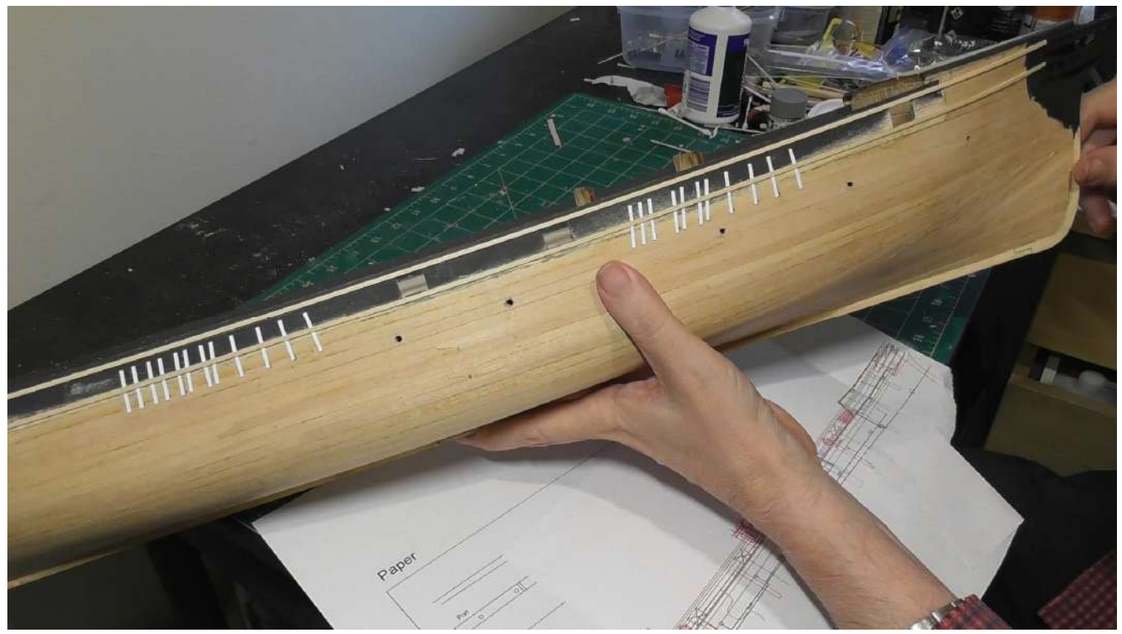


CSS SHENANDOAH
1864
SHEET 56

8.4 Upper Hull Battens

Measure from the edge of the transom frame 40mm along the hull planking as shown - mark a vertical line - the upper hull batten finishes at this line. Taking a length of batten strip P25A glue the upper batten in place - start at the top of the head board as shown and following the score lines progress along the top edge of the gunports - finish the batten at the vertical line as shown.

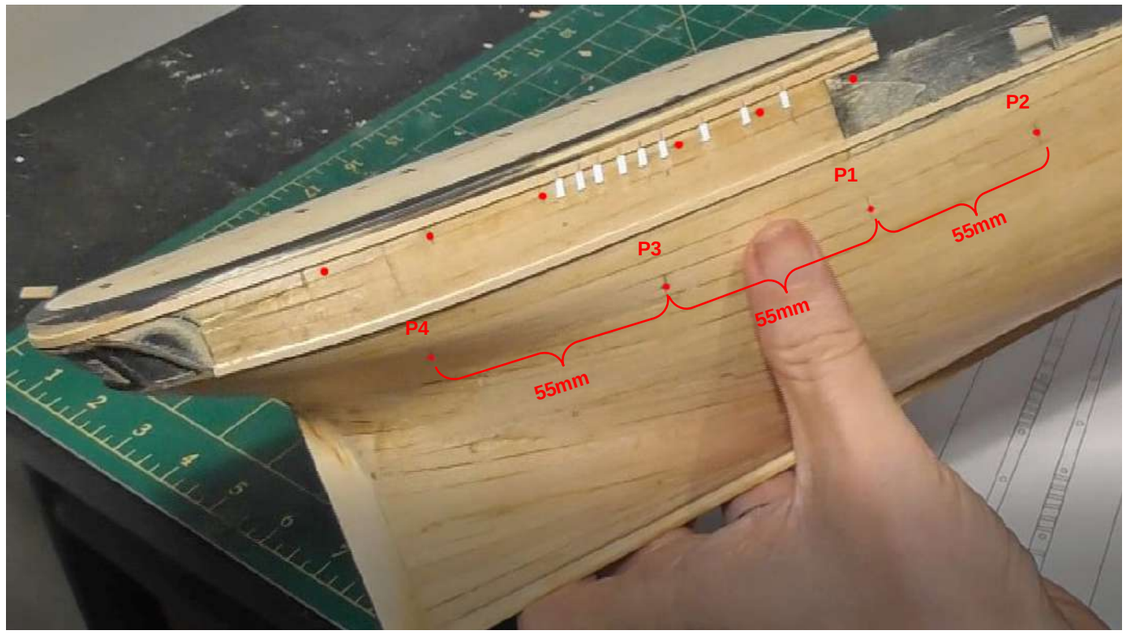




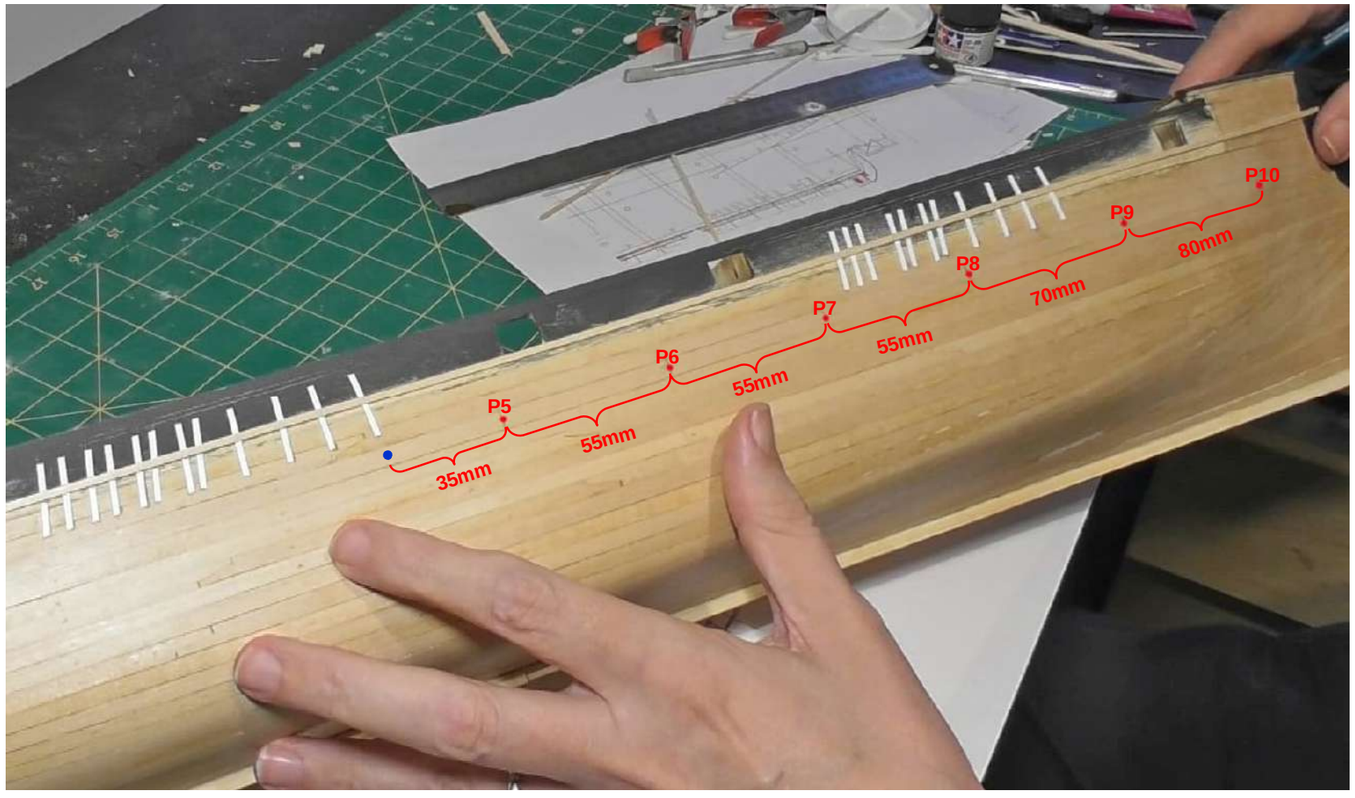
CSS SHENANDOAH
1864
SHEET 57

8.5 Port Holes

At the stern end of the bulwark draw a line vertically down to the third plank below the bulwark and place a mark in the centre of the plank - this is P1. Make the measurements as shown to mark P2, P3 & P4. Mark each point with an awl and drill 3mm holes. For the forecastle port holes mark the points as shown - mark with an awl and drill 2mm holes. For the quarter deck port holes use the D/E strap template to locate the port holes - mark with an awl and drill 2mm holes.



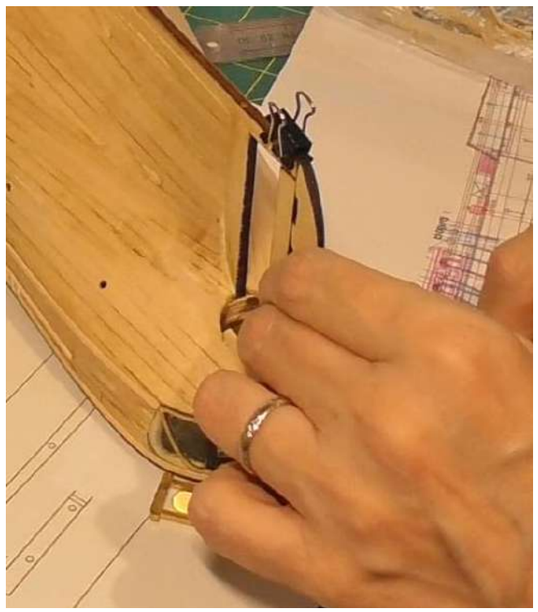
From the first main mast strap project vertically down to the third plank below the bulwark - mark this point as shown in blue. Progressing forward mark the points P5 to P10 along this plank at the distances shown. Mark points with an awl and drill 3mm holes.



CSS SHENANDOAH
1864
SHEET 58

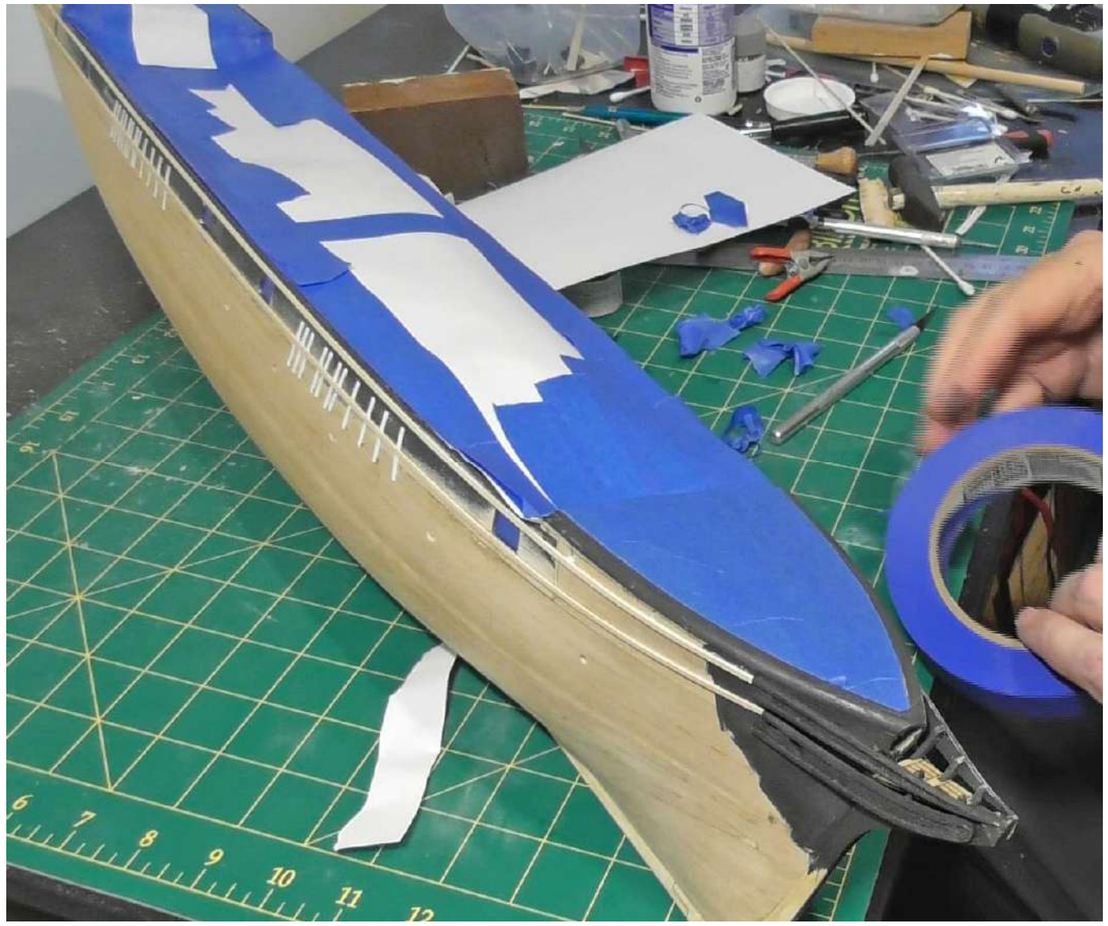
8.6 Rudder and Propeller Assembly

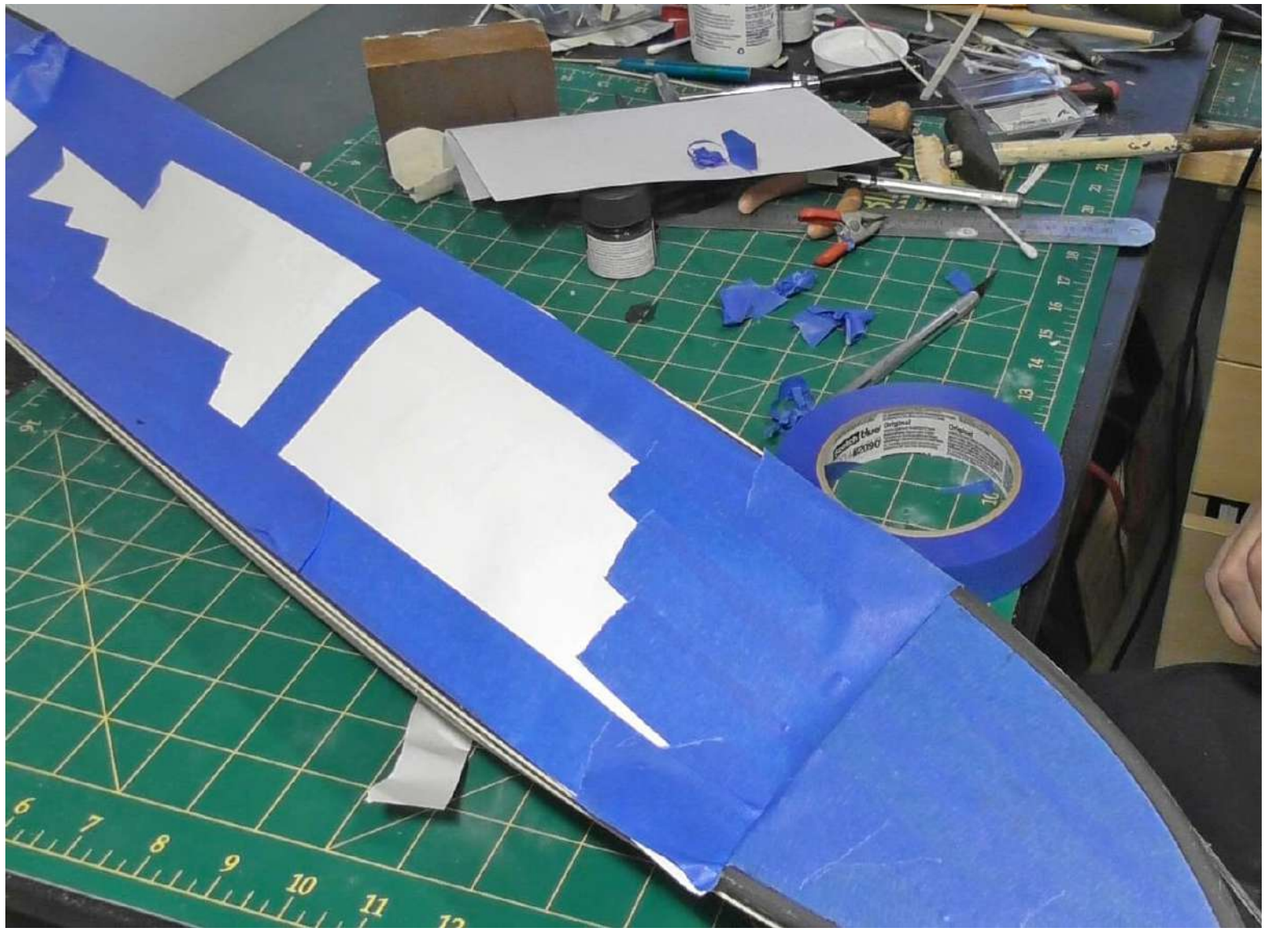
Identify the rudder post P64, rudder P65 and the propeller assembly P66. Trial fit the rudder post and clamp in place as shown. For the rudder round the edges of straight side and slightly taper to the curved side. Place the rudder in place against the post with its bottom aligned with the bottom of the keel as shown and mark the location of the hinge slots onto the post. Identify the rudder hinges P67 - fit each hinge in place on the rudder and post as shown - drill 0.7mm holes into post and rudder and fix hinges in place with glue and nails P68. Trial fit the assembled post and rudder - fractionally adjust as required. Temporarily place the propeller assembly in place as shown to give the exact location of the post and rudder - once satisfied glue and clamp the post in place as shown. Once glue has set remove the propeller assembly.



8.7 Painting the Hull

The whole exterior of the hull is to be spray painted with matt charcoal black acrylic paint. Use masking tape along with paper to fully and securely seal the deck and head floor. Make sure the transom windows are sealed using the window cut-outs. Make sure the gun ports are sealed. Check and re-check.





8.7 Painting the Hull continued

In a well ventilated area, spray paint the model with matt charcoal black acrylic paint. Do not over-spray - lightly apply at least two coats allowing each coat to fully dry before applying another coat.

CSS SHENANDOAH
1864
SHEET 61

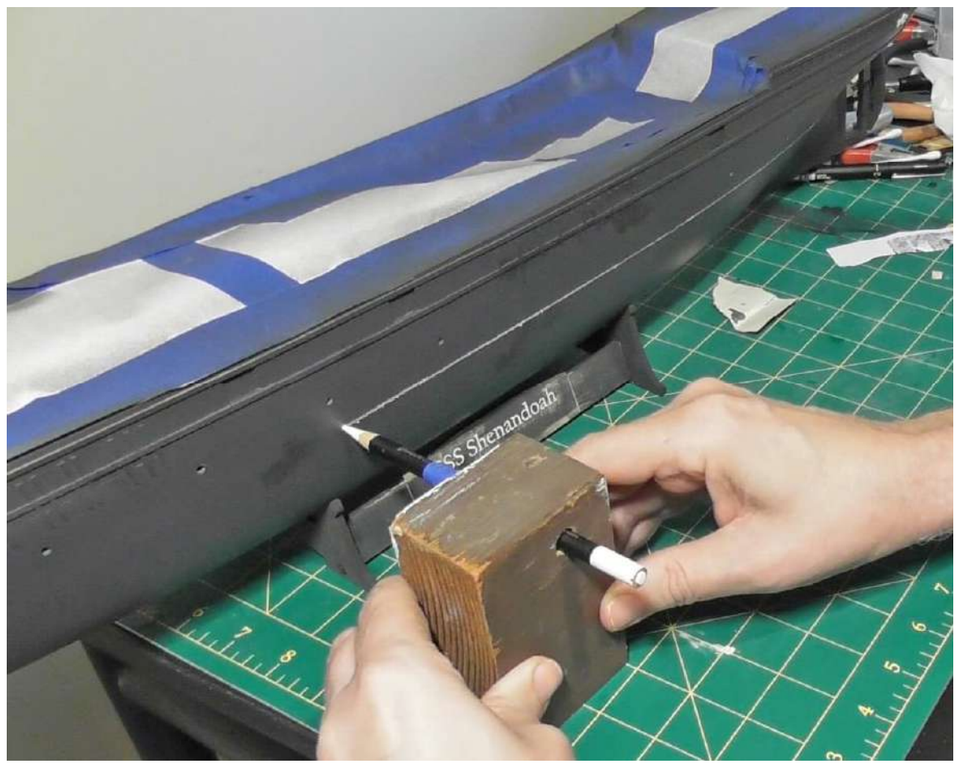
8.7 Painting the Hull continued

Identify the display base P69, model supports P70A-F and name plate supports P71 - note the model supports are numbered along with their respective location on the base. Glue the model supports in place along with the name plate supports. Spray paint the assembled display base with matt charcoal black as shown. At mid-ship from the underside of the lower batten measure vertically down 27mm - mark the point with a white pencil line as shown. Use a white pencil to highlight the scroll on the trail board as shown. Identify the Angel decorations P72 - paint white and glue in place as shown. Identify the Scroll decorations P73 - paint gold and glue in place as shown. Paint the transom detail and window frames gold as shown.

CSS SHENANDOAH
1864
SHEET 62

8.8 Copper Line

With the model in its display stand use vernier calipers to measure up from a flat level surface approximately 65mm. Take a block of wood with square sides and drill a large enough for the white pencil to fit through. Fit the pencil as shown - use some tape to ensure a firm secure fit. Slowly move the block along and around the hull marking the hull with the white pencil as shown. Take your time.



CSS SHENANDOAH
1864
SHEET 63

8.9 Copper Painting & Patina

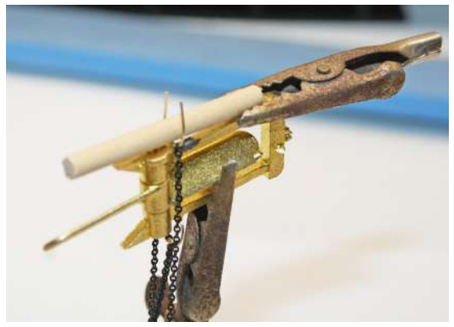
Place masking tape along the marked copper line around the hull as shown. Use a paint brush to evenly apply copper paint as shown - allow the coat to fully dry - apply a second coat. Set hull aside to allow to dry for at least 24hrs in a well ventilated dry area. If you wish to give a weathered effect to the hull use a soft cloth to sparingly apply the patina. Use long sweeping strokes. Allow the patina to dry and time for the patina effect to appear - apply additional patina if required.

CSS SHENANDOAH
1864
SHEET 64

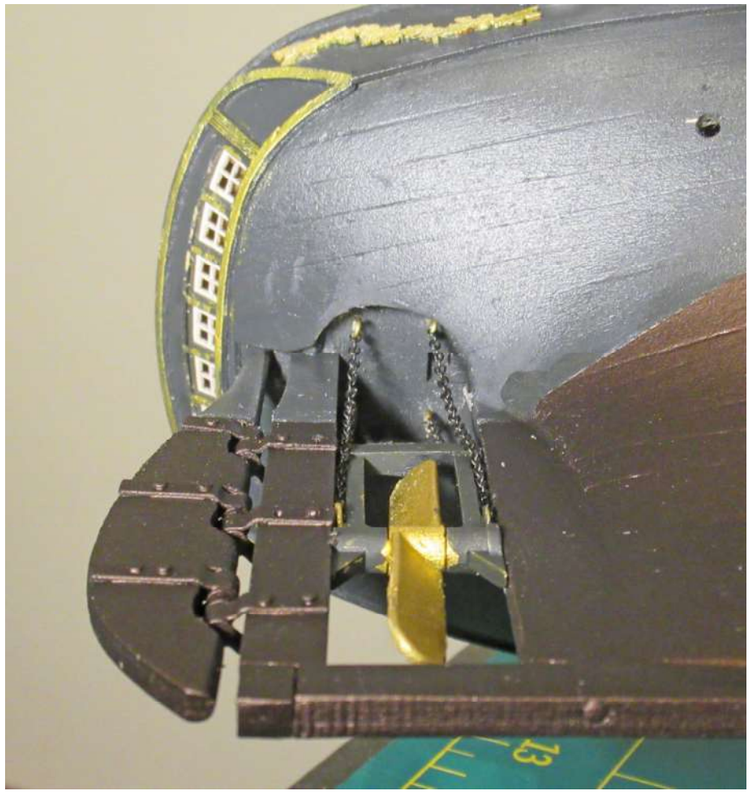
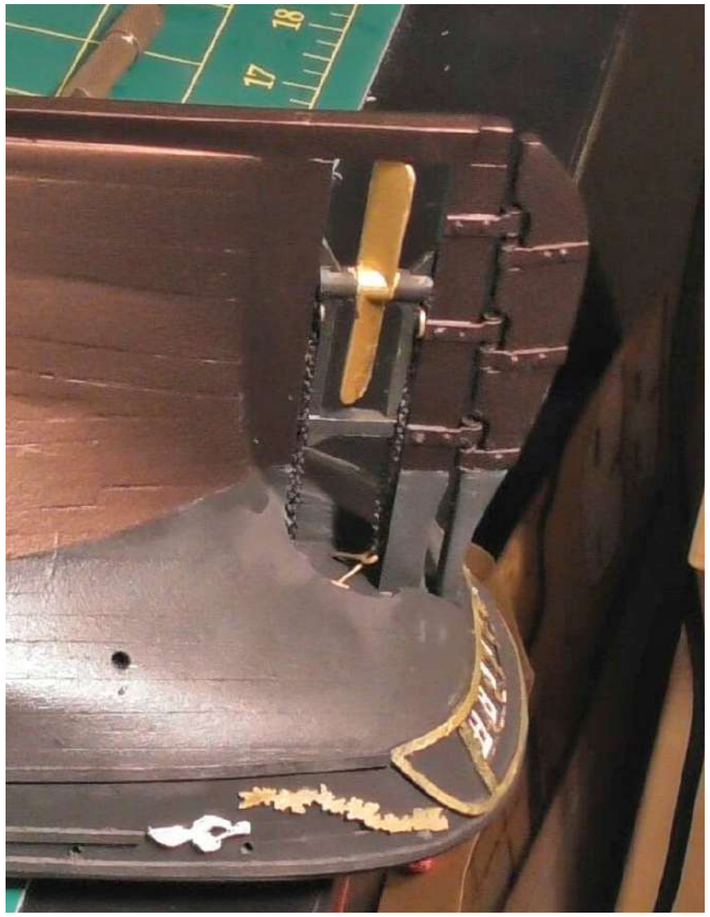
8.10 Propeller Assembly

Identify the propeller assembly P66 - notice the two 0.6mm holes in the casting on each up-right on the shaft. Identify the 0.5mm brass wire P75 - cut two x 30mm lengths. Feed the wire through the two holes and bend as shown. Identify 1.5mm chain P76 - cut 4 x 60mm lengths - feed on end of each chain onto one end of the wire - repeat for the other chains and wire - this will give a length of chain on either side of the propeller frame. Use a length of 4mm dowel P282 - place between the ends of the wire and trim excess - fold the wire over and around the dowel as shown - apply a dab of super glue to seize the wire ends together - remove the dowel leaving a 4mm ring as shown. Repeat for the other side. Identify the brass eye pins P77 - fix in place 4 eye pins into the holes laser cut into the roof of the propeller cavity as shown. Fit and glue in place the propeller assembly with the chain attached in place - Using a length of 0.25mm cord C5 P280 - attach one end to the eye pin - apply a dab of super glue to seize knot - use other end to attach to the chain so as to pull it straight - do not over pull - once satisfied apply super glue to the knot and trim-off excess cord and chain as required. Repeat for the other chains.







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1864
SHEET 65

9.0 Inner Bulwark Planking

Identify the inner bulwark planking P78. Trial fit a plank along the base of the inner bulwark - fractionally shape at both ends to fit along the bulwark - once satisfied glue the plank in place. Cut away the planking that crosses the gun ports as shown. Fit and glue in place another two planks. Sand-off the last plank to be flush with the top of the bulwark. Repeat for the other bulwark. Mix some white paint with water and apply to the planking to give a white washed effect.

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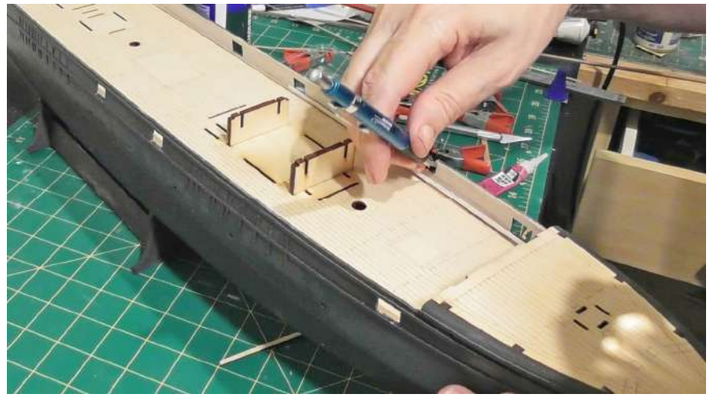
1864
SHEET 66

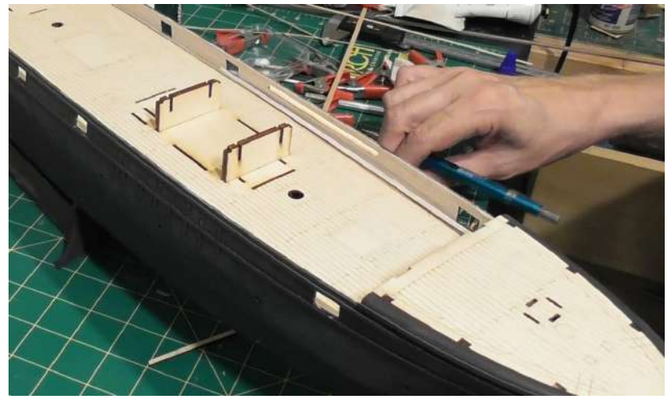
9.1 Deadeye Channels

The deadeye channels for the foremast and main mast are placed on the inside of the bulwark. Identify the foremast channels P79 and channel bases P80. Identify the main mast channels P81 and channel bases P82. To identify the location of the foremast channel place a bull dog clip on the bulwark so that it is aligned with the front deadeye strap as shown. On the inside of the bulwark mark a pencil line on the straight edge of the clip as shown. Place the foremast channel base at this line and mark the position of the other end onto the inner bulwark as shown. Repeat for the other side of the hull. Apply the same process to determine the location of the main mast deadeye channels. Identify the inner bulwark framing P83. Cut and fix lengths either end of the inner bulwark. Cut and fix a length along the top of the gunports - glue the foremast and main mast channel bases at their marked positions immediately below this length of framing. Glue the foremast and main mast channels in place onto their respective base - note the small angled edge on each channel - this denotes the rear end of the channel. Cut and fix framing lengths either side of the gunport opening. Cut and fix other lengths along the inner bulwark as shown. Mix some white paint with water and apply to the inner bulwark to give a white washed effect.

Foremast Channels

Main mast Channels



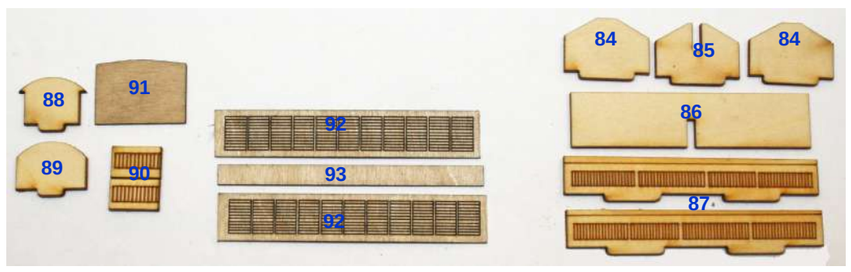


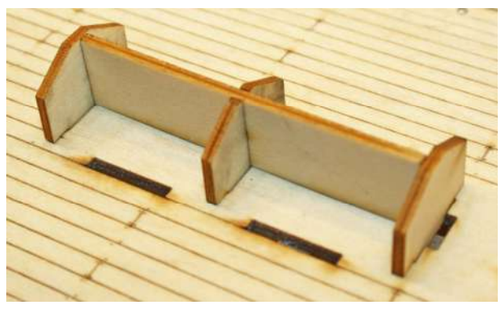
9.2 Gunport Doors

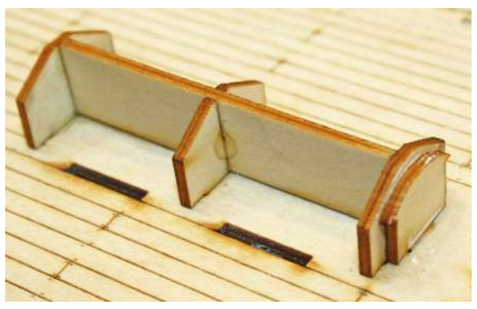
Identify the gunport doors P45. Paint the reverse face and sides of each gunport matt white. Starting with 1* at the front gunport glue in place either side of the gunports as shown. Repeat for the other side of the hull. **NOTE: If presenting the model as Sea King skip this section.**

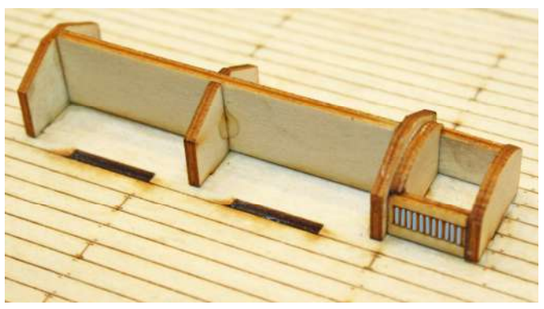
9.3 Wardroom Skylight - Quarter Deck (WR)

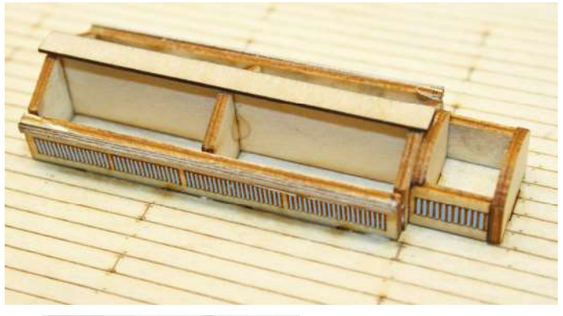
The wardroom skylight is fitted into the laser cut slots on the quarter deck. Identify the wardroom skylight parts P84 - P93. Lightly sand all parts. Trial fit and glue in place P84, P85 & P86 on the deck as shown. Glue in place P88, P89 and P90 as shown. Chamfer the top edge of the side windows P87– glue in place as shown. Glue in place the skylight central capping P93 and then skylights P92. The entrance roof P91 needs to be curved - place in a container of boiled water for approximately 15 minutes - use string to hold it in place around the barrel of a glue syringe or similar device - leave in place and allow to dry naturally for 24 hours. Once dry trial fit in place - note the straight edge is located against the wall of P84 - use super glue to fix the roof in place. Paint the roof a light grey as shown. Use a blue pencil to colour the skylight windows.

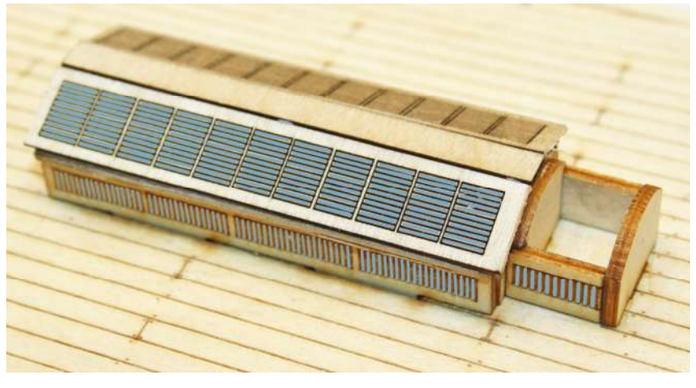


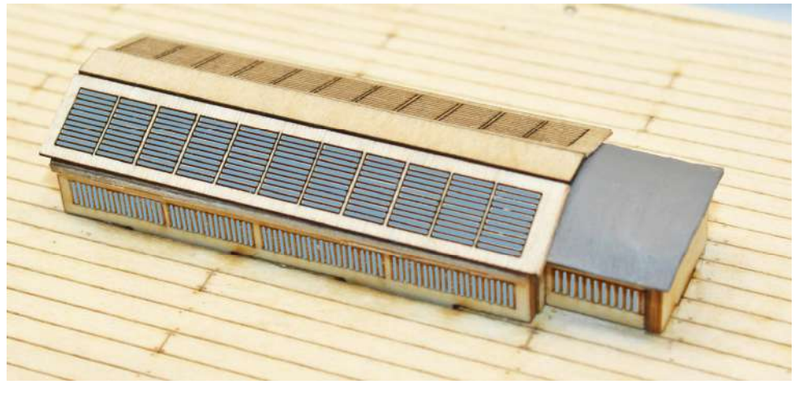


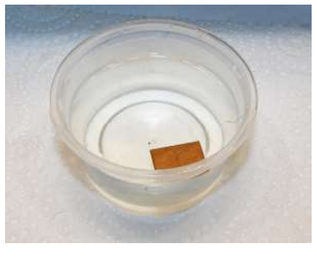








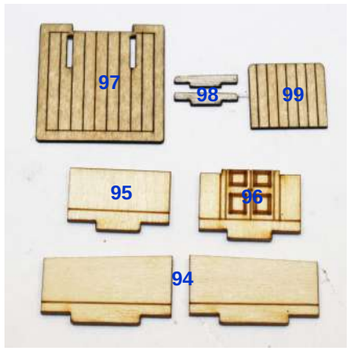


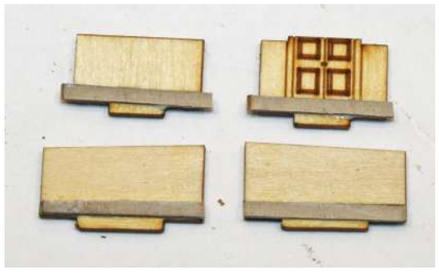


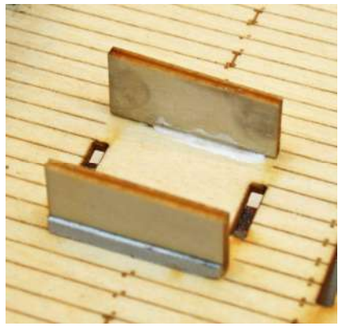
CSS SHENANDOAH
1864
SHEET 68

9.4 Companionway

The companionway is located on the main deck immediately in front of the quarter deck cabin entrance as shown. The entrance doors face the quarter deck cabin entrance. Identify the sides P94, rear wall P95, entrance wall P96, roof P97, hatch runners P98 and hatch P99. As coaming glue batten strips P25A to the side walls as shown - cut flush with the length of the wall. Repeat for the rear and front wall except make the length long enough to cover the edges of the side walls when glued in place. Glue the side wall in place - glue the rear and front walls in place. Trim-off the excess coaming on the rear and front walls as shown. Glue the roof in place followed by the hatch runners. Glue the hatch in place as shown.

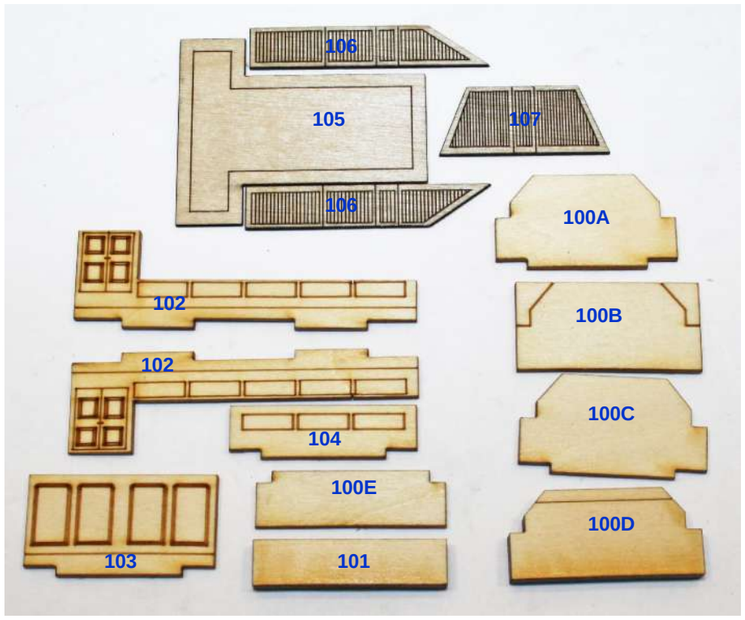


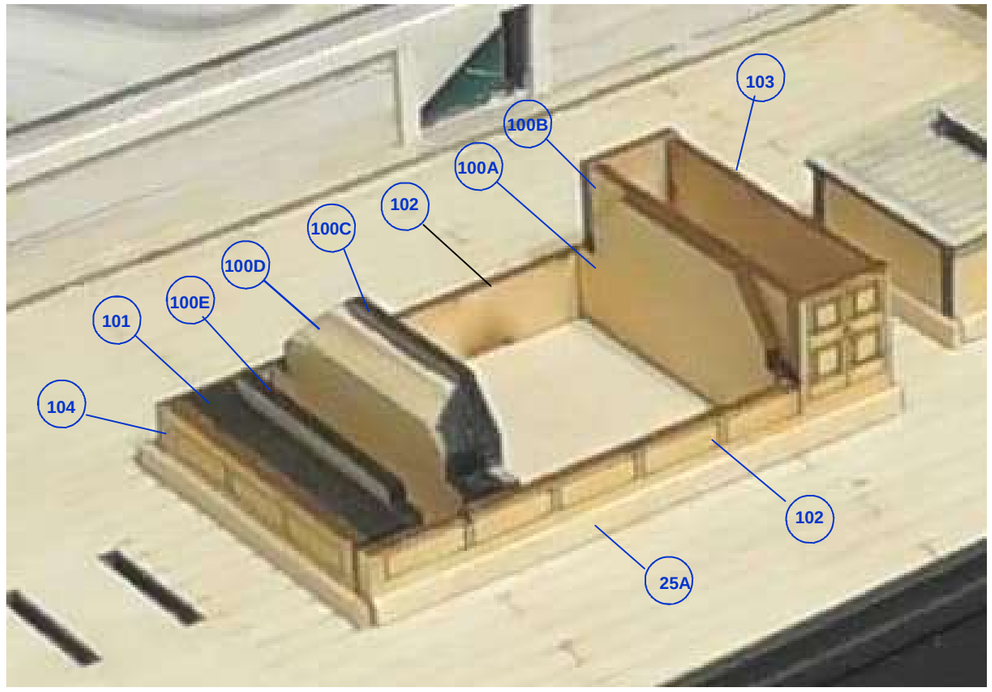




9.5 Engine Room Skylight (ERS)

The engine room skylight is located on the main deck immediately in front of the companionway. Identify the ERS parts P100 - 107. For P100D shape a chamfer from the score line to the reverse face as shown. Glue P100A to P100B as shown. Glue P100C in place. Glue P100D in place. Glue P103 in place. Glue P104 in place. Glue P102 in place. Glue P101 in place - not the slight curve on one longer edge - this is to accommodate the deck curvature - this side goes against the deck . Glue P100E in place. As coaming cut and glue batten strips P25A around base as shown.





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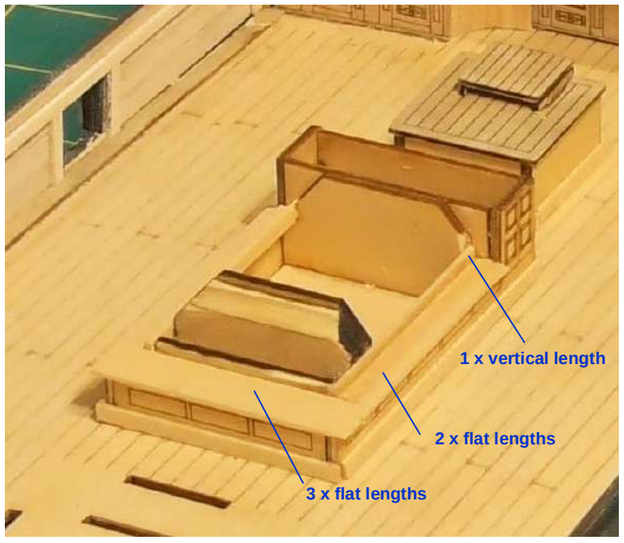
1864
SHEET 69

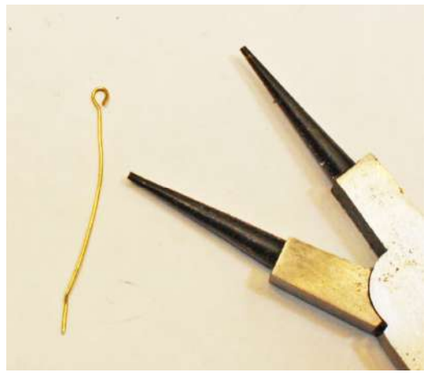
9.5 Engine Room Skylight continued

To cover the plywood edges use batten strips P25A. Cut and glue lengths in place as shown. Identify the ERS roof P105 - paint the roof a light grey as shown. Glue and glue the roof in place as shown. Glue the fore skylight P107 in place as shown. Glue the side skylights P106 in place as shown. Use a blue pencil to colour the skylights.



9.6 Deadeye Loops

The lower deadeyes are attached to the channels with deadeye loops - this need to be done before the deck becomes congested. To make the deadeye loops take a 40mm length of 0.5mm brass wire P75 and use round nose pliers to make a hoop at one end of the wire as shown. Fold the wire around a 5mm deadeye P108 as shown - seize the wire and tighten by twisting the tail around the base of the deadeye as shown - make sure lower deadeye hole is positioned as shown. Apply a dab of super glue to fix the wire to the deadeye. Trim off the tail. Open the loop of an eye pin P77 and attach to the deadeye loop and close the eye pin loop. Make another 65 deadeye loops. Use a 0.7mm drill to widen the holes in the main mast channel drilling into the channel base. Trial fit the eye pin with deadeye loop into a hole - once satisfied use super glue to fix the deadeye loop tail in place. Repeat for the other side of the hull. Repeat for the foremast.



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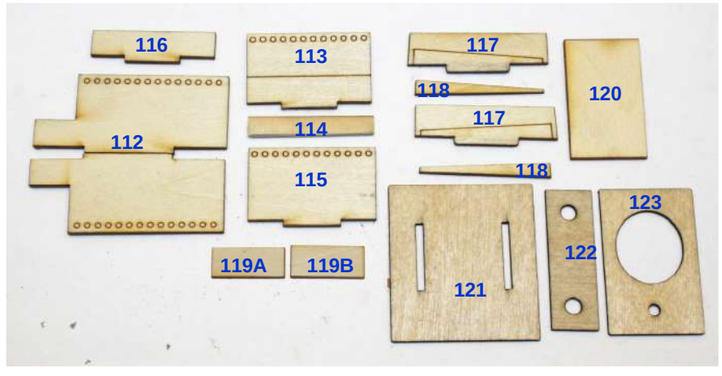
1864
SHEET 70

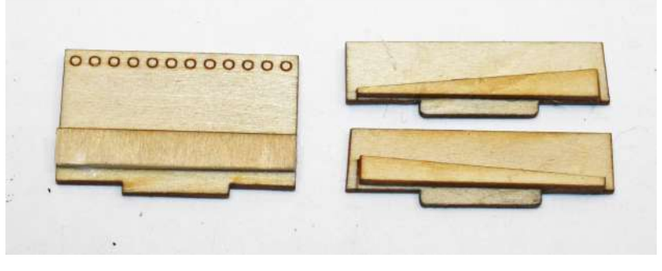
9.6 Deadeyes Loops - continued

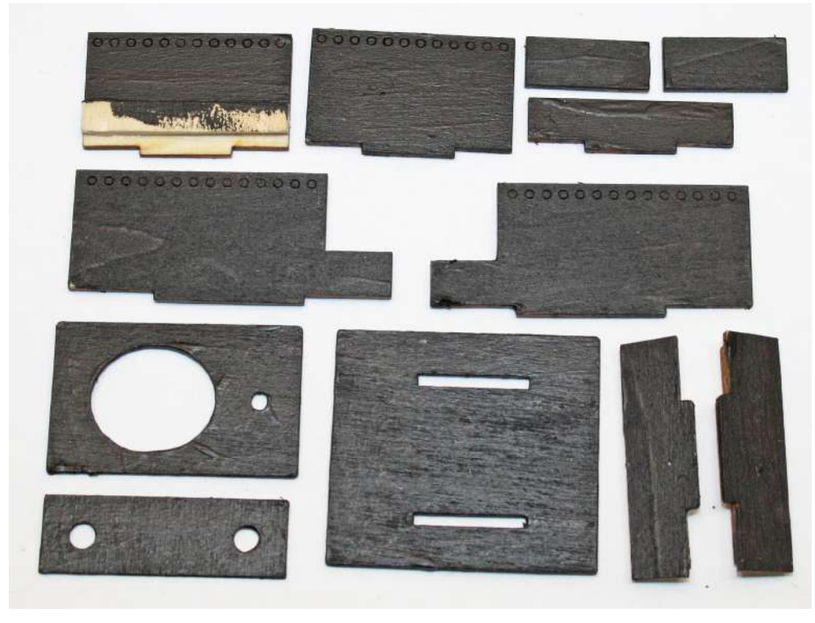
For the mizzen mast drill 0.7mm holes into the base of the quarter deck rail base as shown. Fit and fix the deadeye loops in place as shown. Repeat for the other side of the hull.

9.7 Telescopic Stack

Identify the stack parts P110 - P123. Glue 11 x large stack rings P110 together taking care to align. Glue the two smaller stack rings P111 either side a large ring as shown. Glue together as shown. Once dry sand to remove any misalignments. Once satisfied paint matt black. Glue P114 to P113 - align P114 with the score line as shown. Glue P118 to P117 as shown. Paint P112, P113, P115, P116, P117, P19A-B, P121, P122 and P123 matt black as shown. Note: The front edge of P117 is slightly angled. P119B is slightly higher than P119A as it fits to the front edge of P117.







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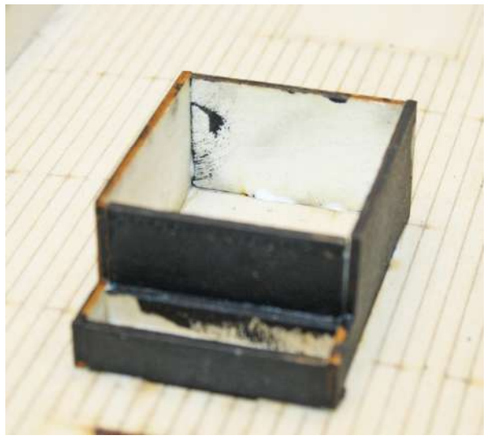
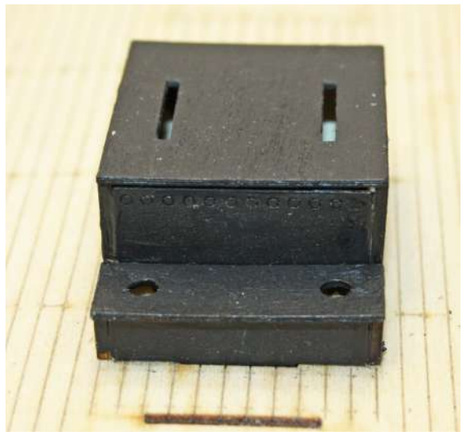
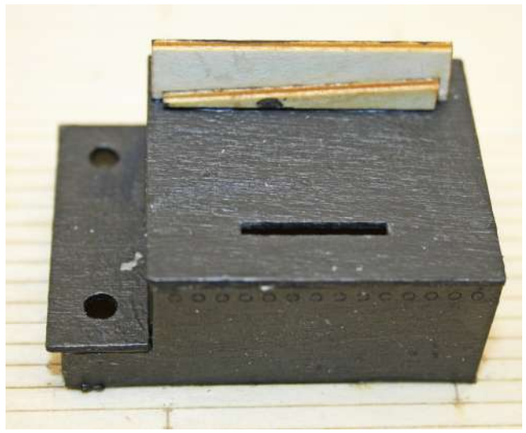
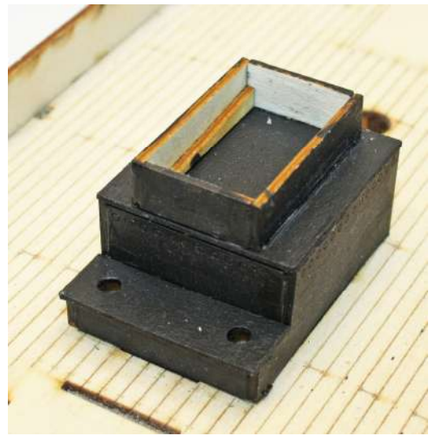
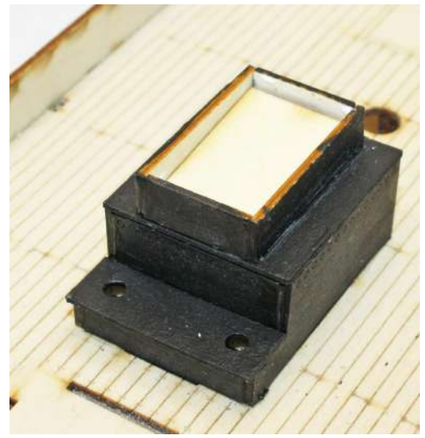
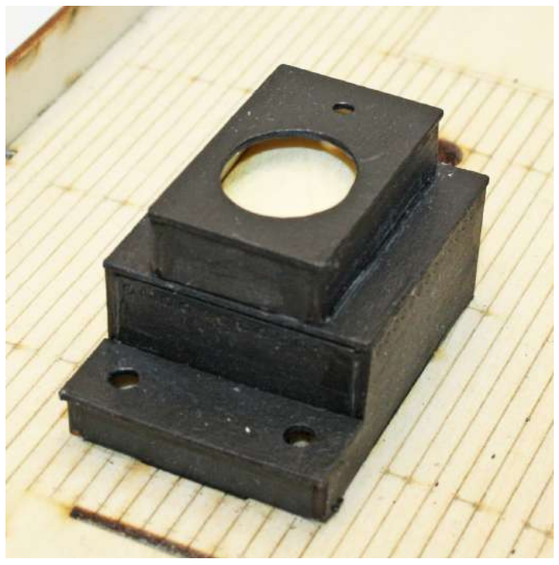
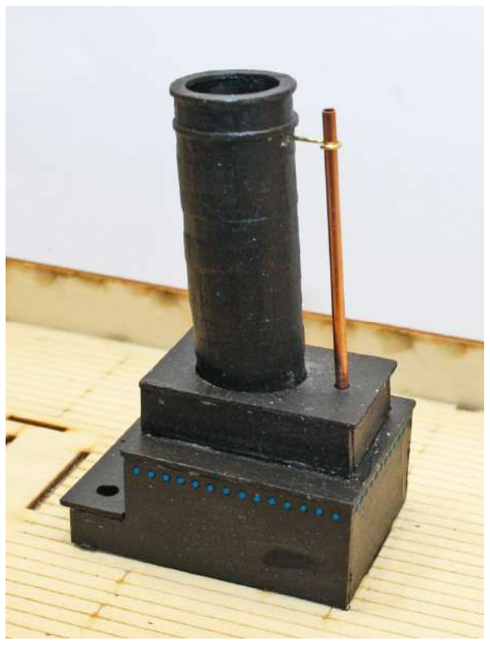
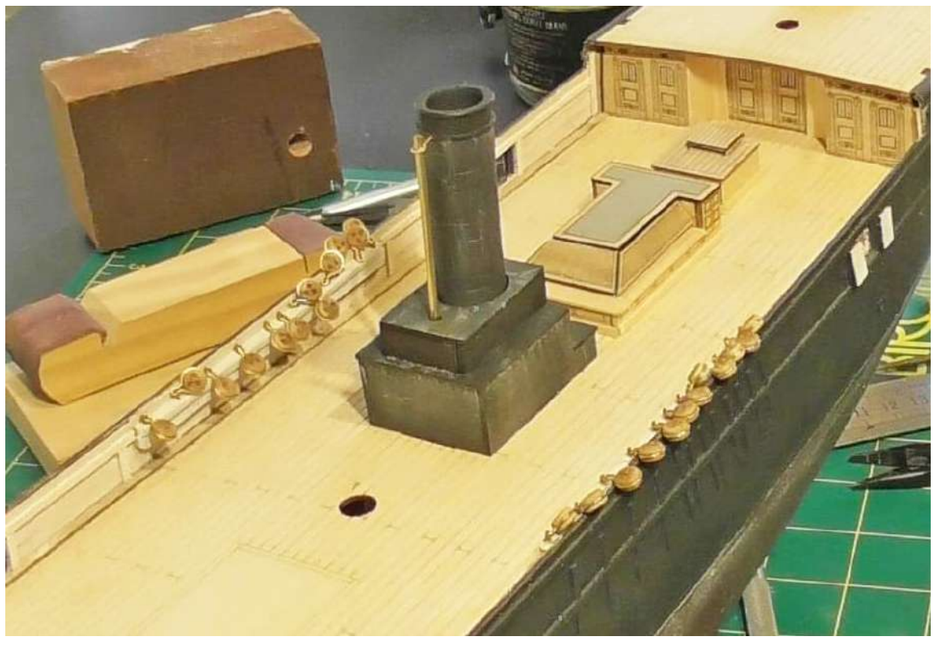
1864
SHEET 71

9.7 Telescopic Stack continued

Trial fit and glue in place P112, P113, P115 and P116. Clamp together while glue sets. Glue in place P121 and P122 as shown. Glue in place the assemble P117, P119A-B as shown - Note P119B is higher than P119A and is placed at the front. Insert and glue in place P120 as shown. Trial fit the stack into P121 - fractionally adjust as required. Glue in place P121 as shown. Drill a 0.7mm hole into the front of the stack immediately below the lower ring. Take an eye pin P299 and the 2mm copper tube P124 - open the eye pin so it fits over the tube. Fit the eye pin into the previously drilled hole - adjust the eye pin length so the tube and stack are parallel - fix the eye pin in place. Use a blue pencil to colour the light holes.

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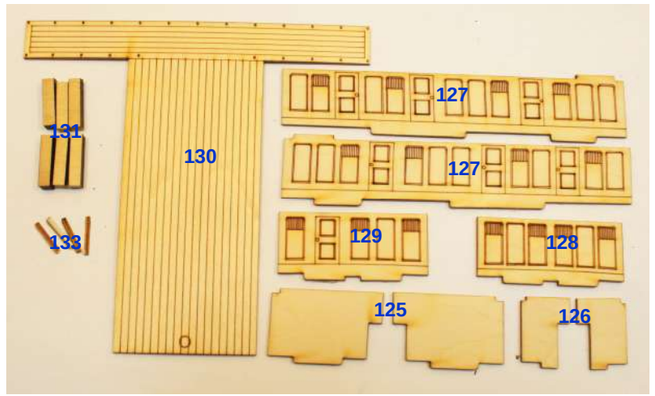
1864
SHEET 72

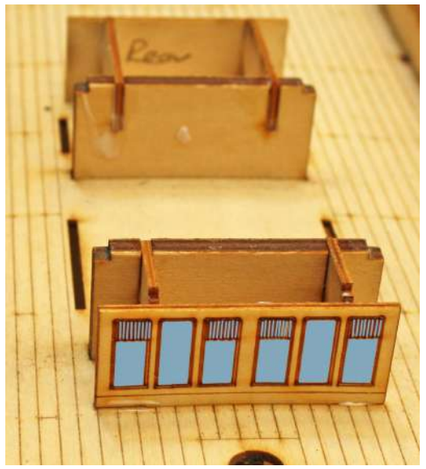
9.8 Port Holes

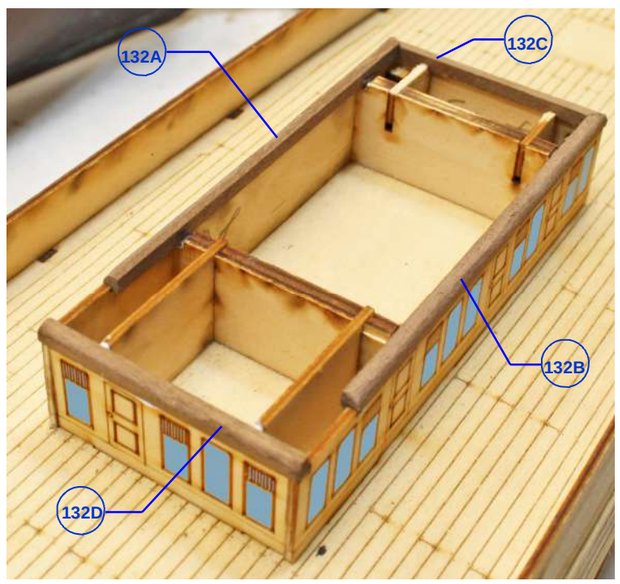
Identify the 3mm port holes P135 and the 2mm ports holes P136. Paint matt black. Use a glue syringe with white wood glue mixed with some blue paint to give a light blue shade. Apply a drop of the glue-paint mixture into each port hole as shown. Once dry fix the 3mm port holes into the previously drill holes in the hull. Then fix the 2mm port holes into the previously drill holes in the forecastle and quarter deck.

9.9 Deck House

Identify the deck house parts P125 - P132. Trial fit and fix the structure P125 & 126 as shown. Trial fit and fix the rear and front walls P128 and P129 as shown - clamp in place if required. Fix the wall supports P131 in place as shown. Trail fit and fix the side walls in place as shown - clamp in place if required. Identify the roof edging P132A-D. Lightly sand to remove the laser burn. Shape each part to have a rounded long edge. Stain walnut or teak. Place the roof in place and trial fit each part - fractionally adjust as required. Glue capping in place - temporarily fit the roof in place while the glue sets. As coaming cut and glue batten strips P25A as side strips and 25B as end strips around base as shown. Use a blue pencil to colour the windows.







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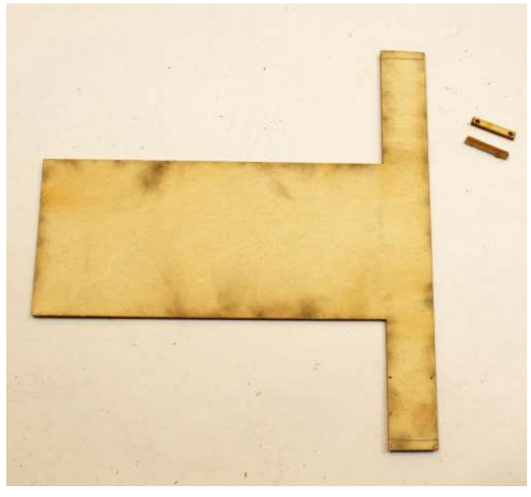
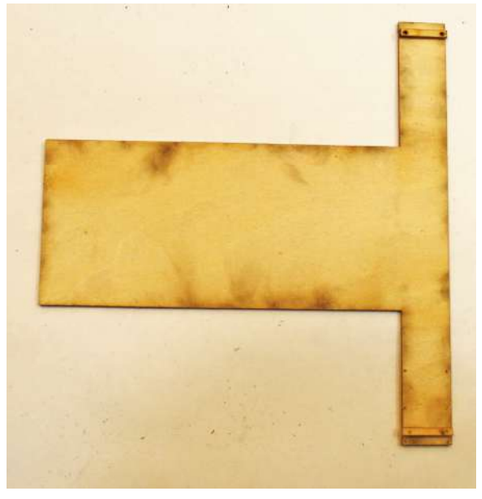
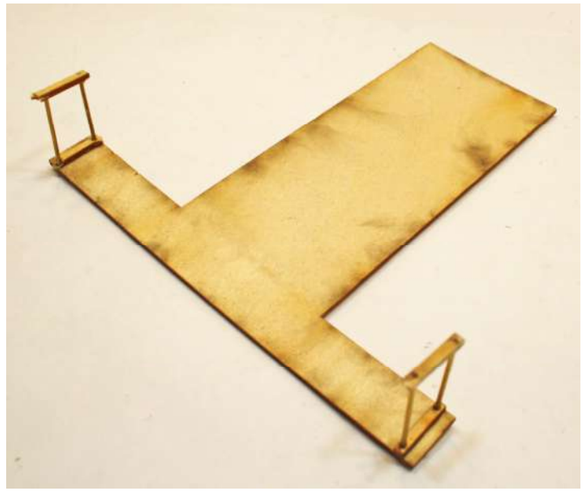
1864
SHEET 74

9.9 Deck House continued

Notice on the roof bridge the two laser cut marks 2mm from the end of each arm - mark a pencil line across these points. Glue in place two rod bases P133 along this line as shown. Identify the brass rod P134 - cut 4 x 21mm lengths. Super glue the rods into the rod supports as shown - fit the remaining two rod bases to the ends of the rods as shown - apply glue to the base of these parts - turn the roof over and glue in place - carefully position the lower rod bases onto the score marked positions on the deck. Place a weighted object at the end of the arms to hold the rod supports in place while glue sets.

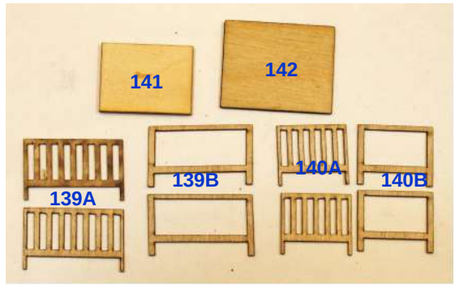


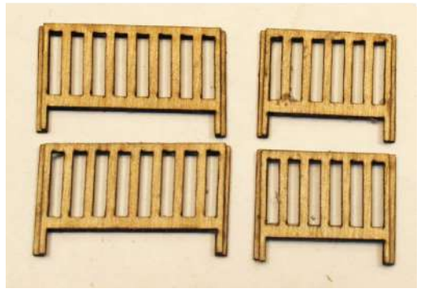


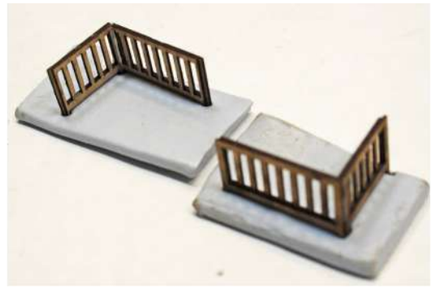


9.10 Hatches and Pig House

Identify the main hatch P137A and coaming P137B. Light sand the coaming to remove the laser burn. Shape the outside edges to be rounded. Stain the coaming walnut or teak. Glue coaming in place as shown. Glue the assembled hatch in place in the score marked position on the deck. Identify the fore hatch P138A and coaming P138B. Repeat preparation and assembly as for the main hatch. Glue the assembled hatch in place in the score marked position on the deck as shown. For both hatches fix eye pins P77 into the pre-cut holes. Identify the pig house (PH) parts P139 - P142. Glue the frames to each grill as shown. Glue side and end walls together as shown. Trial fit the floor - glue in place. Use antique brown to paint the floor as shown. Glue the roof in place. Paint the assembled pig house antique brown. Fix the pig house to deck at the score mark locations.







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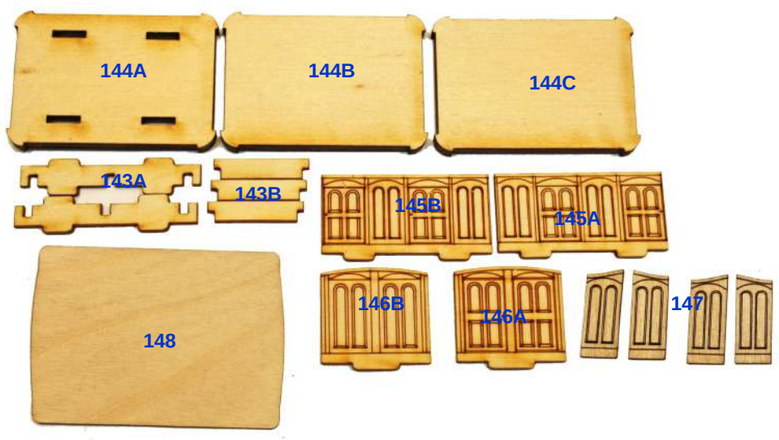
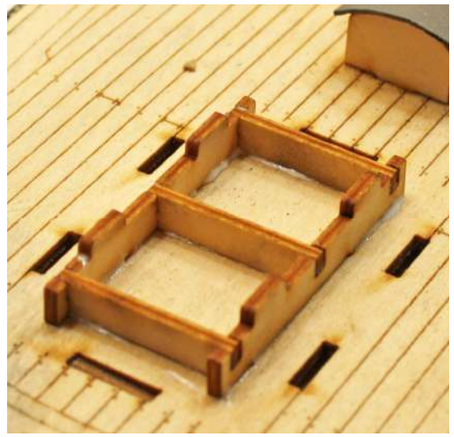
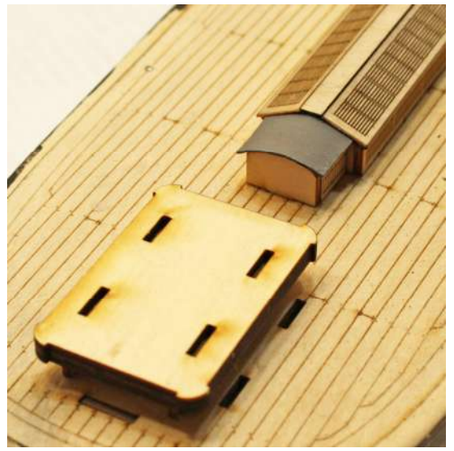
SHEET 75

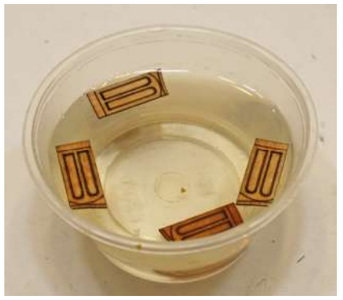
9.11 Wheel House (WH)

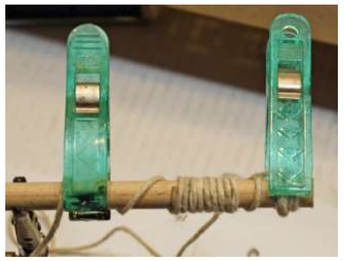
Identify the WH parts P143 - 148. Glue the base frame P143A & P143B in place. Glues base block P144A in place followed by P144B & P144C. Glue the port and starboard side walls P145A & P145B in place. Cut two lengths of scrap 2x5mm basswood P48 and glue in place along the edge of P144C as shown - chamfer the edge as shown. Place the corner pieces P147 into a container of boiled water for approximately 15 minutes - remove and using a length of 8mm dowel P246 and string wrap the corners around the dowel. Once fully dry repeat using a 5mm length of dowel P245. Allow to fully dry naturally. Glue the corner pieces in place and use elastic bands to secure until glue has set. Place the roof P148 into a container of boiled water for 15 minutes - remove and secure to a can until dry. Glue the roof in place and paint light grey as shown. Use a blue pencil to colour the windows.

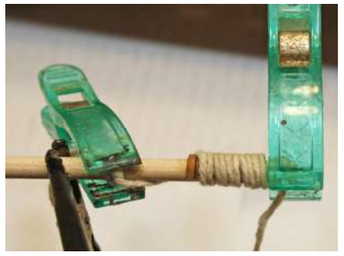


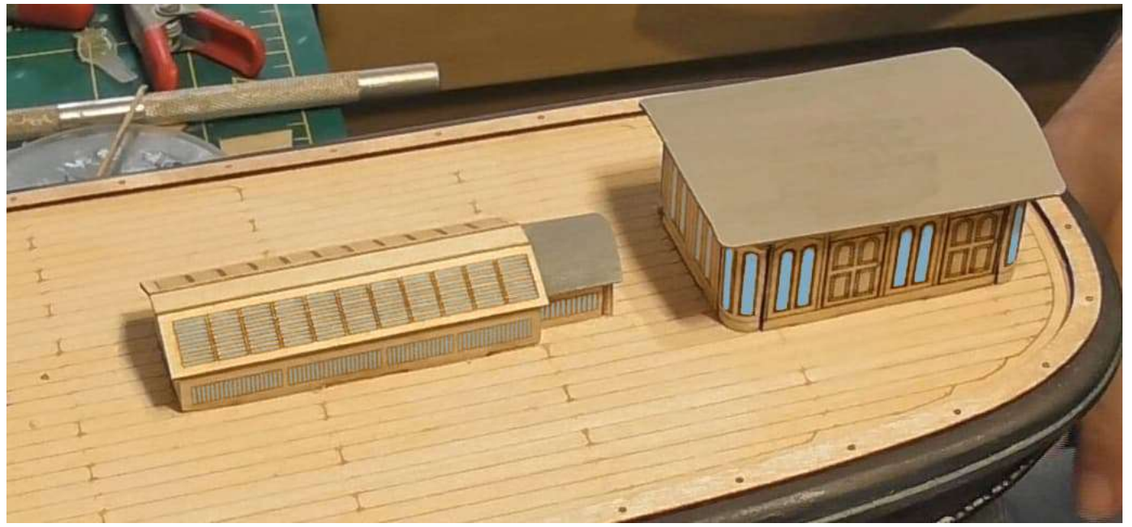








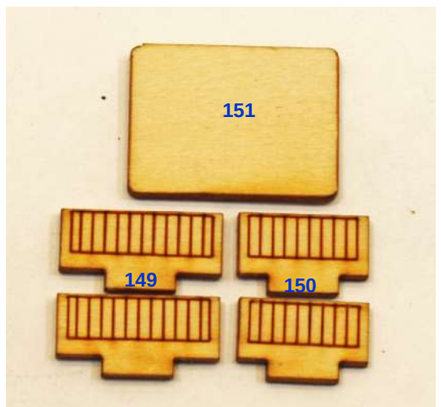




CSS SHENANDOAH
1864
SHEET 76

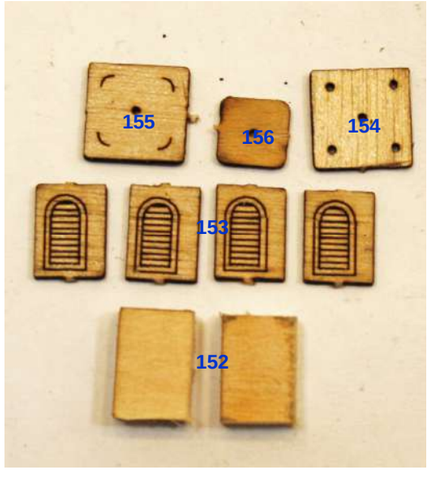
9.12 Forecastle Skylight

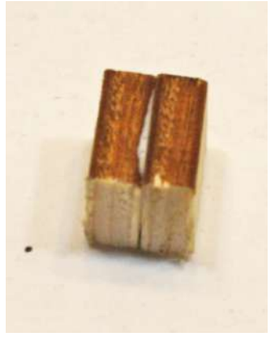
Identify the skylight sides P149, skylight ends P150 and skylight roof P151. Glue the sides and ends in place on the forecastle as shown. Glue the roof in place and paint light grey as shown. Use a blue pencil to colour the skylight.

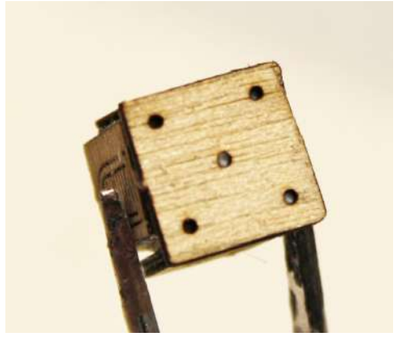


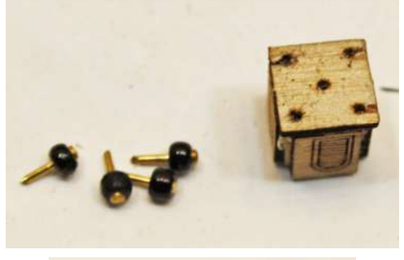
9.13 Chicken House (CH)

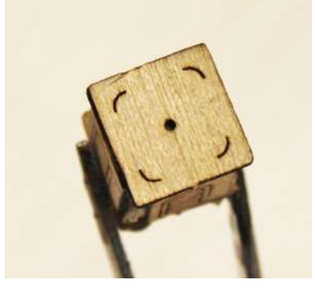
Identify the CH parts P152 - P156. Glue the blocks P152 together. Trial fit the frames P153 - fractionally adjust the block width as required - once satisfied glue frames in place as shown. Glue the floor P154 in place. Identify parrals P157 and fit to a brass nails P68 - glue in place and cut the nail length down as shown. Drill 0.7mm holes into the base as shown and glue feet in place. Glue the roof P155 in place and then the top P156 - fix a parral with nail into the top as shown. Drill a 0.7mm hole into the centre of the base and glue in place a locating pin. Paint the assembled chicken house antique brown. Drill a 0.7mm hole in the location point on the quarter deck. Glue the chicken house in place.







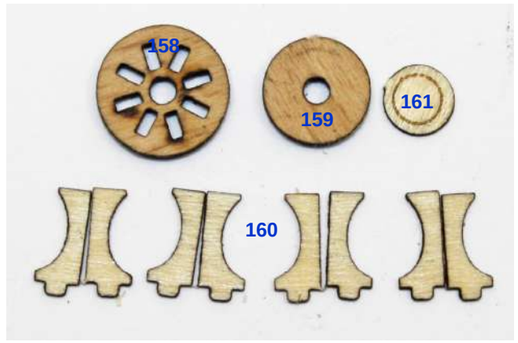




CSS SHENANDOAH
1864
SHEET 77

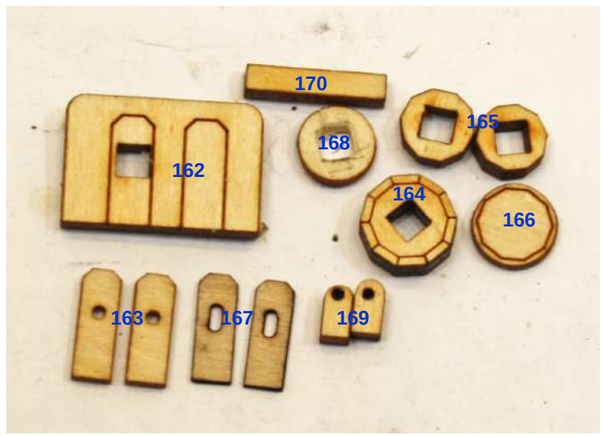
9.14 Capstan

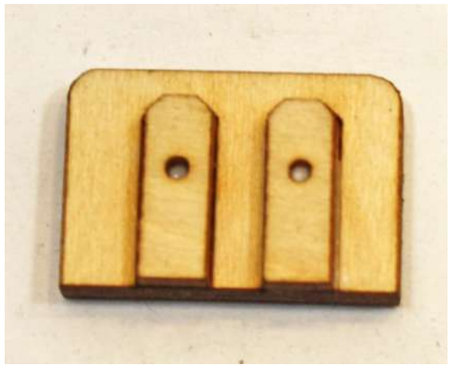
Identify the capstan parts P158 - P161. Cut a 12mm length of 2mm dowel P308 - glue into base P158. Glue the whelps P160 into the slots on base. Glue head P159 in place. Cut-off excess dowel. Glue cap P161 in place as shown. Paint the assembled capstan matt brown. Set aside to be fitted to the forecastle deck later.

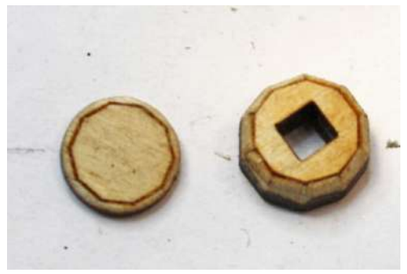


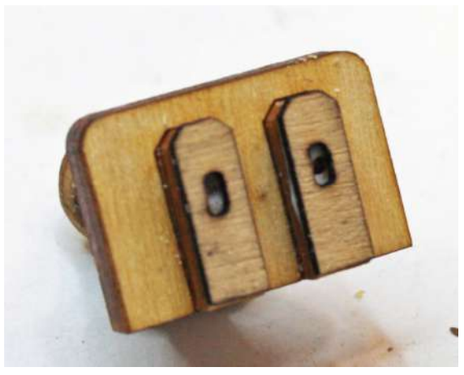
9.15 Windlass (WL)

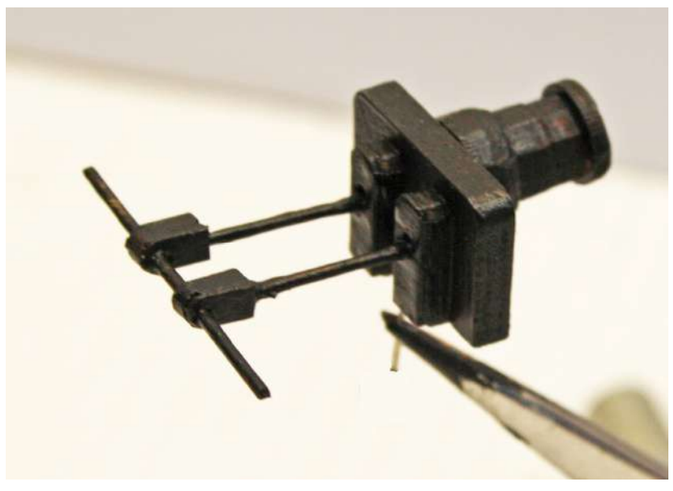
Identify the windlass parts P162 - P170. Glue P163 to P162. Shape P164 and P166 as shown. Glue P168, P164, P165 and P166 to the key P170 as shown. Glue assembled barrel to the frame as shown. Glue P167 in place as shown. Drill 1mm holes into the frame through the openings. Cut two x 20mm lengths and one length x 30mm of 1mm brass rod P134. Carefully drill 1mm holes into the base of P169 - drill pilot hole first. Glue the 20mm brass rods into these holes as shown. Glue these arms into the frame block - fit the 30mm length of rod as shown and glue in place. Paint the assembled windlass matt black. Set aside to be fitted to the forecastle deck later.







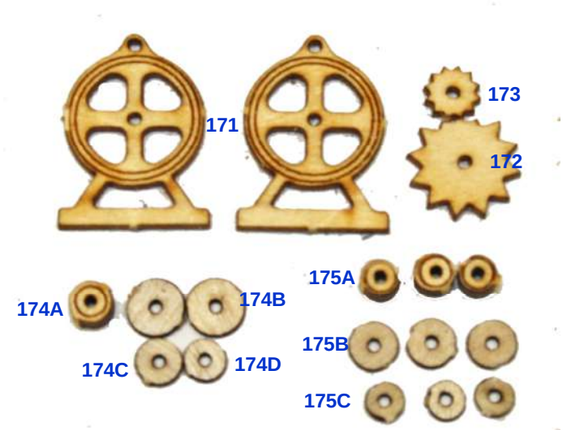




CSS SHENANDOAH
1864
SHEET 78

9.16 Winches

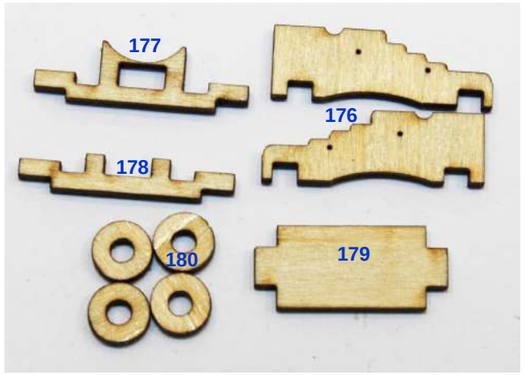
There are two winches on the main deck - below shows the assembly of one winch. Identify the winch parts P171 - P175. Shape P174A as shown. Cut 4 x 15mm lengths of 1mm brass rod P134. To assemble the large drum temporarily fit P174B to one length of rod - fit P174C to the rod followed by P174A and then P174D - glue parts together and remove from rod. To assemble the small drums shape P175A as shown. Temporarily fit P175B to a length of brass rod followed by P175A and then P175C - glue parts together and remove from rod - repeat for the other two small drums. Paint these 4 assembled drums with gold/brass paint as shown. Identify the winch cheeks P171 and the gears P172 and P173 - paint matt black. Cut 30mm lengths of 5mm dowel P245 and 3mm dowel P244 - drill a 1mm hole in the centre of the ends of each dowel. Stain the dowels with shellac. Fix the assembled large drum to a length of brass rod - attach to one cheek P171 and attach gear P172 as shown. Fix the 5mm dowel onto the geared cheek as shown. Fix the gear P173 to the end of the 3mm dowel - position this dowel and gear in place and glue to the cheek. Fix the second cheek in place. Fix the assembled three small drums in place as shown. Repeat for the second winch. Set the winches aside to be fitted to the deck later.

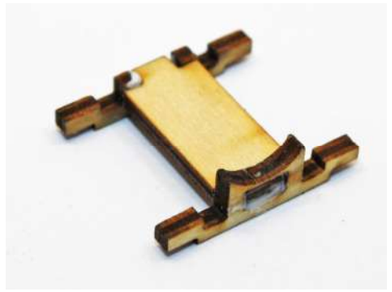


CSS SHENANDOAH
1864
SHEET 79

9.17 Gun Carriages & Cannons

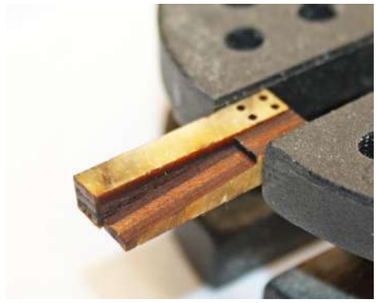
There are four cannons supplied. Identify the cannon parts P177 - P180. Glue P179 to P177 & P178 as shown. Glue P176 in place followed by gluing the wheels P180 in place as shown. Assemble the remaining three carriages. Paint each carriage matt black. Fix eye pins P77 at the front and back of the carriage as shown. Identify the cannon barrel P181 - paint matt black and glue to the carriages as shown. Set assembled cannons aside to be fitted to the main deck later.





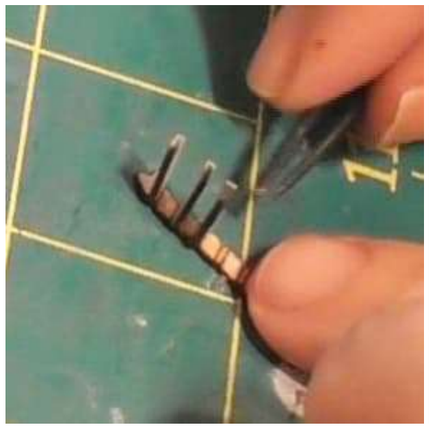
9.18 Cat Heads

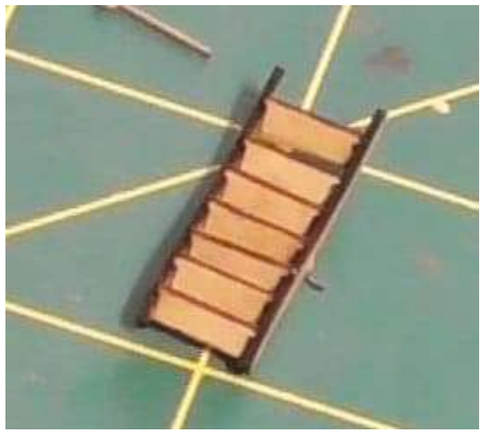
Identify the cat heads P182 and the template P183. Use the template to shape each cat head as shown. Paint the shaped cat heads matt black as shown. Set aside to be fitted to the forecastle deck later.

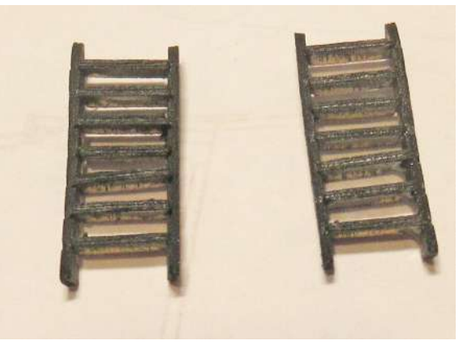


9.19 Steps - Fore & Aft

Identify the fore step strings P185 and the step treads P186. Trial fit the treads into the string slots - fractionally adjust the tread end to easily fit into the slot. Use super glue to fix the treads into the slots of one string as shown. Fix the second string in place as shown. Trial fit in place. Assemble the second fore steps. Then assemble the two aft steps. Paint all steps matt black and set aside to be fitted later.



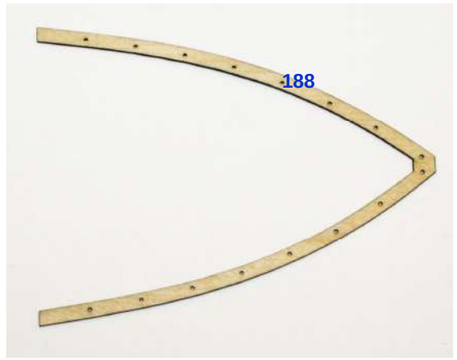


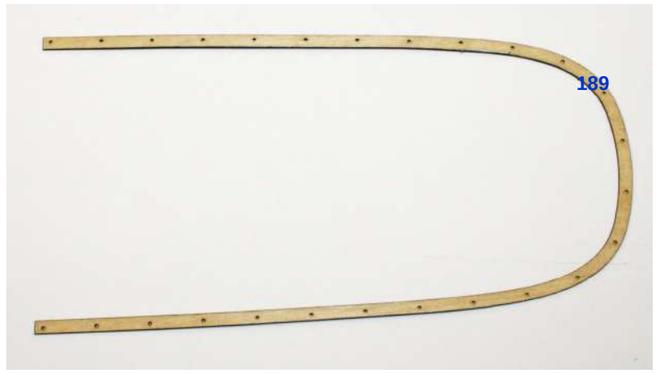


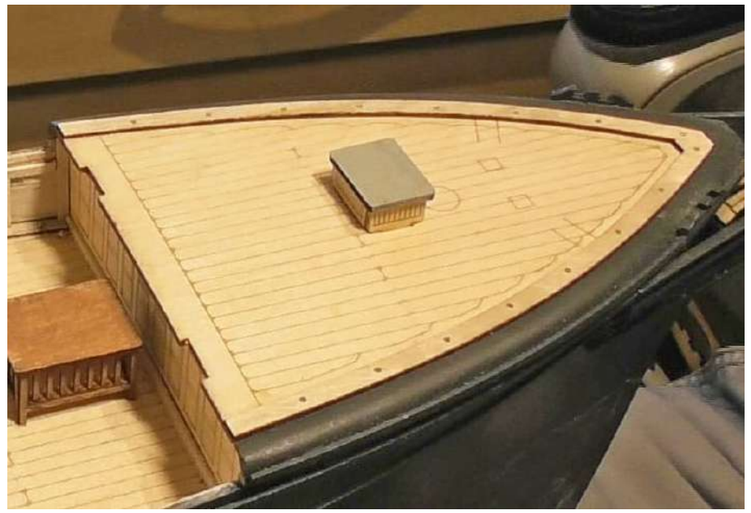
CSS SHENANDOAH
1864
SHEET 80

9.20 Forecastle Deck and Quarter Deck Stanchion Base

Identify the forecastle deck stanchion base P188 and the quarter deck stanchion base P189. Trial fit each in place on their respective deck as shown - fractionally adjust as required. Remove and paint matt black - glue in place.

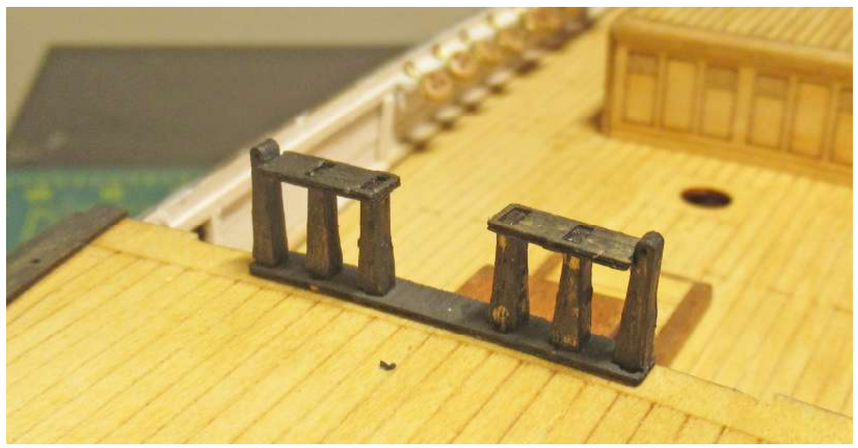






9.21 Forecastle (FC) Deck Balustrade and Belfry

Identify the FC balustrade base P190, FC balustrade tops P191, FC balustrade caps P192 and FC balusters P193A and FC balustrade posts P193B. Paint P190, P191, P193A & P193B matt black. Glue the base P190 in place as shown. Glue the balusters P193A in place followed by the posts P193B as shown. Glue the tops P191 in place as shown. Glue the belfry extensions P195B either side of the belfry P195A - paint matt black. Cut a 25mm length of 0.5mm brass wire P75. Identify the bell P196. Shape a loop at one end of the wire and fit the bell in place. Drill a 0.7mm hole in the centre of the belfry - feed the wire through and glue in place - trim-off excess wire as shown. Glue the assembled belfry in place. Glue the cap P192 in place to cover the balustrade ends - do not paint the cap. Retrieve the fore steps - glue in place as shown.

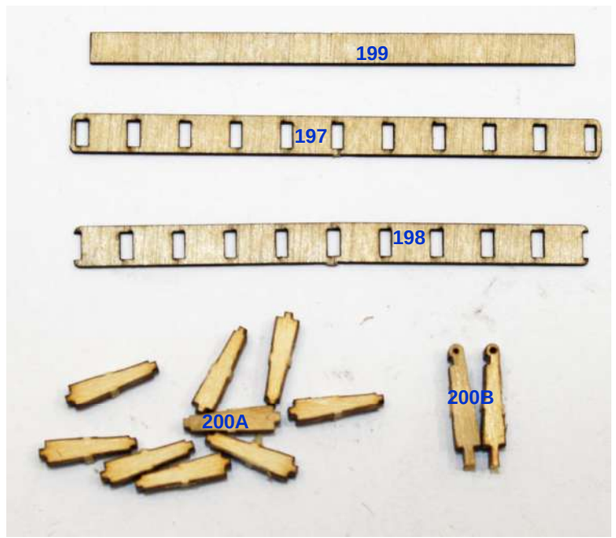


CSS SHENANDOAH
1864
SHEET 81

9.22 Quarter Deck (QD) Balustrade

Identify the QD balustrade base P197, QD balustrade top P198, QD balustrade cap P199, QD balusters P200A and QD balustrade posts P200B.

Paint P197, P198 and P193A & P193B matt black. Glue the base P197 in place as shown. Glue the balusters P200A in place followed by the ends P200B as shown. Glue the top P198 in place as shown. Glue the cap P199 in place to cover the balustrade ends - do not paint cap. Retrieve the aft steps - glue in place as shown.



9.23 Hand Rails

Identify the hand rail jig P201.Cut 8 x 60mm lengths of 0.5mm brass wire P75 - use the jig to shape each length as shown. Identify the hand rail post feet P202. and the hand rail posts P203. Glue the feet to the posts as shown. Paint the assembled posts matt black as shown. Use a drill to clean-out the hole in the post top. Fix a pin into the centre of each post and fix the post to the quarter deck and forecastle deck as shown. Drill a 0.7mm hole into the main deck adjacent to the ladder feet. Fix the hand rails as shown.

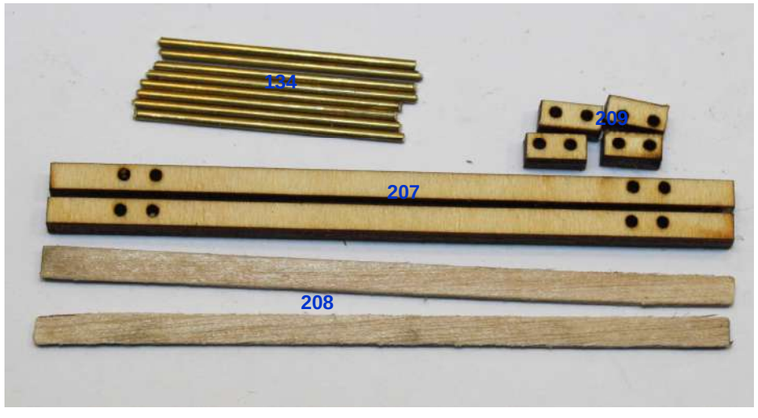
CSS SHENANDOAH
1864
SHEET 82

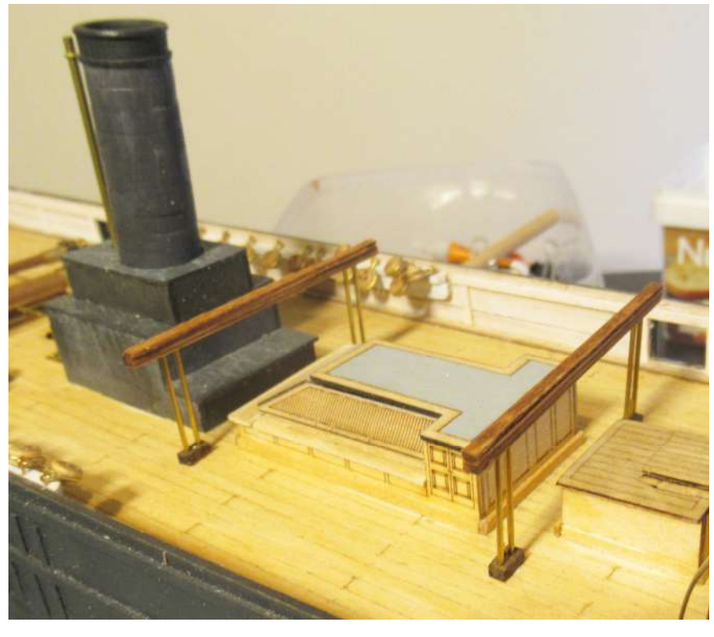
9.24 Forecastle Deck Fittings

Identify the catheads previously made. Cut through the forecastle deck trims as shown - trial fit the catheads in position - fractionally adjust as required - once satisfied glue each cathead in place. Retrieve the windlass previously assembled - glue in place at the marked position on the deck. Retrieve the previously assembled capstan - glue in place at the marked position on the deck.

9.25 Boat Racks

Identify the racks P207, rack caps P208 and the bases P209. Cut 8 x 25mm lengths of 1mm brass rod P134. Glue the caps to the top of each rack. Use a cloth to apply matt brown to colour the racks. Use walnut stain to colour the bases. Fix eye pins P77 centrally in the ends of each rack. Fix eye pins in place to the rack top 20mm from each end as shown. Fix a pin centrally to the underside of each base. Fix the brass rods into the bases and fix to the racks. Drill a hole centrally at pre-marked base positions on the deck and glue the assembled racks in place as shown.



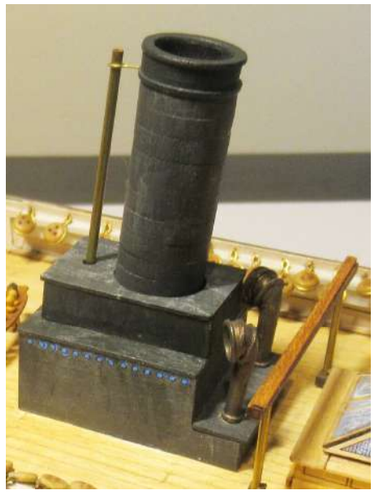


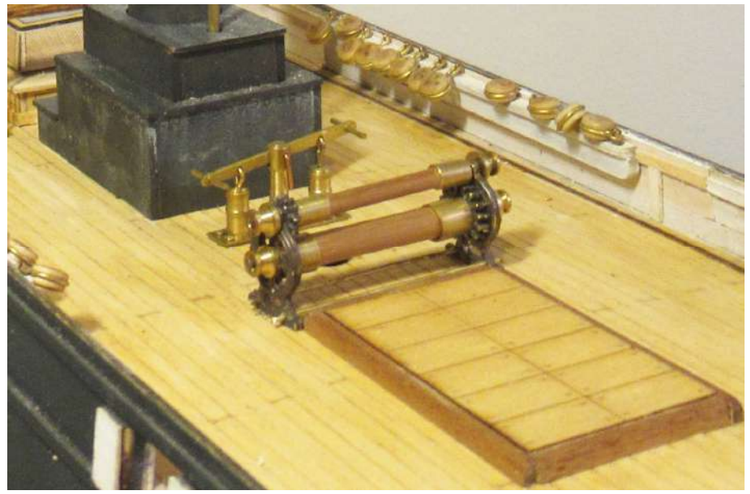
CSS SHENANDOAH
1864
SHEET 83

9.26 Ventilators, Binnacles, Winches, Pump and Galley Chimney

Identify the 15mm ventilators P210 and 20mm ventilators P211. Paint each ventilator matt black. At the foremast drill a 3mm hole at the pre-marked position to accept a 20mm ventilator. Fix the 20mm ventilator in position. Fix pins to the base of each of the15mm ventilators, drill holes at the pre-marked positions and fix the ventilators in position - align the ventilators as shown. On the boiler housing fix two 20mm ventilators into the pre-cut holes - align ventilators as shown. Retrieve a winch previously assembled - fix in place on the deck in front of the foremast ventilators at the pre-marked position. Identify the binnacles P212 - drill 2mm holes at the pre-marked locations on the deck house and between the wheelhouse and companionway as shown.

Identify the pump parts P214A-B. Glue the two crossheads P214B together - align the parts so a gap remains between them and the holes are aligned. Take two eye pins P299 - cut the shank on each to approximately 8mm. Drill a 0.7mm hole into the top of the each cylinder to a depth to accept the eye pins. To assemble the pump - fit the eye pins in place - place the crosshead onto the column and fit a nail P68 as shown. Adjust the height of the eye pins to align with the holes and fit a nail through each as shown. Apply a dab of glue to each nail and trim-off excess shank length. Cut two 18mm lengths of 1mm brass rod P134 - fit in place as shown. Fix the assembled pump in position at the pre-marked position in front of the main mast. Fix the second previously assembled winch in place at the pre-marked position in front of the pump. For the galley chimney cut a 13mm length of 4mm dowel P282 and a 8mm length of 3mm dowel P244. Shape one end of the 4mm dowel to accept the 3mm dowel. Glue the 3mm dowel in place as the cross chimney. Paint the assembled funnel matt black and fix in place at the pre-marked position on the deck house roof as shown.





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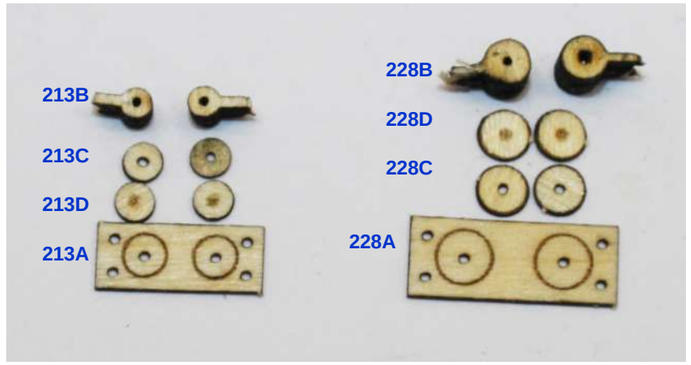
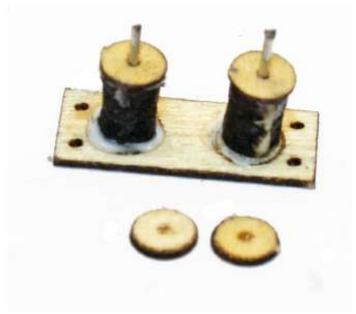
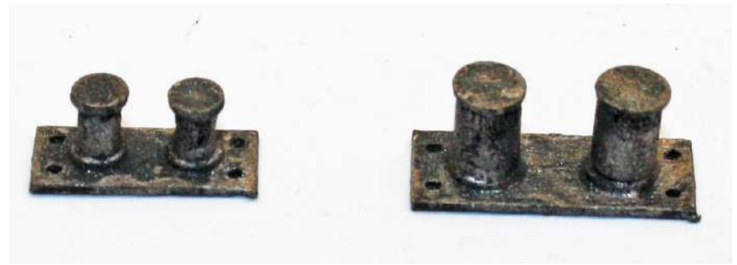
1864
SHEET 84

9.27 Main Deck, Quarter Deck and Forecastle Deck Bollards

Identify the 4mm bollard parts P213A, P213B, P213C and P213D. Remove the tab on P213B. Use a pin to align the parts. Glue parts 213B to the base 213A as shown. Glue 213C to the top of the bitts. Glue P213D to the top of 213C. Once glue has set shape 213D from the outer edge to the score circle to achieve a slight dome. Paint matt black. Fix these bollards to the pre-marked positions on the forecastle and quarter decks as shown. Identify the 6mm bollard parts P228A, P228B, P228C and P228D. Remove the tab on P228B.Use a pin to align the parts. Glue parts 228B to the base P228A. Shape 228C from the outer edge to the score circle - glue to the top of the bitts as shown. Shape 228D from the outer edge to the score circle to achieve a slight dome - glue to the top of 228C. Paint matt black. Fix these bollards to the pre-marked positions on the main deck as shown.



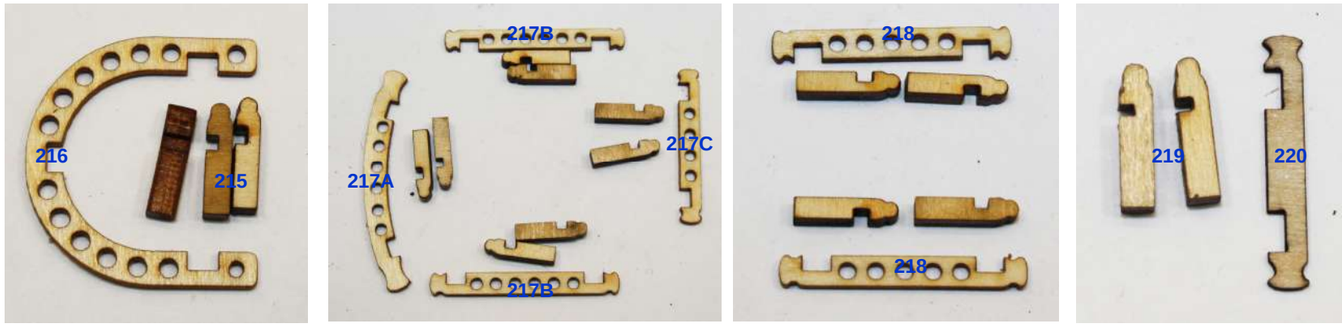




CSS SHENANDOAH
1864
SHEET 85

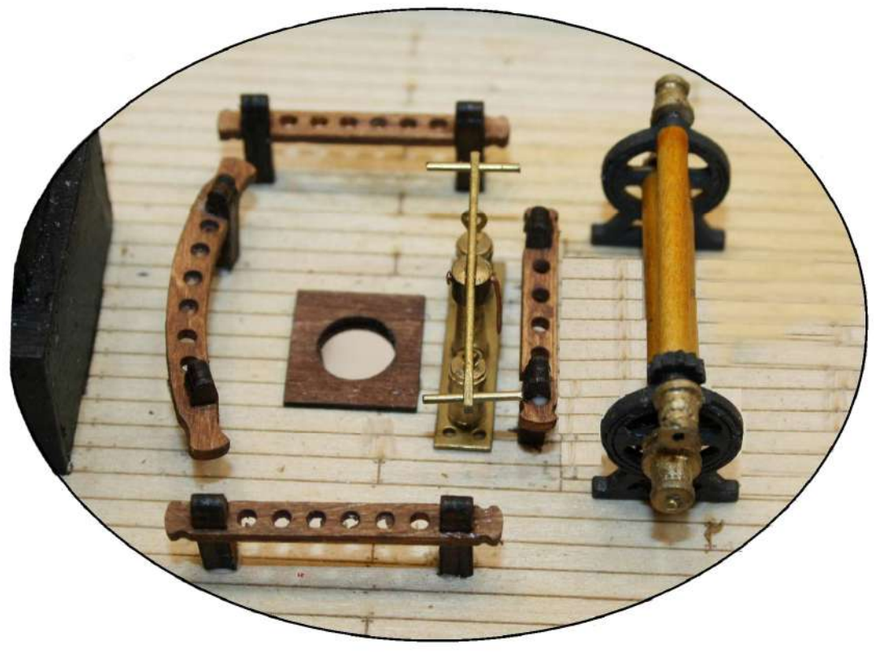
9.28 Pin Rails, Fife Rail and Mast Plates

Identify the mizzen, main and fore mast plates P204-P206 respectively. Apply matt brown paint to each with a soft cloth. Fix each mast plate in place at its mast hole on the pre-marked positions. Identify the pin rail posts P215, mizzen mast pin rail P216, main mast pin rails P217A-B, foremast pin rails P218, forecastle fire rail posts P219 and forecastle fife rail P220. Fix a pin to the base of all rails posts. Stain all rail posts teak. Assemble each pin rail and the fife rail as shown. Drill holes at the pre-marked positions on the decks. Fix the assembled pin rails and fife rail in place as shown.



Forecastle Fife Rail

Mizzen Mast



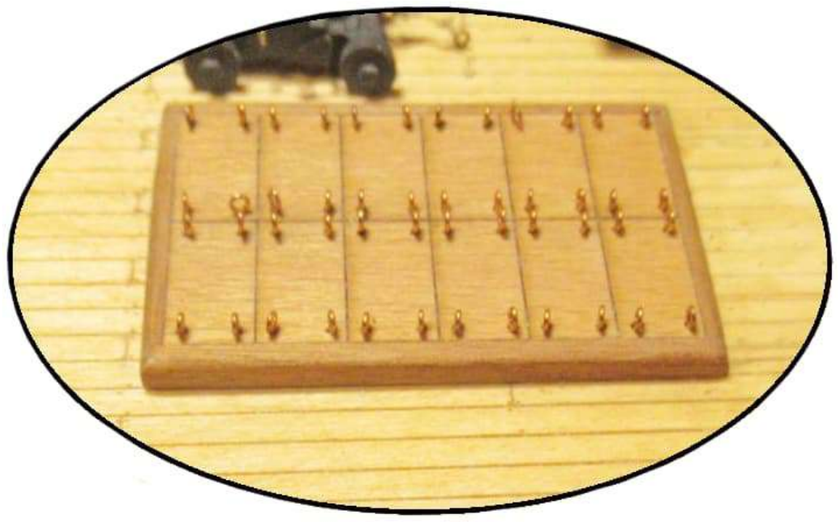
Main Mast

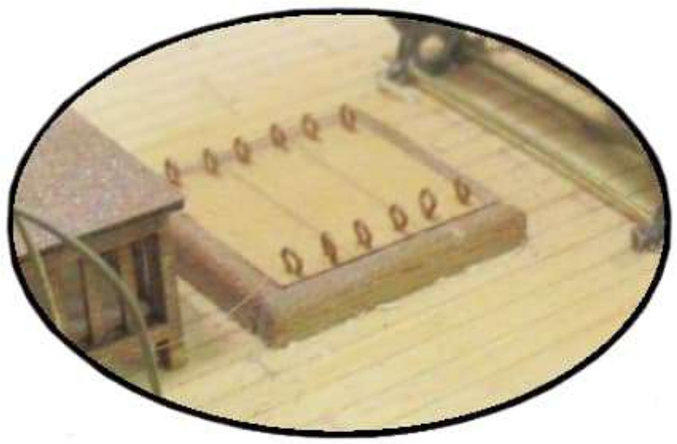
Foremast

CSS SHENANDOAH
1864
SHEET 86

9.29 Cleats
Identify the cleats P240. Fix the cleats in place at the pre-marked positions on the forecastle deck and quarter deck as shown. Also fix cleats to the base of the catheads as shown.

9.30 Hatch Eye Pins
Identify the eye pins P77 - fix in place on the two hatches as shown.





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1864
SHEET 87

9.31 Railings - Deck House Bridge, Forecastle and Quarter Deck.

Identify the stanchions P221. Identify the deck house bridge rail tops P222A - P222C. Identify the rail caps P222C - P222D. Fix the stanchions into the pre-cut holes in the bridge. Thread 0.25mm grey rigging cord C5 280 through the stanchion holes. Seize ends with a dab of super glue. Paint the stanchions and thread matt black. Fix the rail tops in place then fix the rail cap in place. Paint matt black as shown. Identify the forecastle rail top P223. Fix the stanchions in place along the stanchion base. Fix eye pins P77 in place as shown. Thread the cord through the stanchions holes - seize ends at the eye pins. Paint the stanchions and thread matt black. Fix the rail top in place - fill holes with wood filler - paint matt black. Identify the quarter deck rail top P224. Fix the stanchions in place along the stanchion base. Thread the cord through the stanchions holes - seize ends with super glue. Paint the stanchions and thread matt black. Fix the rail top in place - fill holes with wood filler - paint matt black.

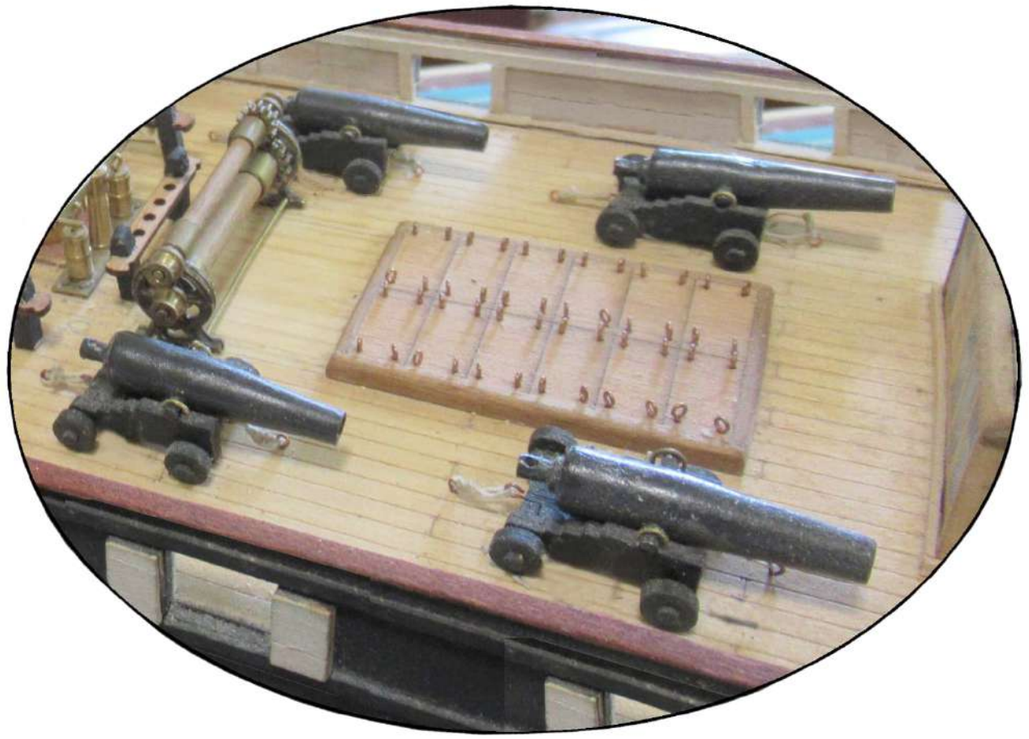
CSS SHENANDOAH
1864
SHEET 88

9.32 Anchors and Sea King Figurehead

Identify the anchors P225, 4mm chain P226 and 1mm brass wire P242. Cut 2 x 20mm lengths of the brass wire - wrap around length of 5mm dowel P245 to create a ring - trim off excess. Paint the anchors matt black. Cut two x 100mm lengths of chain. Attach the ring to the anchor and one end of the chain as shown. Apply glue to the other end of the chain and feed the chain into the hawse. Fit anchors to the forecastle deck as shown. Identify the Sea King figurehead P61 - paint matt white or as desired. Fix to the stem post as shown.

9.33 Cannons

Retrieve the assembled cannons. Indentify the pre-marked circles on the main deck - fix eye pins P77 at each point. Place each cannon in place - fix in place if desired. Rig 0.25mm grey cord C5 P280 between the eye pins on the cannon carriage to the deck eye pins as shown.



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1864
SHEET 89

9.34 Boat A Assembly

There are two Boat A. Identify Boat A parts P229 to P223. Follow the steps below to assemble the boat.

Step 1 Shape layer 1 as shown.

Step 2 Glue layer 1 to the keel .

Step 3 Fit layer 2 in place as shown and draw the outline of layer 1 on the underside as shown.

Step 4 Shape layer 2 from the pencil line as shown. Turn the layer over and shape internally from the score line to the internal cut line as shown.

Step 5 Glue layer 2 in place as shown.

Step 6 Fit layer 3 in place as shown and draw the outline of layer 2 on the underside as shown.

Step 7 Shape layer 3 from the pencil line as shown. Turn the layer over and shape internally from the score line to the internal cut line as shown.

Step 8 Glue layer 3 in place as shown.

Step 9 Paint inside of hull matt white.

Step 10 Glue the seat capping in place.

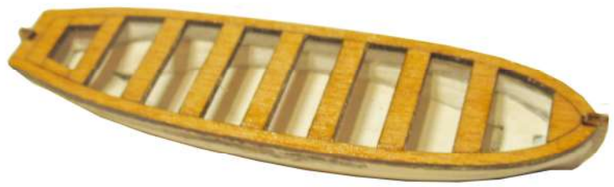
Step 11 Sand the hull to ensure a smooth transition between layer. Use a water moistened wood filler to fill any gaps.

CSS SHENANDOAH
1864
SHEET 90

9.34 Boat A Assembly continued

Step 12 Sand the hull again until satisfied. Repeat use of wood filler if needed.

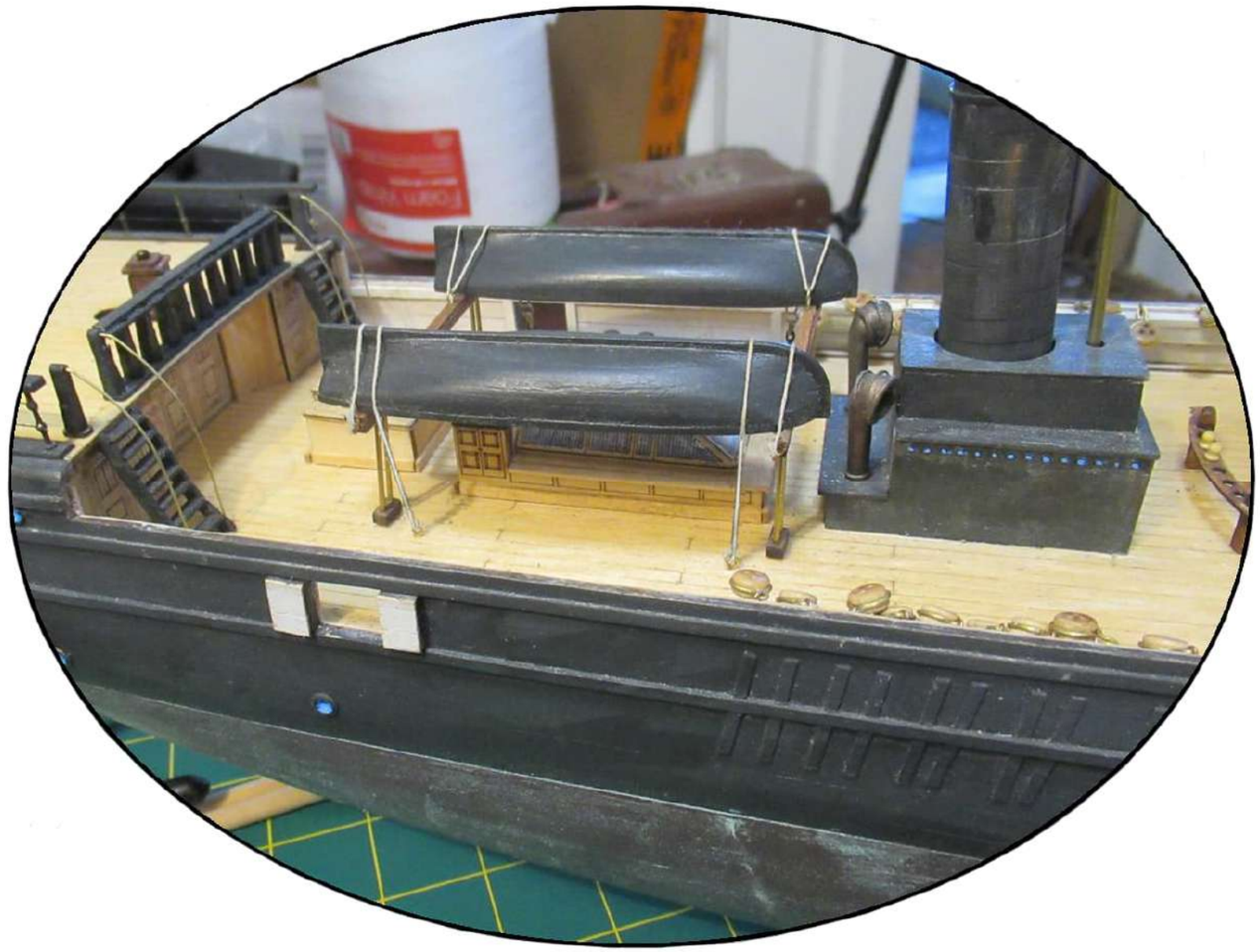
Step 13 Stain the seat capping with shellac. Repeat for the second boat.



Step 14 Paint the hulls matt black as shown

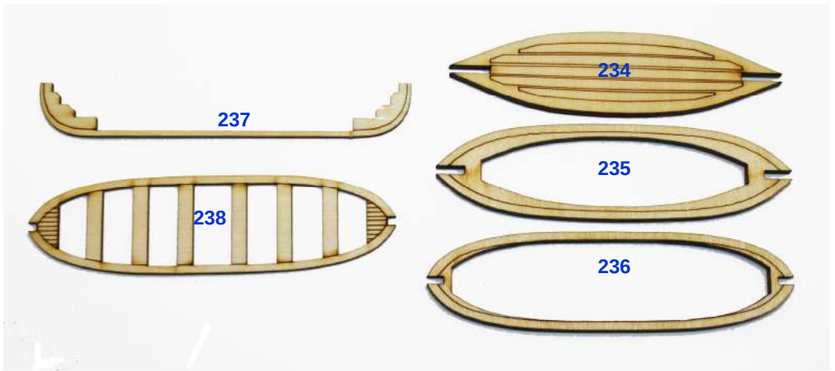
9.35 Boat A Placement

Fix eye pins P77 at the pre-marked locations on the deck. Place the two boats on the boat rack as shown. Use cord C6 P281 to tie the boats in position attaching to the previously fixed eye pins on the racks and deck as shown.



9.36 Boat B Assembly

There are four Boat B. Identify Boat B parts P234 to P238. Turn layer 1 over and shape as for Boat A. Apply shellac to the top side of layer 1. Glue layer 1 to the keel. Paint the stem posts matt white. Take layers 2 & 3 and shape externally and internally as for Boat A. Glue the two layers together - paint matt white as shown. Apply shellac to the seat capping as shown. Glue the assembled layers 2 & 3 in place above layer 1. Glue the seat capping in place as shown. Fix eye pins P77 in place as shown on the four boats. Take two boats and drill a 1.0mm hole 2mm behind the eye pins. Cut two 90mm lengths of 1mm brass wire P242 - straighten the wire - bend one end at 90 degrees - measure to fit the other end into the second hole - bend this end at 90 degrees. Fix the wire into the holes as shown. Identify the calico P239 - cut two 35 x 70mm pieces. Apply white wood glue to the top edges of the boat and fit one piece of calico over the boat as shown - apply the glue to the calico and allow to fully dry. Use a pointed blade knife to trim the excess calico leaving approximately 5mm over hang. Set the four boats aside to be fitted to the model later.



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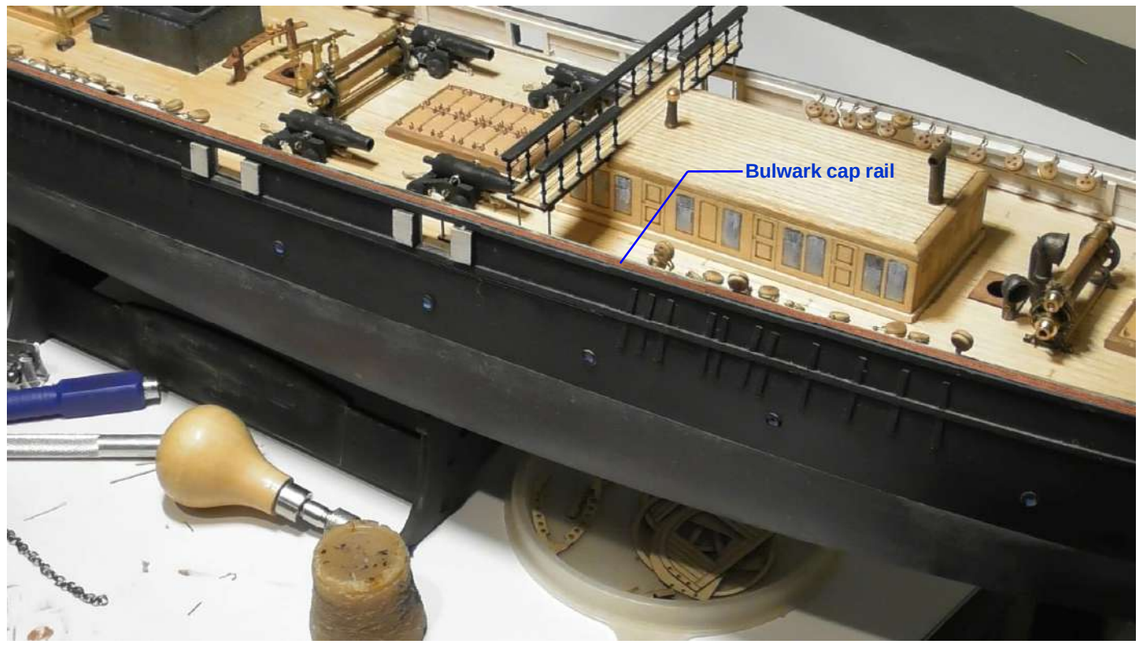
1864
SHEET 92

9.37 Bulwark Cap Rail

Identify the bulwark cap rail P241. Trial fit in place - fractionally adjust as required. Stain rail walnut or paint white as desired. Glue cap rail in place. Repeat for the other side of the hull.



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1864
SHEET 93

10.0 Masts, Yards, Gaff, Booms and Bowsprit

The next step is to shape and assemble the masts, yards, bowsprit, gaffs , boom and dolphin striker. Use a mini plane, file and sandpaper to taper and shape the dowels in the diagrams below.

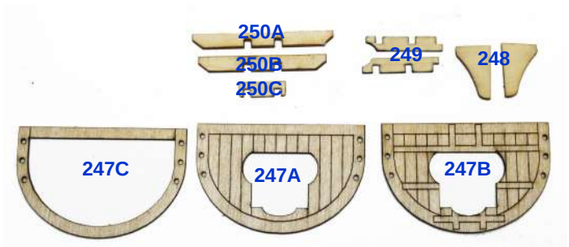
10.1 Mast Tops, Trestle Trees & Cross Trees

10.1.1 Mast Tops

Identify the foremast (FM) mast top parts P247A-C, FM cheeks P248, FM trestle trees P249 and FM cross trees P250A-C. Identify the mainmast (MM) mast top parts P251A-C, MM cheeks P252, MM trestle trees P253 and MM cross trees 254A-C. Identify the mizzenmast (MZ) mast top parts P255A-C, MZ cheeks P256, MZ trestle trees P257 and MZ cross trees P258A-C. To assemble the foremast mast top glue 247A on top of 247B. Use a cotton bud to apply a coat of Tung Oil to both faces of the mast top. Paint 247C matt black and glue in place on top of 247A. Assemble the trestle trees and cross trees as shown - paint matt black and glue in place on the underside face 247B - align with the pre-scored line - as shown. Paint the whole outer edge of the mat top matt black. Set assembled foremast top aside to be fitted to the mast later. Repeat steps for the mainmast and mizzen mast.

10.1.2 Topmast Trestle Trees & Cross Trees

Identify the foremast (FTM) trestle trees P259, cross trees P260 and cheeks P261. Identify the main topmast (MTM) trestle trees P262, cross trees P263 and cheeks P264.Identify the mizzen topmast (MZTM) trestle trees P265, cross trees P266 and cheeks P267. Assemble each topmast trestle and cross trees as shown - paint matt black. Set each aside to be fitted to their respective mast later.

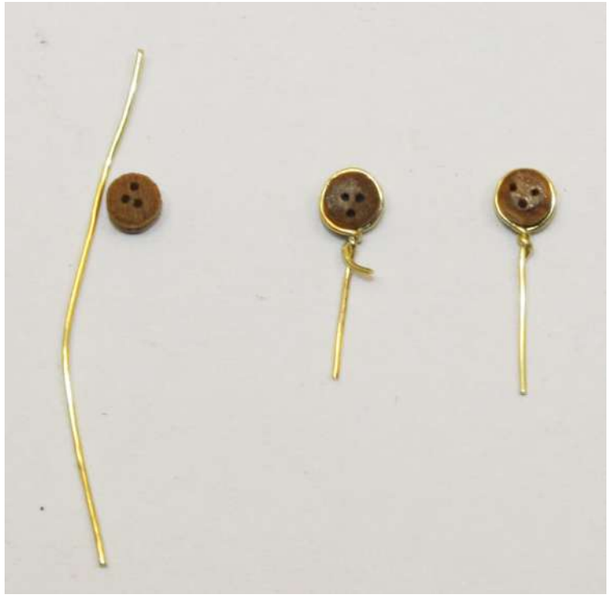


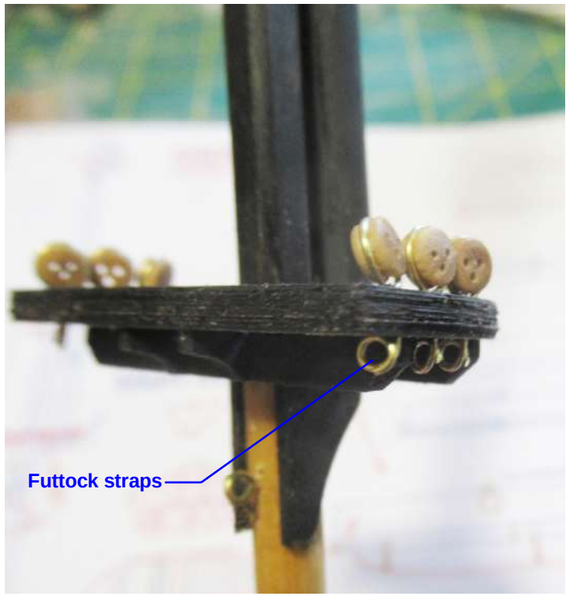
Foremast Mast Top

Fore Topmast Trestle & Cross Trees

10.1.3 Mast Top Deadeyes

Before assembling the masts fit the lower deadeyes to futtock straps for the topmast shrouds. Identify the 3mm deadeyes P109.Cut 18 x 35mm lengths on 0.5mm brass wire P75.Wrap a length of the wire around the deadeye as shown - align deadeye holes as shown - twist wire once with pliers - trim-off one tail as shown. Fit to the mast top and use round nose pliers to create a pig-tail as shown - trim-off any excess length if needed. Repeat for each mast top.





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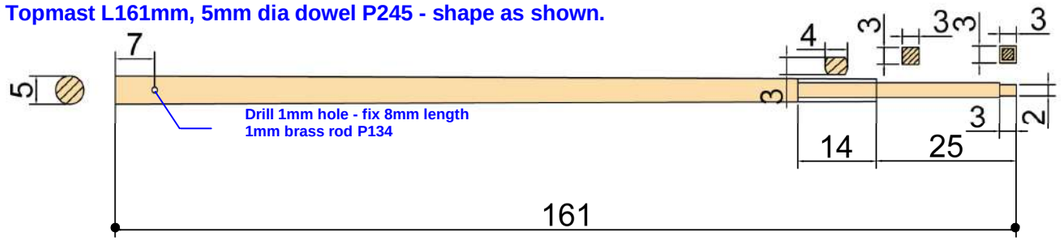
1864
SHEET 94

10.2 Masts

10.2.1 Foremast

Identify the 3mm dowel P244, 5mm dowel P245 and 8mm dowel P246.Cut each to length and shape according to the figures below. Apply shellac to the masts.

Fore Topmast L161mm, 5mm dia dowel P245 - shape as shown.



Fore Topgallant Mast L149mm, 3mm dia dowel P244 - shape as shown

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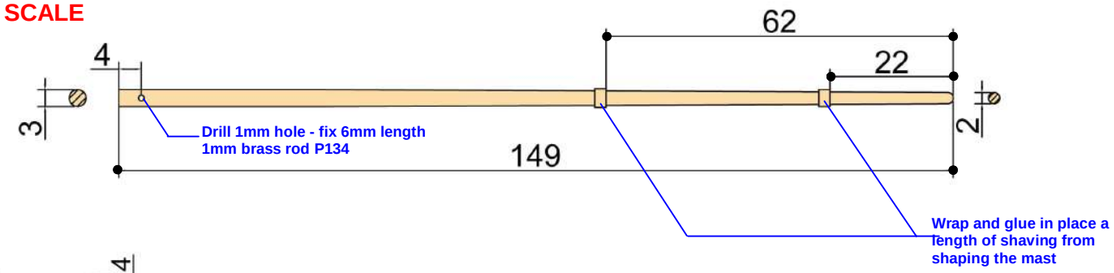
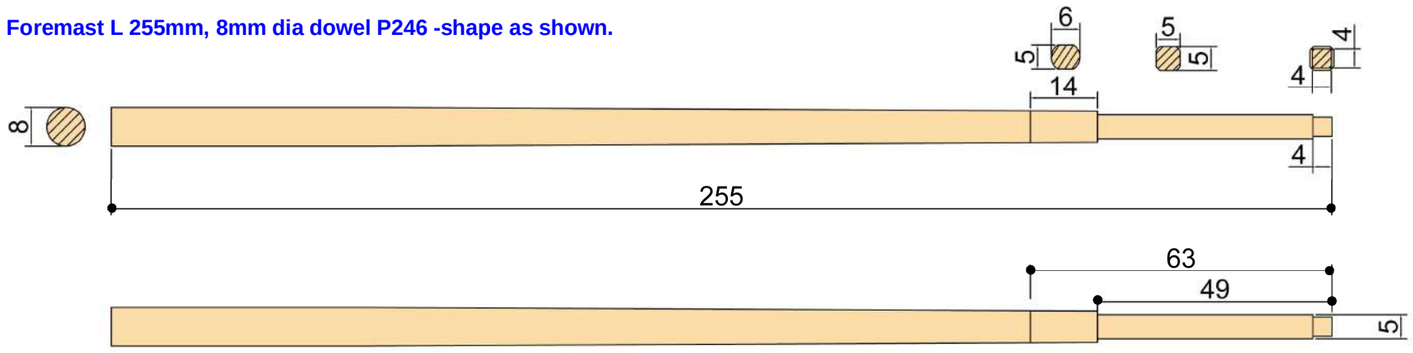
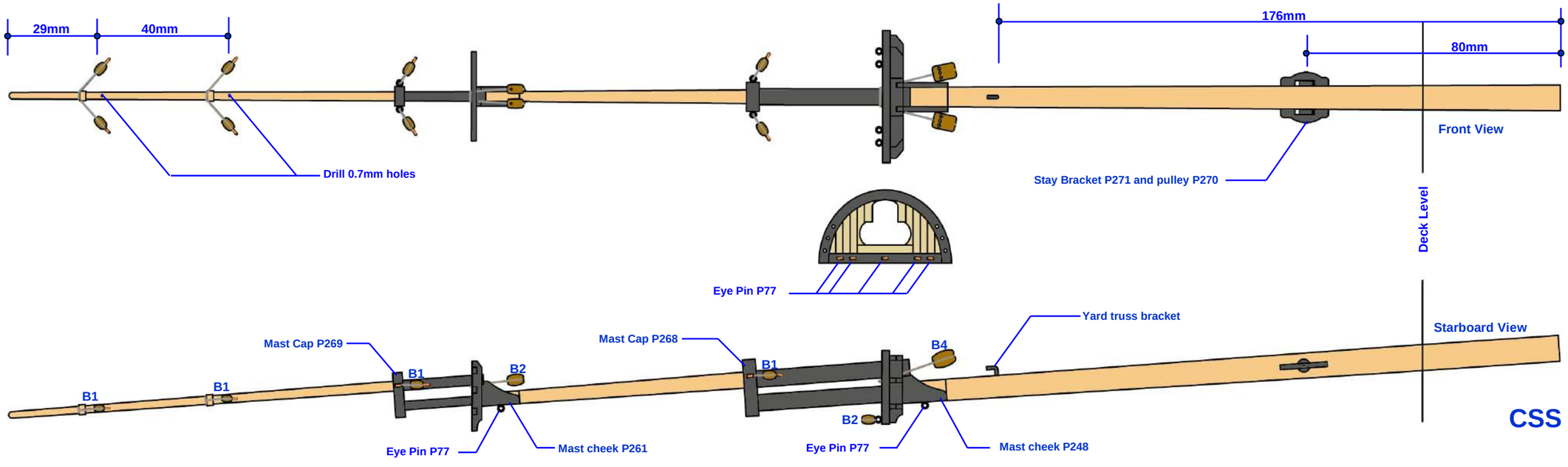


Foremast L 255mm, 8mm dia dowel P246 -shape as shown.



10.2.2 Foremast Assembled

Retrieve the mast top and topmast trestle and cross trees. Fix the mast cheeks P248 in place - make sure they are flush with the back of the mast. Trial fit the mast top in place onto the mast cheeks - once satisfied glue in place. Identify the mast cap P268 - fix in place as shown. Fix the topmast cheeks P261 in place - make sure they are flush with the back of the topmast. Trial fit the assembled topmast trestle and cross trees in place onto the mast cheeks - once satisfied glue in place. Identify the topmast cap P269 - fix in place as shown. Trial fit the topmast in place - once satisfied glue in place. Trial fit the topgallant mast in place - once satisfied glue in place. To make the yard truss bracket use a 10mm length of 1mm brass wire P242 - bend one end at a right angle and fix in place as shown. Identify the stay pulley wheels P270 and brackets P271 - fix in place with a nails P68. Also glue bracket to mast - note wheels are off-set in the bracket to give a larger gap at the top as shown. Paint matt black the parts/areas as shown. Identify blocks B1, B2 and B4 - use cord C5 to attach ring P303 to the lower end of blocks as shown. Fix eye pins P77 as shown. Use cord C6 P281 to tie blocks in place as shown.

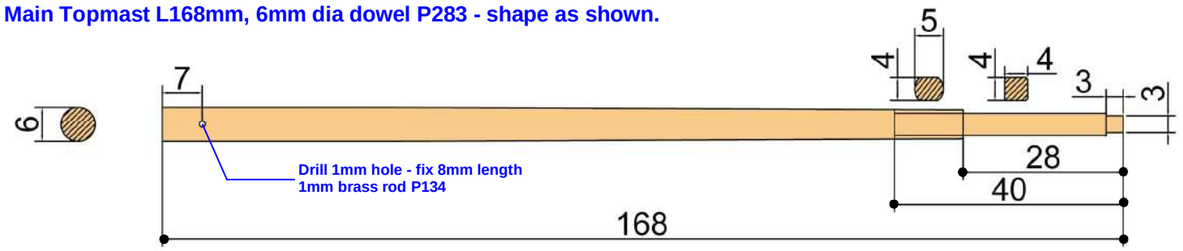


CSS SHENANDOAH
1864
SHEET 95

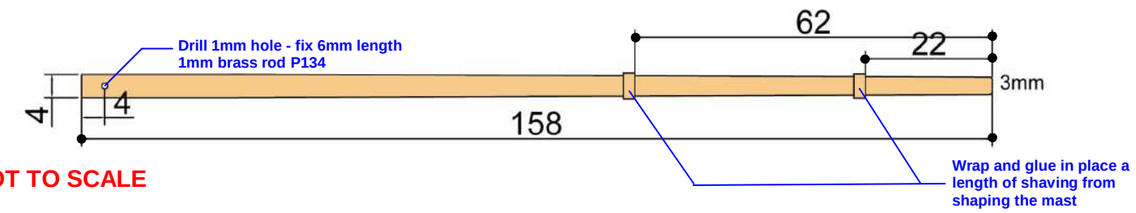
10.2.3 Mainmast

Identify the 4mm dowel P282, 6mm dowel P283 and 8mm dowel P246.Cut each to length and shape according to the figures below. Apply shellac to the masts.

Main Topmast L168mm, 6mm dia dowel P283 - shape as shown.



Main Topgallant Mast L158mm, 4mm dia dowel P282 - shape as shown.



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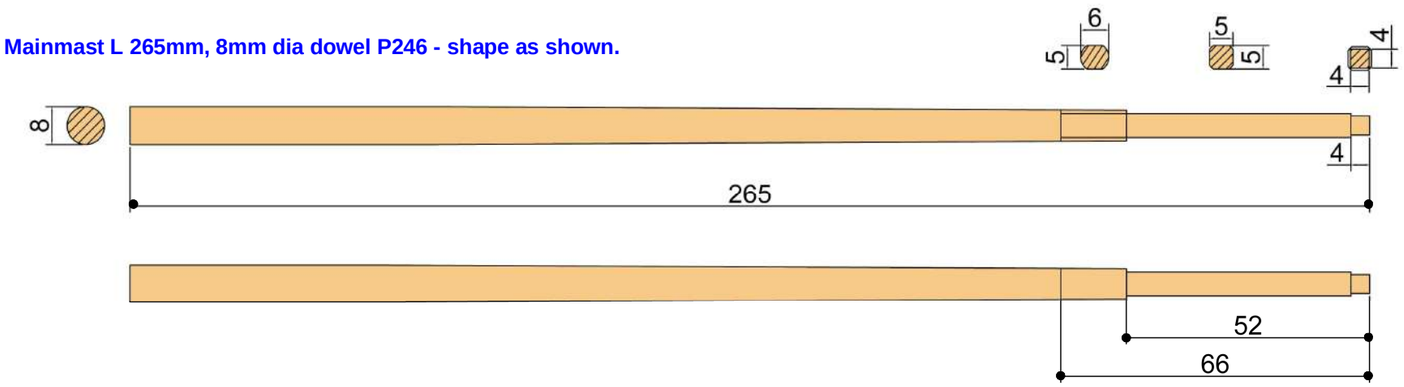
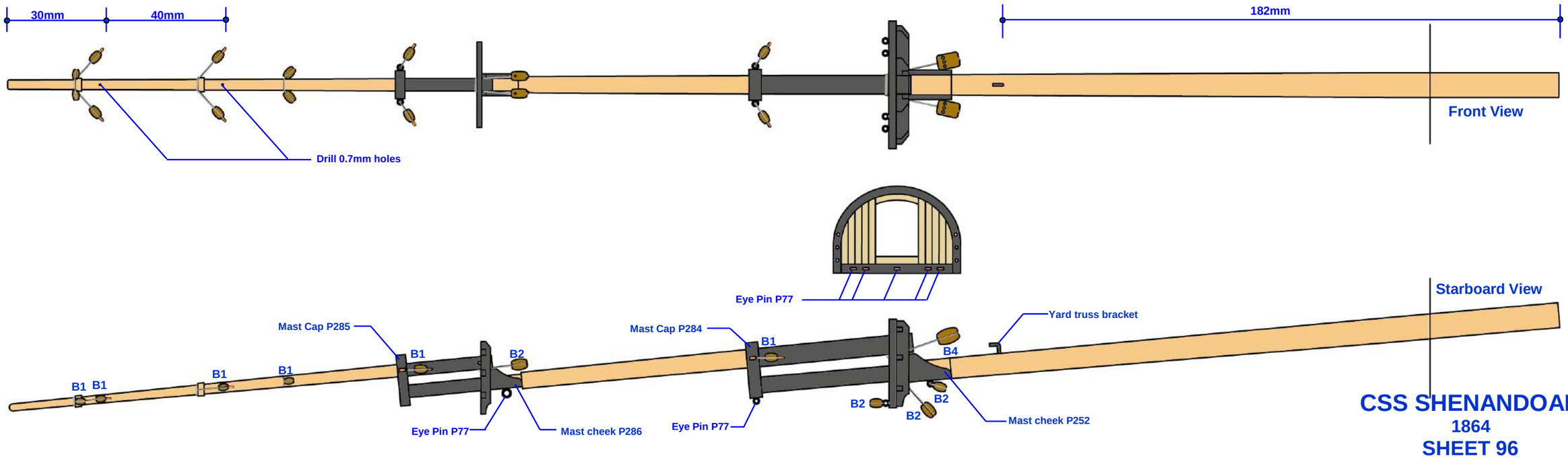
Mainmast L 265mm, 8mm dia dowel P246 - shape as shown.



10.2.4 Mainmast Assembled

Retrieve the mast top and topmast trestle and cross trees. Fix the mast cheeks P252 in place - make sure they are flush with the back of the mast. Trial fit the mast top in place onto the mast cheeks - once satisfied glue on place. Identify the mast cap P284 - fix in place as shown. Fix the topmast cheeks P286 in place - make sure they are flush with the back of the topmast. Trial fit the assembled topmast trestle and cross trees in place onto the mast cheeks - once satisfied glue in place. Identify the topmast cap P285 - fix in place as shown. Trial fit the topmast in place - once satisfied glue in place. Trial fit the topgallant mast in place - once satisfied glue in place. To make the yard truss bracket use a 10mm length of 1mm brass wire P242 - bend one end at a right angle and fix in place as shown. Paint matt black the parts/areas as shown. Identify blocks B1, B2 and B4 - use cord C5 to attach ring P303 to the lower end of blocks as shown. Fix eye pins P77 as shown. Use cord C6 P281 to tie blocks in place as shown

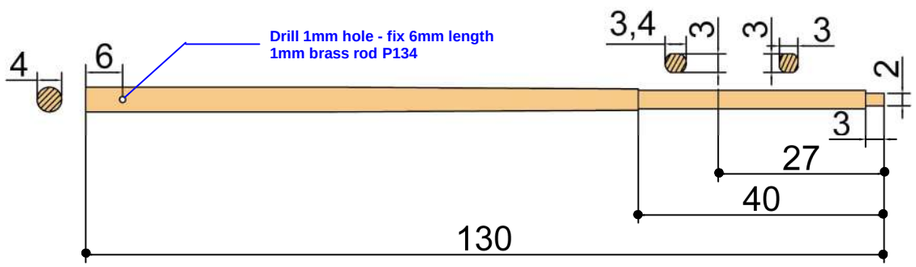


10.2.5 Mizzenmast

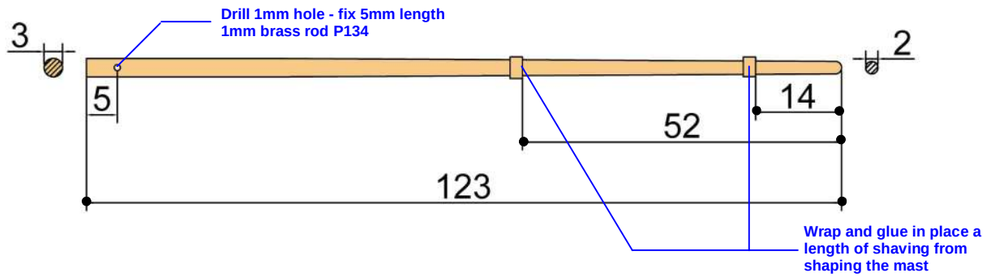
Identify the 3mm dowel P244, 4mm dowel P282 and 6mm dowel P283. Cut each to length and shape according to the figures below. Apply shellac to the masts.

Mizzen Topmast L130mm, 4mm dia dowel P282 - shape as shown.

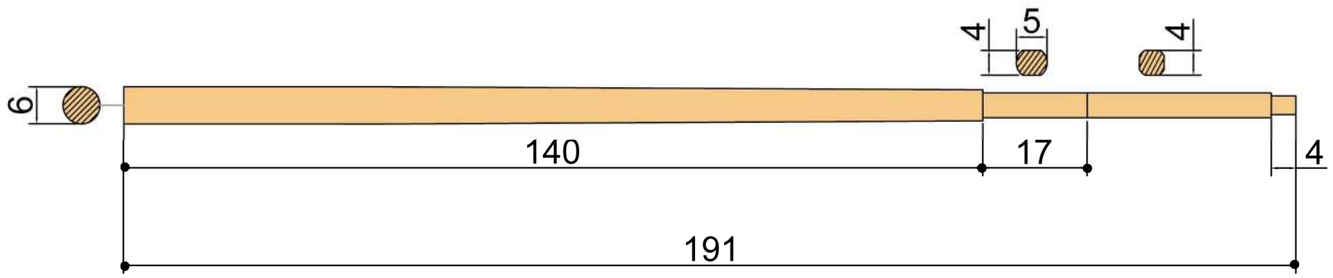
NOT TO SCALE



Mizzen Topgallant Mast L123mm, 3mm dia dowel P244 - shape as shown.

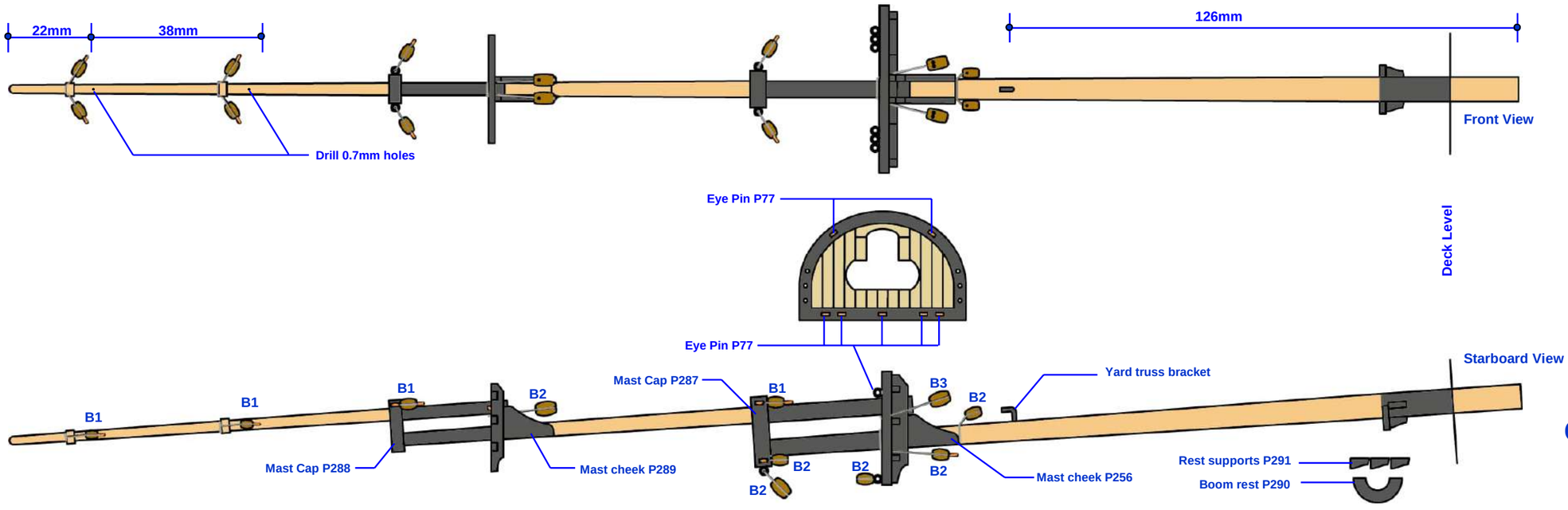


Mizzenmast L 191mm, 6mm dia dowel P283 - shape as shown.



10.2.6 Mizzenmast Assembled

Retrieve the mast top and topmast trestle and cross trees. Fix the mast cheeks P256 in place - make sure they are flush with the back of the mast. Trial fit the mast top in place onto the mast cheeks - once satisfied glue on place. Identify the mast cap P287 - fix in place as shown. Fix the topmast cheeks P289 in place - make sure they are flush with the back of the topmast. Trial fit the assembled topmast trestle and cross trees in place onto the mast cheeks - once satisfied glue in place. Identify the topmast cap P288 - fix in place as shown. Trial fit the topmast in place - once satisfied glue in place. Trial fit the topgallant mast in place - once satisfied glue in place. To make the yard truss bracket use a 10mm length of 1mm brass wire P242 - bend one end at a right angle and fix in place as shown. Identify the boom rest P290 and supports P291 - Fix supports and boom rest in place as shown. Paint matt black the parts/areas as shown. Identify blocks B1, B2 and B3 - use cord C5 to attach ring P303 to the lower end of blocks as shown. Fix eye pins P77 as shown. Use cord C6 P281 to tie blocks in place as shown



CSS SHENANDOAH
1864
SHEET 97

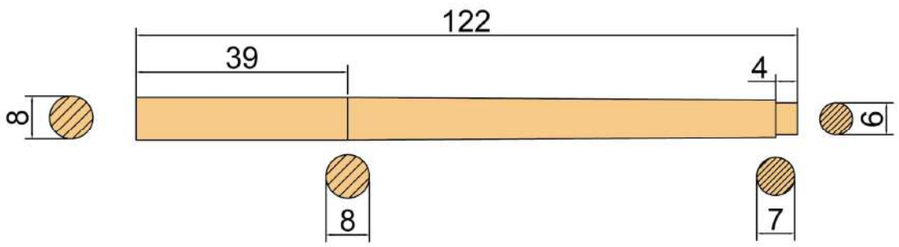
10.3 Bowsprit, Jib boom

Identify the 8mm dowel P246 and 5mm dowel P245. Cut each to length and shape according to the figures below. Identify the bowsprit caps 292 and 293. Assemble the bowsprit and jib boom as shown - fix the bowsprit caps in place as shown. Fix eye pins P243 as shown. Apply shellac to the assembled bowsprit and jib boom. Paint the caps matt black as shown.

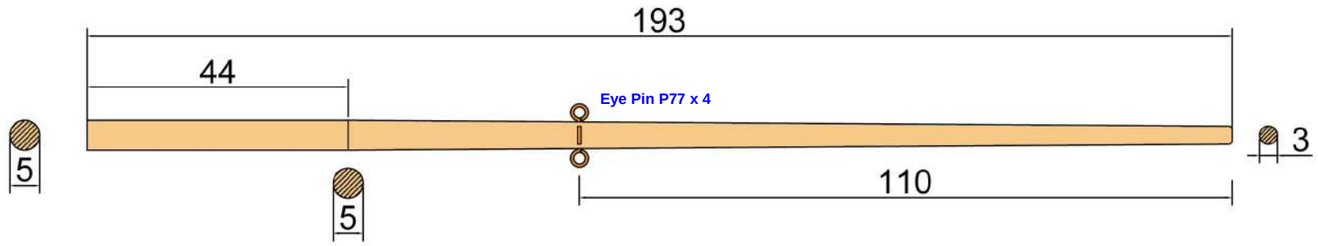
10.4 Dolphin Striker

Identify the 3mm dowel P244. Cut to length and shape as shown. Fix eye pins P77 as shown. Apply shellac.

Bowsprit L122mm, 8mm dia dowel P246 - shape as shown



Jib boom L193mm, 5mm dia dowel P245 - shape as shown



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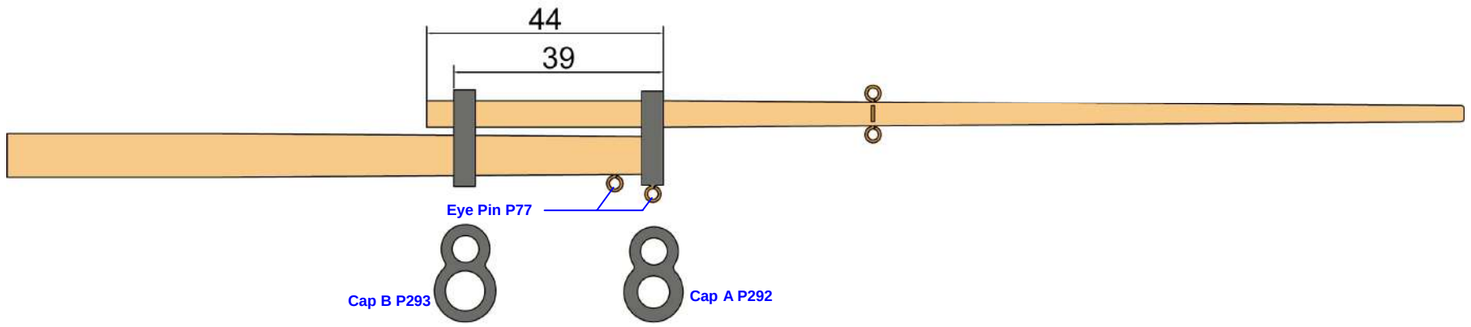
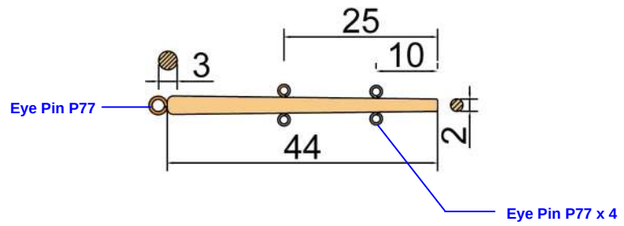


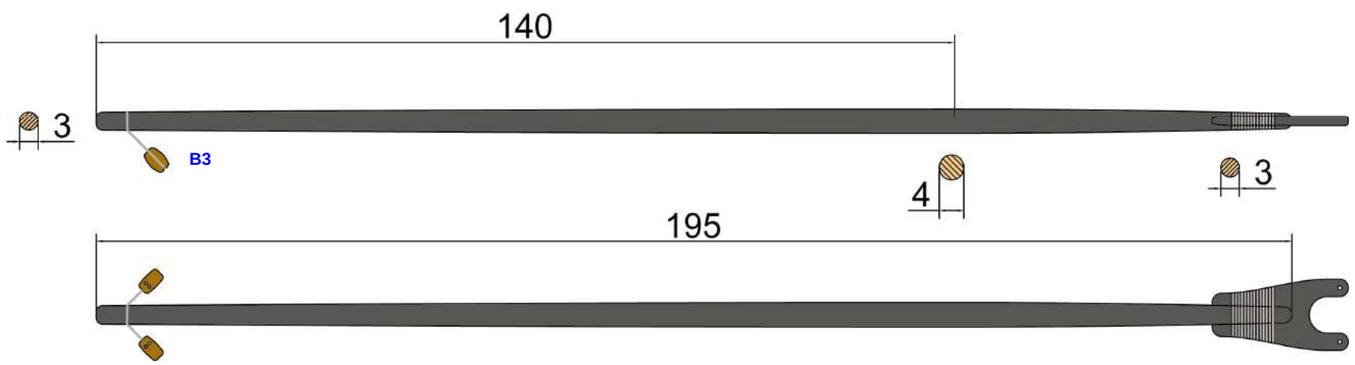
Dolphin striker L44mm 3mm dia dowel P244 - shape as shown



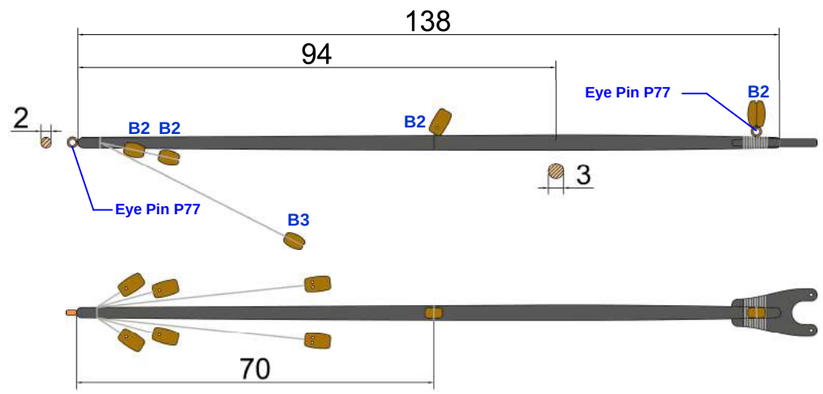
10.5 Mizzen Boom and Gaff

Identify the mizzen boom yoke P294 and the mizzen gaff yoke P295. Identify the 4mm dowel P282 and 3mm dowel P244. Cut each to length and shape according to the figures below. Shape and fit the yokes. Paint the boom and gaff matt black as shown. Fit eye pins P77 as shown. Identify blocks B2 & B3. Use cord C6 P281 to tie the blocks in place as shown. Use cord C6 as lashing over each yoke joint.

Mizzen Boom L195mm, 4mm dia dowel P282 - shape as shown.



Mizzen Gaff L138mm, 3mm dia dowel P244 - shape as shown.



CSS SHENANDOAH
1864
SHEET 98

10.6 Foremast Yards

Identify the relevant dowels. Shape as shown. Identify the yard trusses A P296, B P297, & C P298 - pin and glue each in place at the centre of yards as shown. Identify eye pins P299 - drill 0.7mm holes into yard as shown and fix the eye pins in place as footrope stirrups. Identify blocks B1, B2 and B3 - use cord C6 to attach to yards as shown. Use cord C6 as the footropes and pendants. All pendants are 65mm in length.

Yard L246mm, 6mm dia dowel P283 - shape as shown

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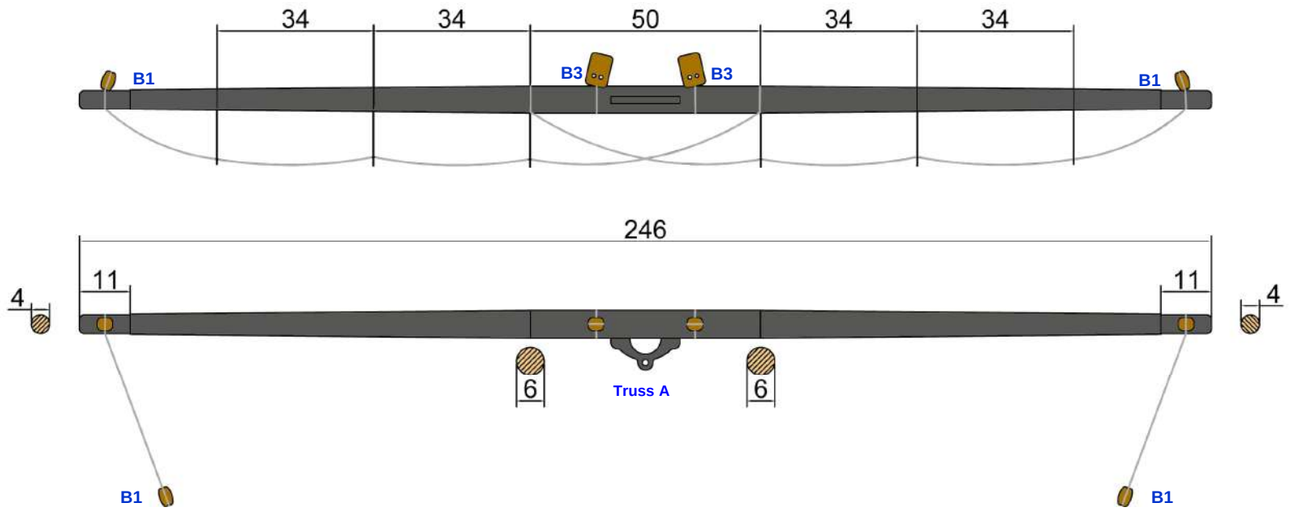
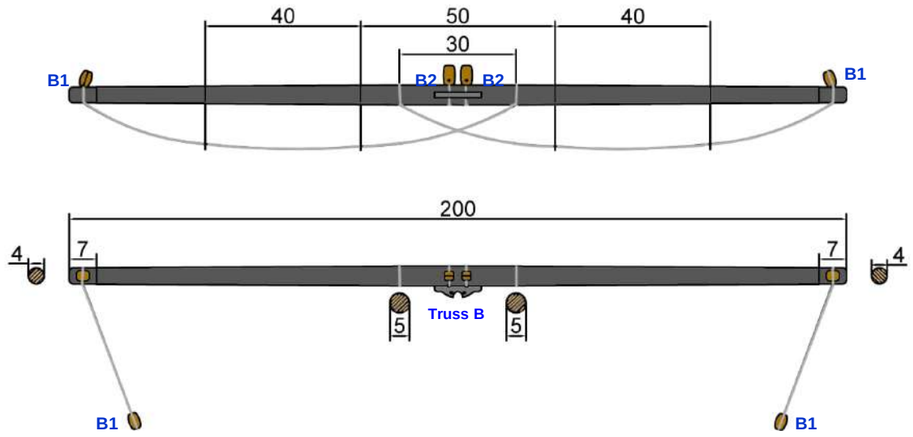
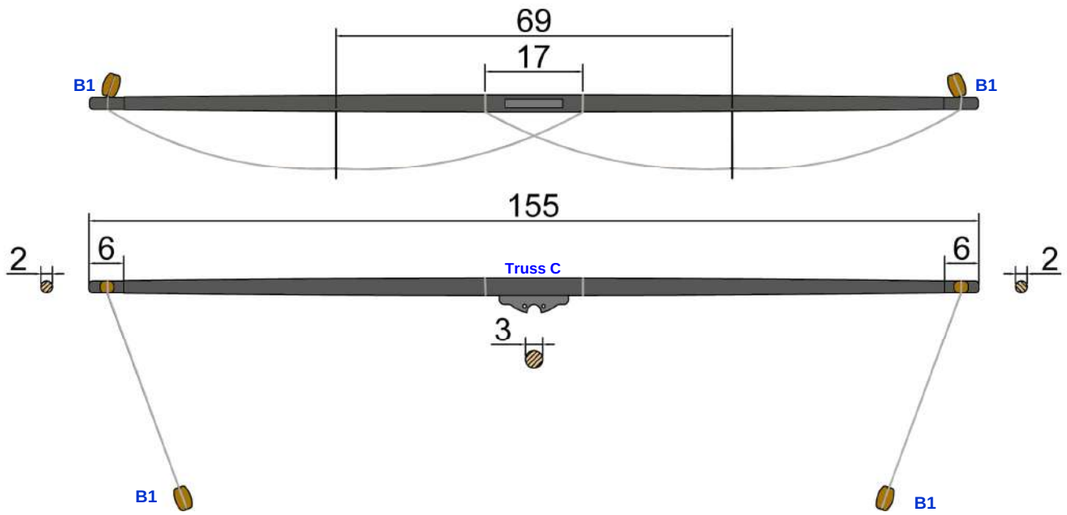


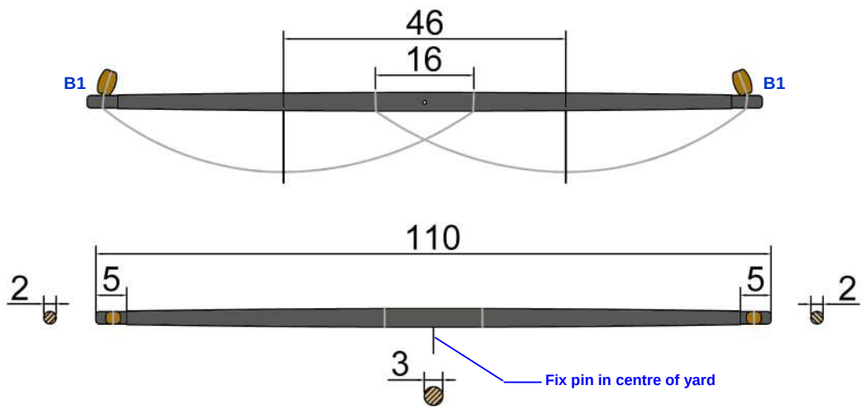
Lower Topsail Yard L200mm, 5mm dia dowel P245 - shape as shown

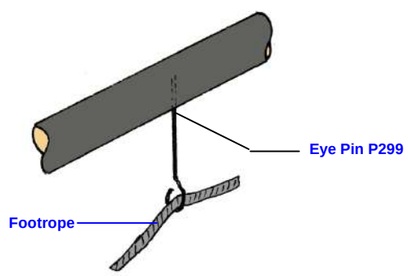


Upper Topsail Yard L155mm, 3mm dia dowel P244 - shape as shown



Topgallant Yard L110mm, 3mm dia dowel P244 - shape as shown





Footrope Stirrup & Footrope

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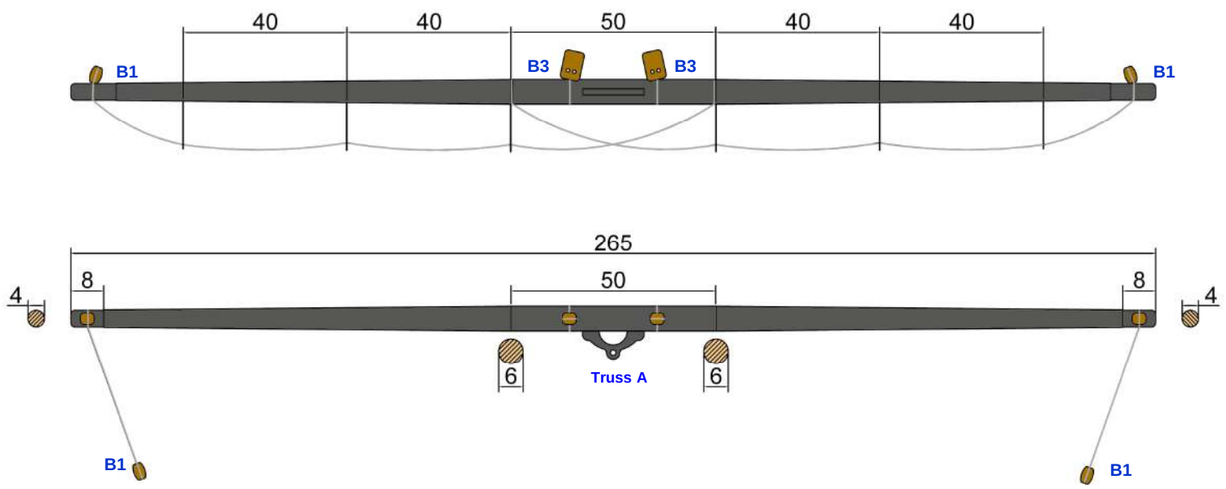
SHEET 99

10.7 Mainmast Yards

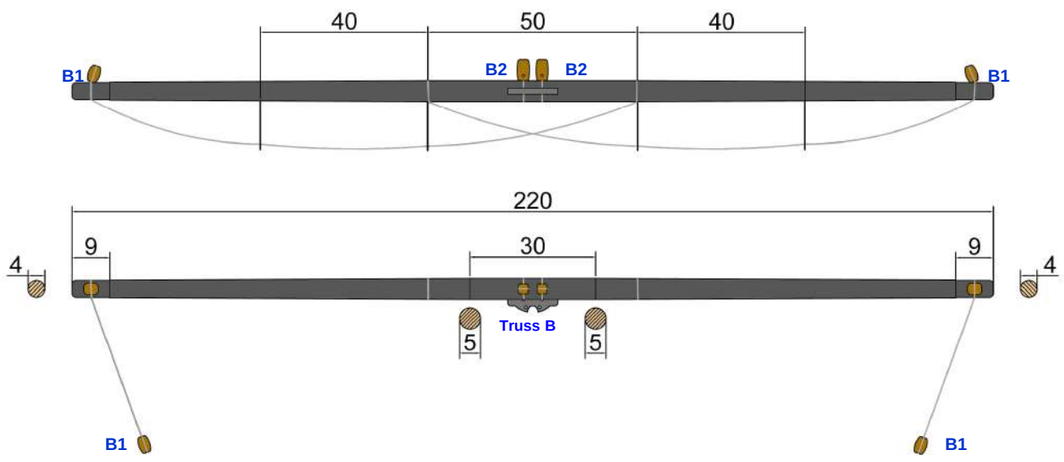
Identify the relevant dowels. Shape as shown. Identify the yard trusses A,P296, B P297, & C P298 - pin and glue each in place at the centre of yards as shown. Identify eye pins P299 - drill 0.7mm holes into yard as shown and fix the eye pins in place as footrope stirrups. Identify blocks B1, B2 and B3 - use cord C6 to attach to yards as shown. Use cord C6 as the footropes and pendants. All pendants are 65mm in length.

NOT TO SCALE

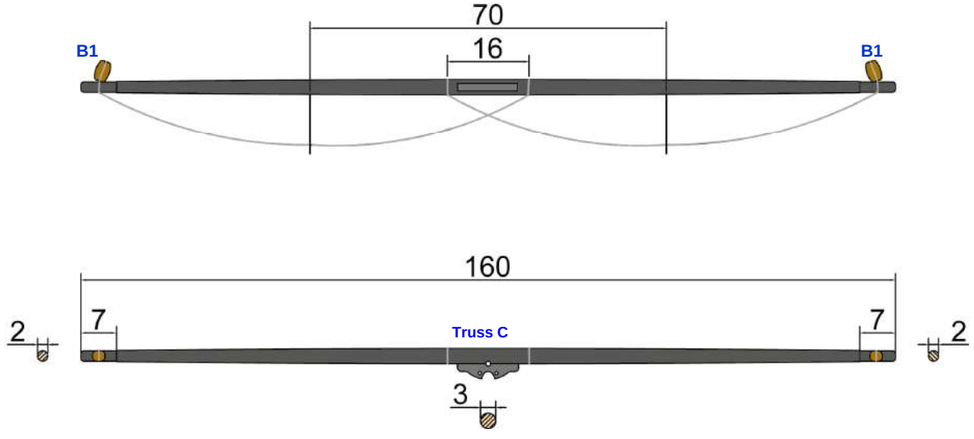
Yard L265mm, 6mm dia dowel P283 - shape as shown



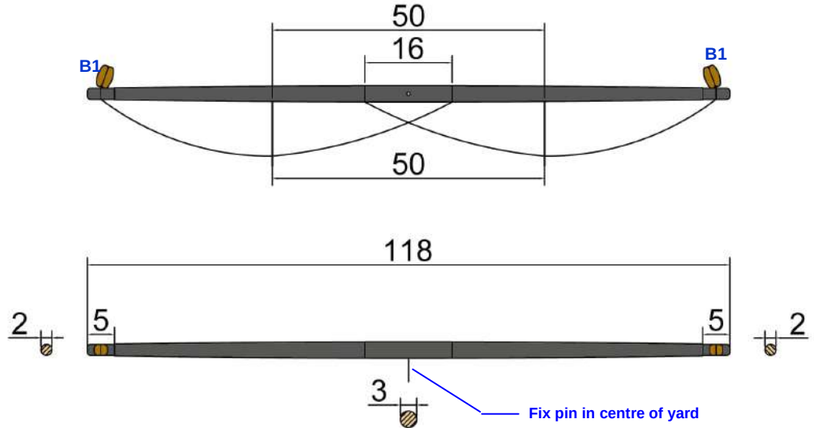
Lower Topsail Yard L220mm, 5mm dia dowel P245 - shape as shown



Upper Topsail Yard L160mm, 3mm dia dowel P244 - shape as shown



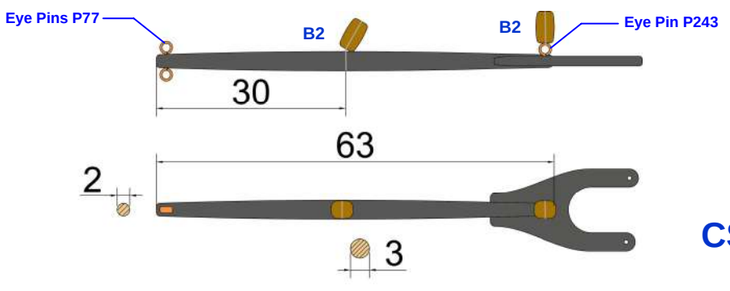
Topgallant Yard L118mm, 3mm dia dowel P244 - shape as shown



10.8 Main Gaff

Identify the main gaff yoke P302 - identify the 3mm dowel P244. Cut to length and shape according to the figure below. Shape and fit the yoke. Paint the gaff matt black as shown. Fit eye pins P77 as shown. Identify blocks B2. Use cord C6 P281 to tie the blocks in place as shown.

Main Gaff L63mm, 3mm dia dowel P244 - shape as shown



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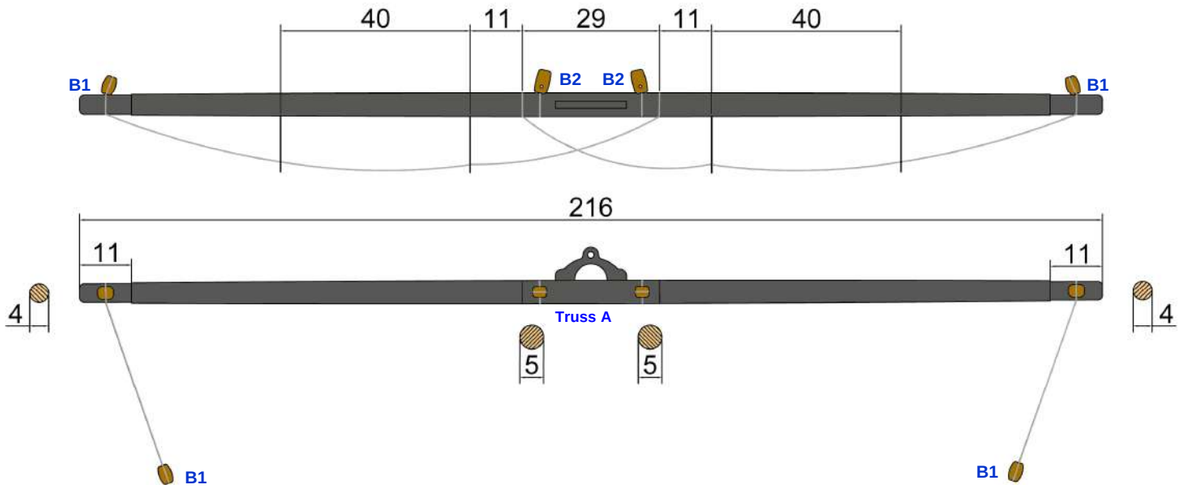
10.9 Mizzenmast Yards

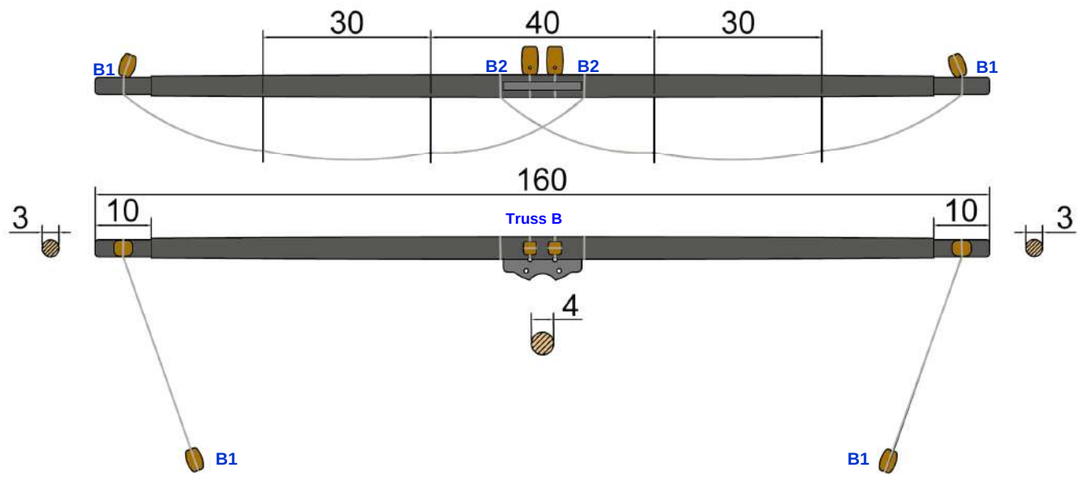
Identify the relevant dowels. Shape as shown. Identify the yard trusses A, P296, B P297, & C P298 - pin and glue each in place at the centre of yards as shown. Identify eye pins P299 - drill 0.7mm holes into yard as shown and fix the eye pins in place as footrope stirrups. Identify blocks B1 and B2 - use cord C6 to attach to yards as shown. Use cord C6 as the footropes and pendants. All pendants are 65mm in length. **Note:** Pendant direction on main yard is forward.

NOT TO SCALE

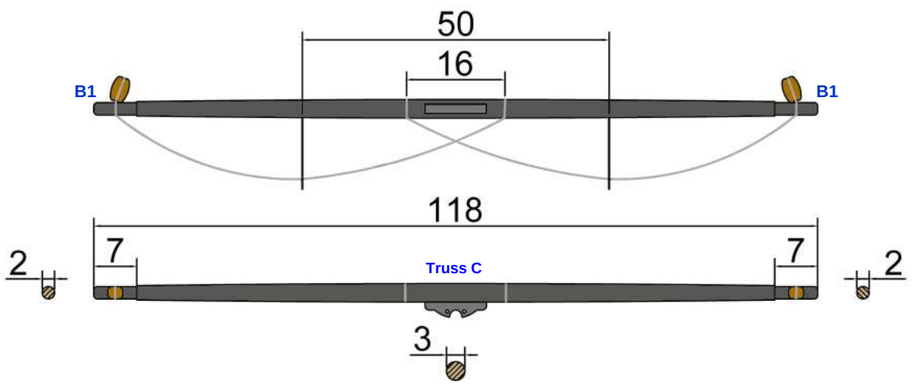
Yard L216mm, 5mm dia dowel P245 - shape as shown



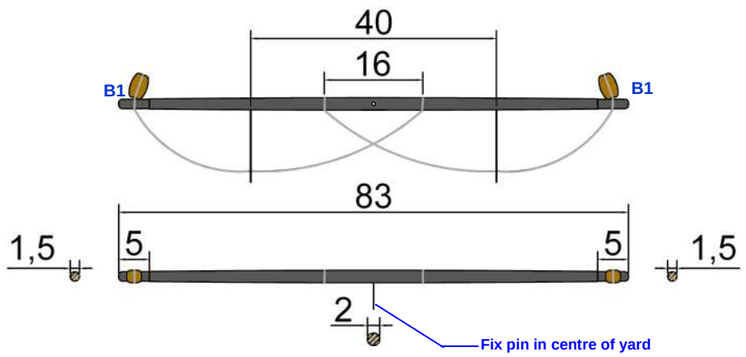
Lower Topsail Yard L160mm, 4mm dia dowel P282 - shape as shown



Upper Topsail Yard L118mm, 3mm dia dowel P244 - shape as shown



Topgallant Yard L83mm, 2mm dia dowel P308 - shape as shown



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11.0 Rigging

Completing the rigging can be complicated and time consuming. However, following the “golden rule” for rigging of working from the centre and lower parts of the model and working up and out trying to avoid difficult and confined spaces, will assist in the process. Also taking your time with this building step will produce a superior looking model.

11.1 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 black. The running rigging is grey.

11.2 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. Use rigging wax to eliminate the “fur” on the rigging cords.

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.

11.3 Typical Rigging Applications

The following figures represent a range of rigging applications that may be encounter when rigging a model.

Rigging References:

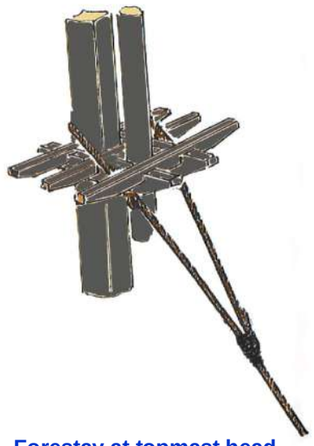
1. Petersson, Lennarth: “Rigging Period Ship Models” Chatham Publishing, London 2000.
2. Mansir, A. Richard: “A Modeller’s Guide to Rigging” Moonraker Publication, USA 1981.
3. Mastini, Frank: “Ship Modeling Simplified” International Marine, Maine 1990.
4. zu Mondfeld: “Historic Ship Models” Sterling Publishing, New York 1989.

Reeving Blocks

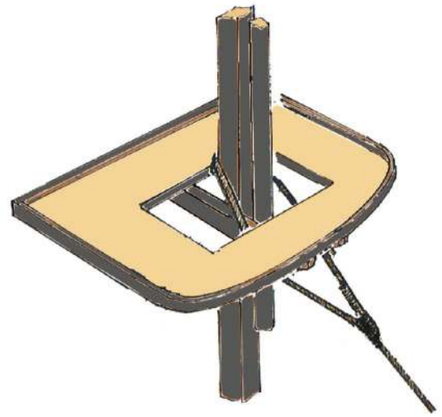
One hole blocks

One hole to two hole blocks

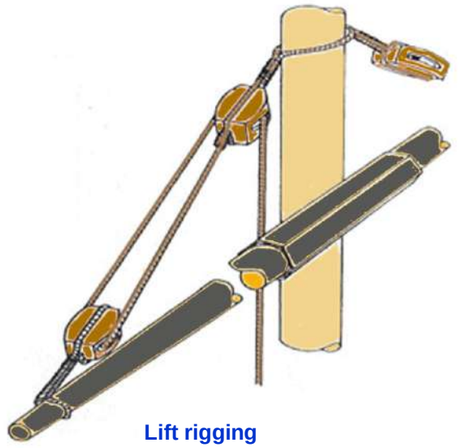
Two hole to three hole blocks



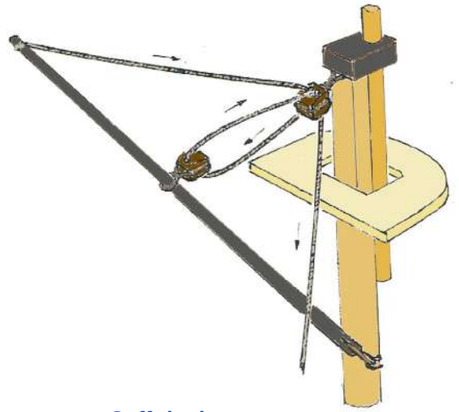
Forestay at topmast head



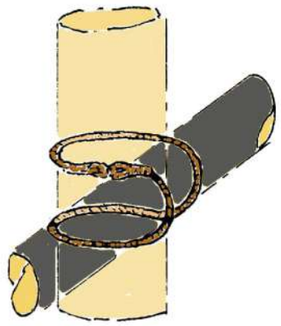
Forestay at mast head



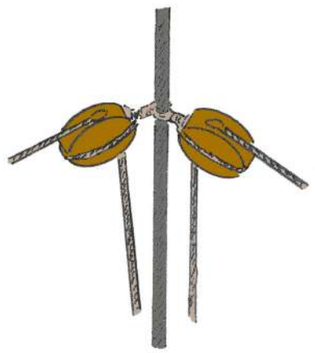
Lift rigging



Gaff rigging



Rope Truss



Brace blocks

Sling

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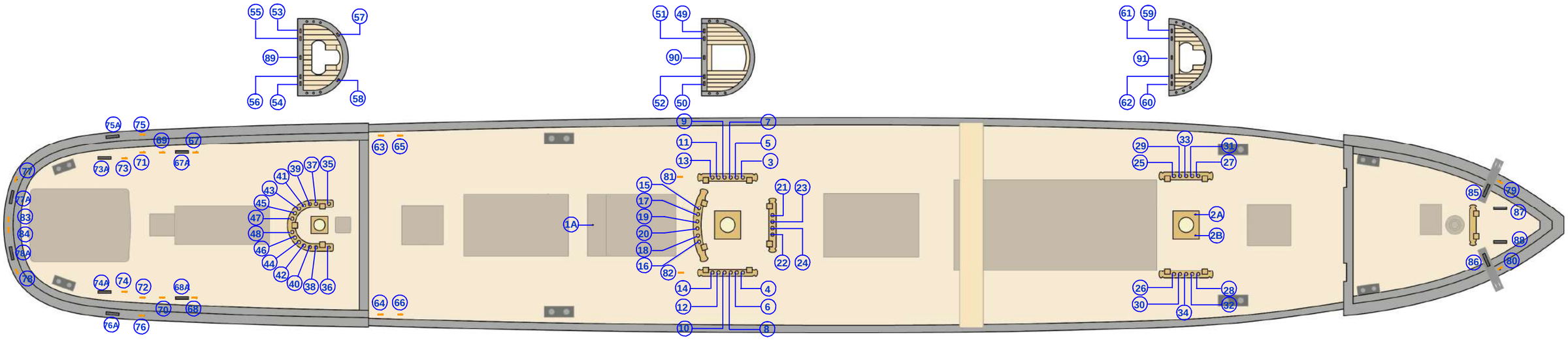
11.4 Belaying Plan

The Belaying Plan shows where rigging cords are terminated. Fit and fix eye pin P77 at points: 1A, 2A, 2B and 49 to 82 and 89, 90 & 91. Fix cleats P240 at points 67A, 68A, 73A, 74A, 75A, 76A, 77A, 78A, 85, 86, 87 and 88. Attached block B1 with ring P302 to points 73, 74, 77 & 78. Attach block B1 to points 62, 67, 68, 89, 90 & 91. Attach block B2 with ring P302 at points 77 & 78. Fit belaying pins P304 to the fore, main and mizzen mast pin rails.



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11.5 Fit Masts and Bowsprit

Retrieve the assembled masts and bowsprit. Trial fit each mast in place - make sure the three masts are in line along the length of the hull. Once satisfied glue each mast in place. Allow the glue to set fully. Trial fit the bowsprit - make sure it is in line with the masts - once satisfied glue in place. Allow the glue to set fully. Attach the dolphin striker as shown.

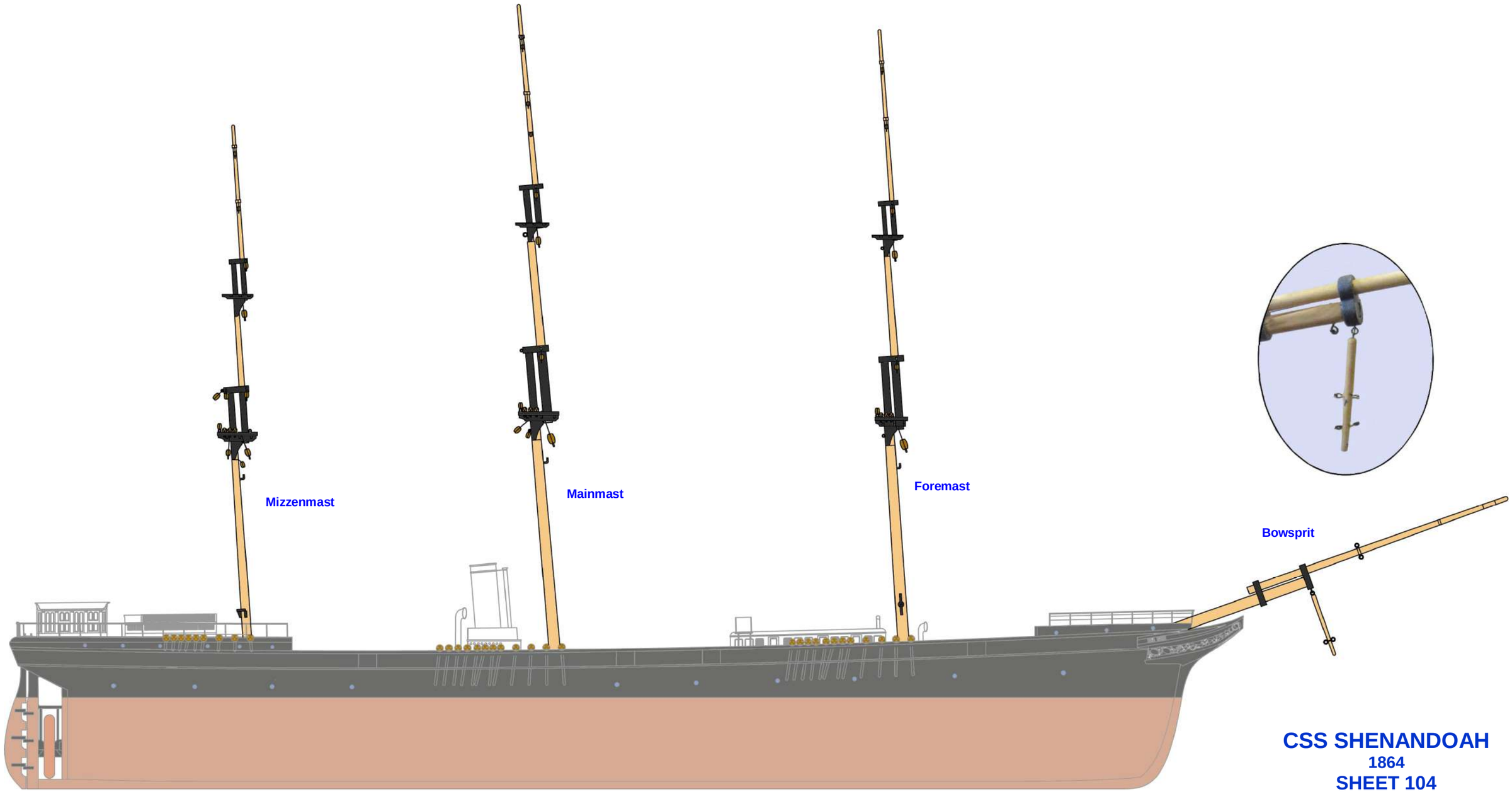
12.0 Standing Rigging

The standing rigging includes the rigging of the forestays, backstays, bowsprit stays 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. Shrouds
3. Backstays - Note: before fitting backstays install the mainmast gaff and mizzenmast gaff and boom.
4. Bowsprit rigging

The instructions follow this sequence.



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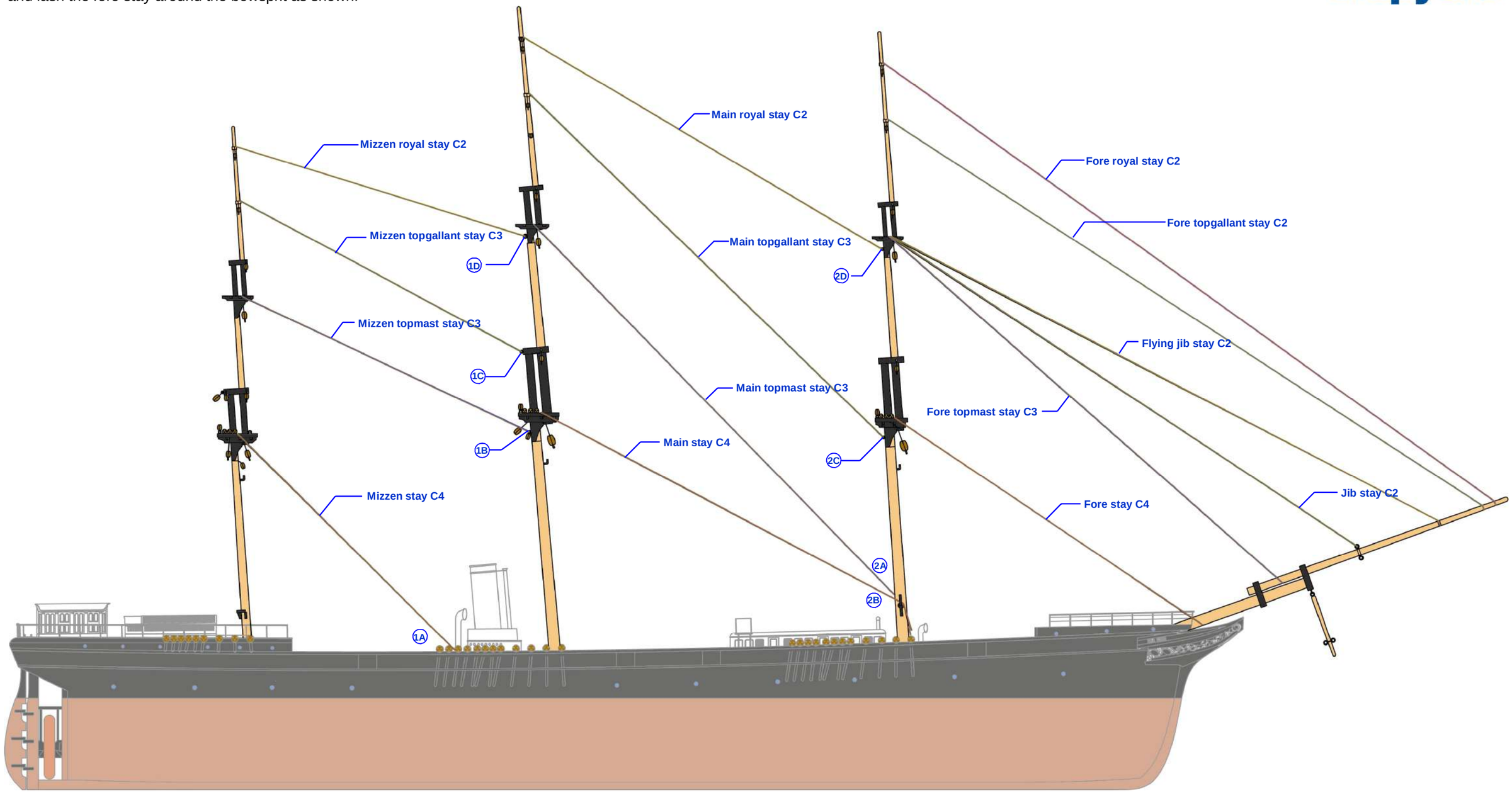
SHEET 104

12.1 Forestays

Rig the forestays as shown - refer to images on next sheet to attach and terminate the stay to the relevant mast. See images for the termination of mizzen stay at point 1 and main stay and main topmast stay at points 2A and 2B. Use cords C2, C3 & C4 for the stays as shown. Identify the slip blocks P300 - glue in place at the base of the bowsprit as shown on the image on the next sheet and lash the fore stay around the bowsprit as shown.



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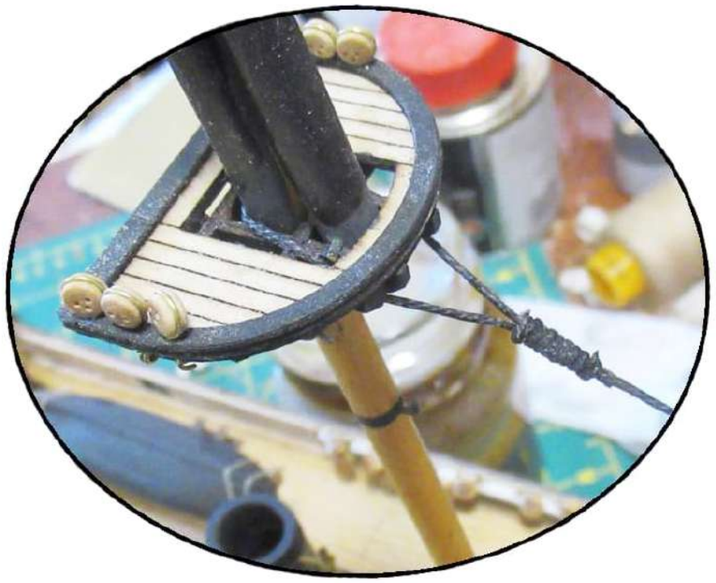
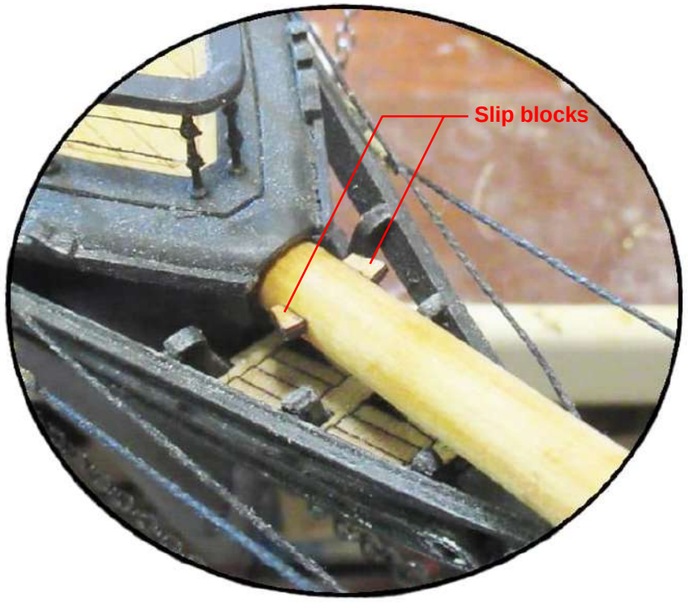
SHEET 105

12.1 Forestays continued
The images below refer to the attachment and termination of the various forestays.

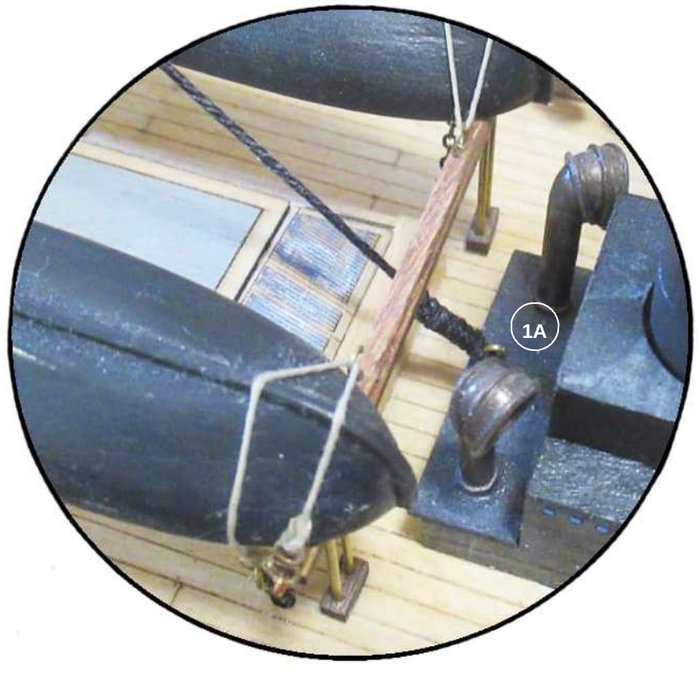


Lashing of stay

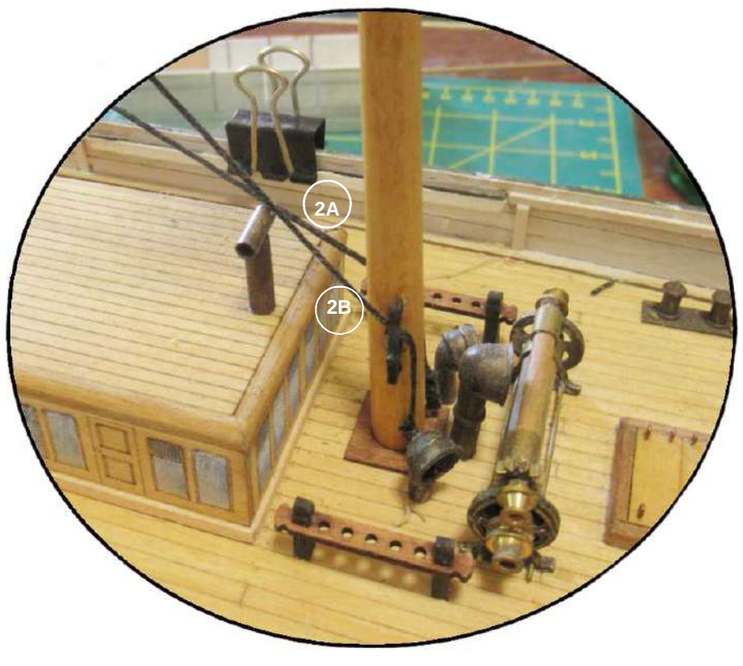
Termination of stay on mast



Slip blocks on bowsprit



Mizzen stay terminated at point 1



Main stay and main topmast stays terminated at points 2A & 2B

Fore stay lashed to bowsprit

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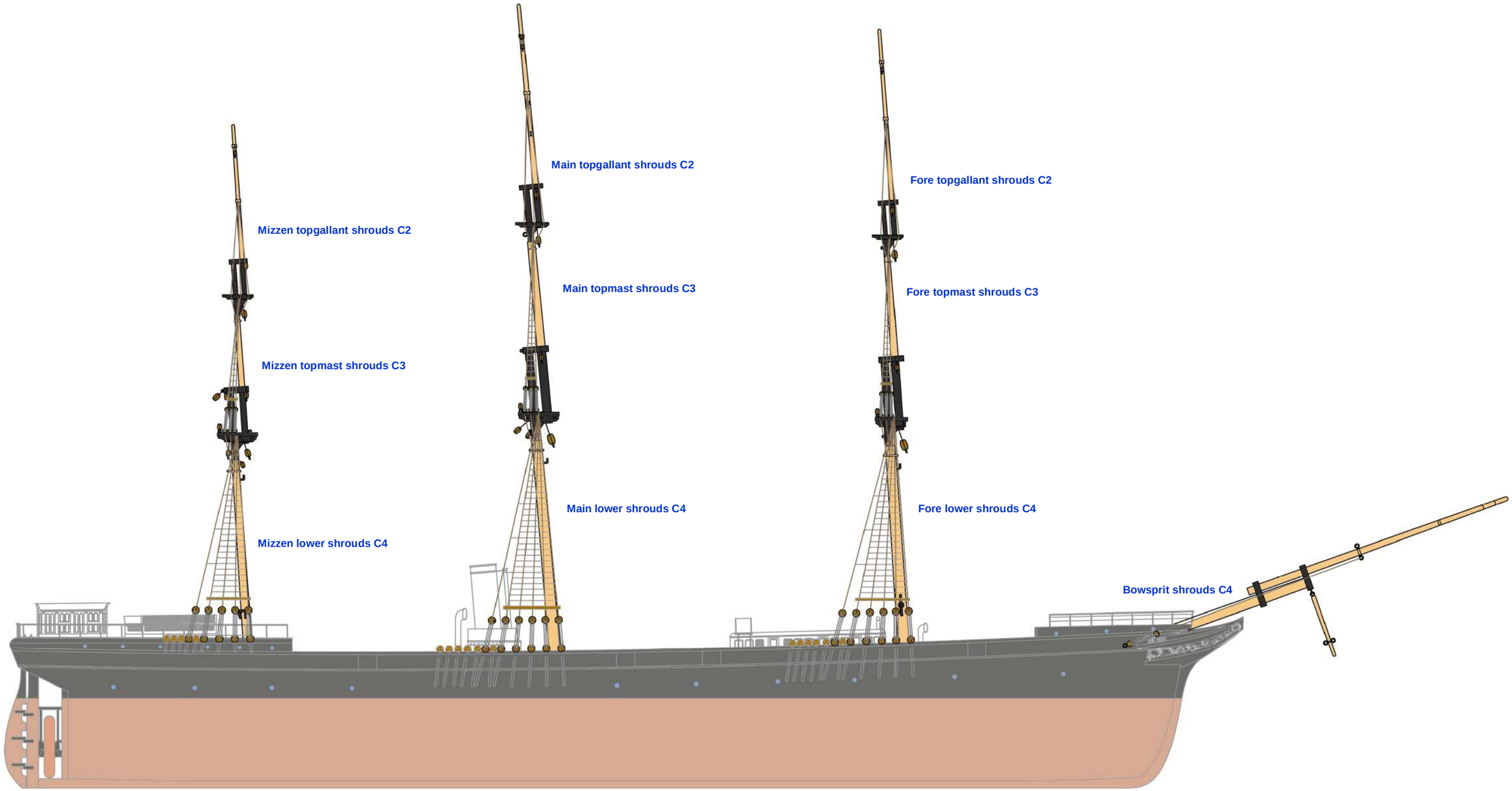
SHEET 106

12.2 Shrouds

Fit the shrouds to each mast as shown - refer to images on the next 3 sheets for details on fitting the shrouds. For the lower shrouds on each mast notice the gap between the rear two lower deadeyes. Note the cord sizes for the various shrouds.



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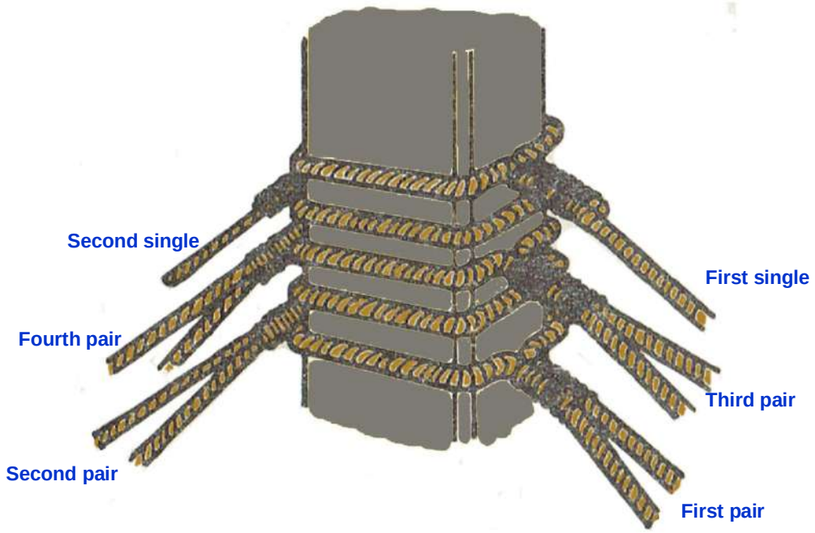
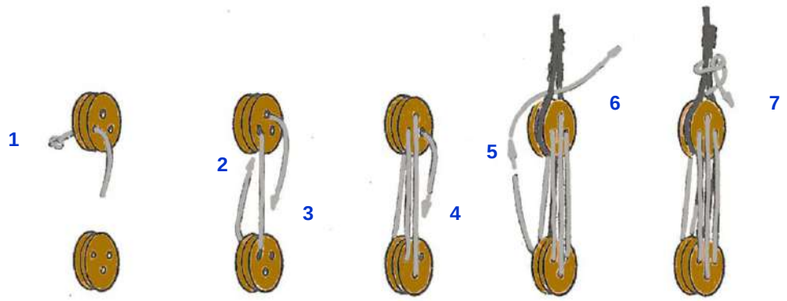
SHEET 107

12.2.1 Shrouds - Lower

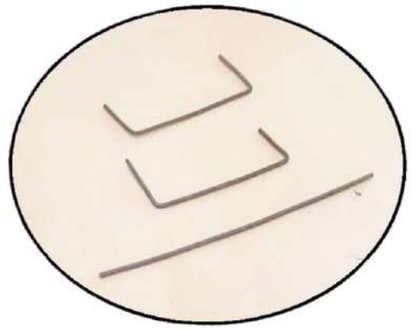
Use cord C4 for the lower shrouds. Use a stiff wire to make a deadeye jig as shown to keep the gap between the lower and upper deadeyes the same distance - bend two lengths of the wire so that the distance between the right-angle bends is 17mm. Use another length of the wire to hold the shaped wires in place. Fit the shrouds in pairs - starting with the fore most shrouds attach the lower shrouds to the mast head lashing each in the sequence as shown. Fit one pair at a time on one side of the hull and then repeat for the other side of the hull. Identify the 5mm deadeyes P108 - attach each to the shroud as shown using the jig. Use cord C6 to lash the shroud end around the deadeye. Use cord C6 to reeve the two deadeyes together as shown. Repeat the process for the next pair moving along the channel. Fit single shrouds if there is an odd number of shrouds. Repeat for each mast.

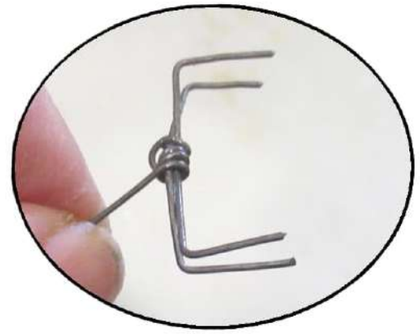


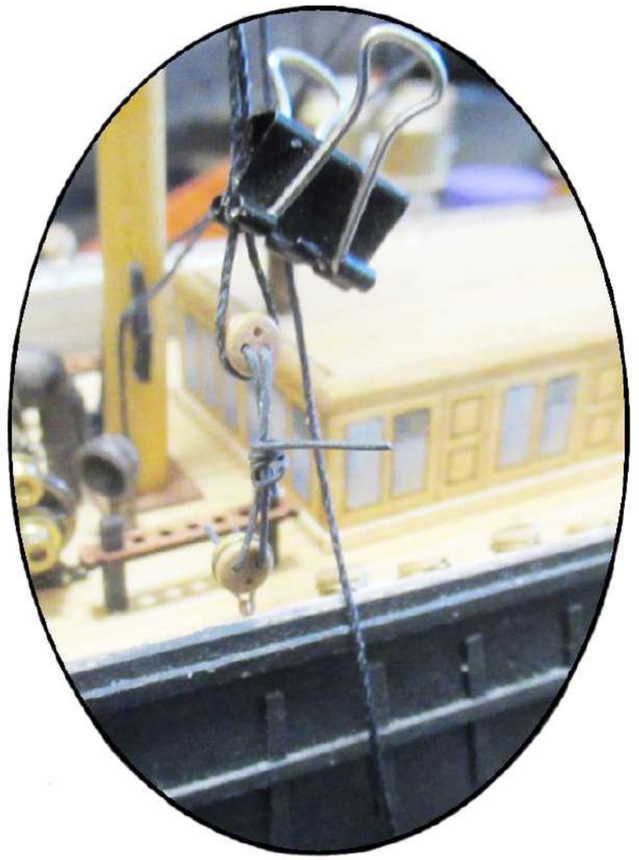
Shroud sequence at mast head

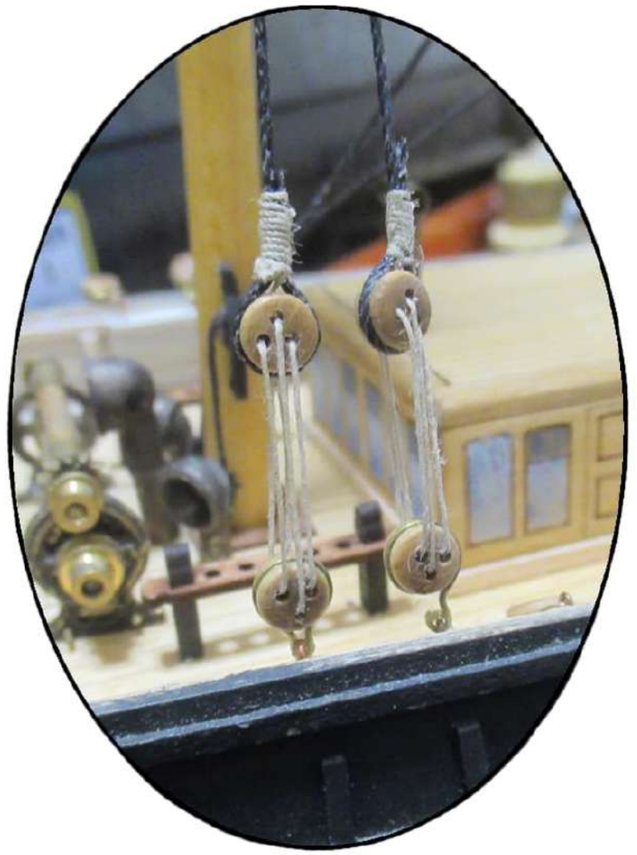


Deadeye Reeving sequence









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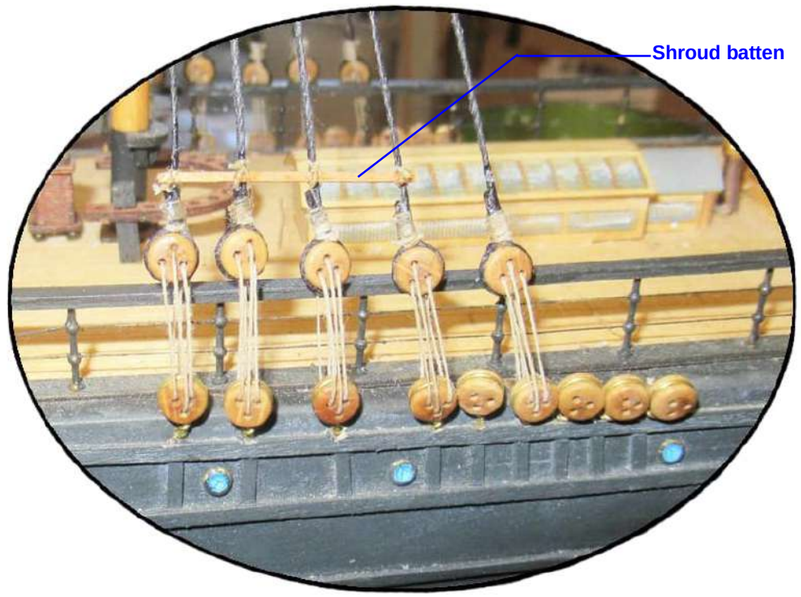
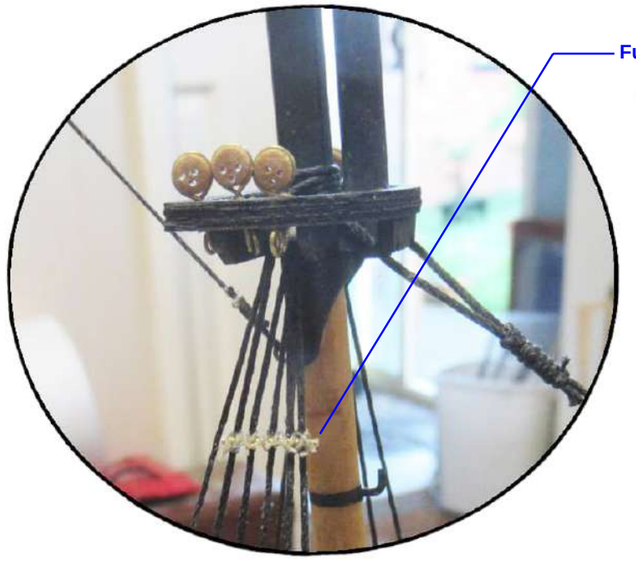
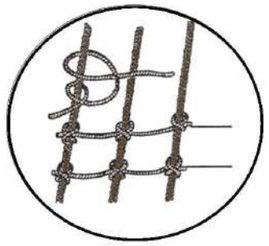
SHEET 108

12.2.1 Shrouds - Lower continued

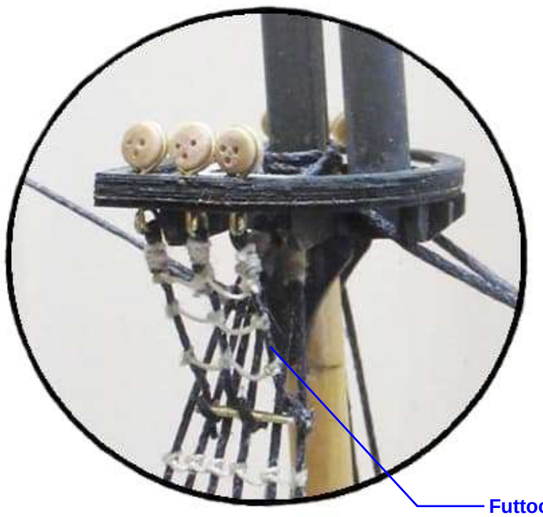
Identify shroud batten P302 - cut lengths to fit across the shrouds and lash in place as shown. Repeat for each mast. For the futtock stave identify the 1mm brass rod P134 - cut a length to fit across the shrouds at approximately 20mm below the underside of the mast top - tie to the shrouds as shown. Repeat for the other side and for each mast. Use cord C4 to fit the futtock shrouds from the stave to the futtock straps as shown. Use cord C2 as a catharpin to brace in the shrouds as shown. Use cord C6 as ratlines - tie as shown. Set the distance between ratlines at approximately 4mm. Complete the ratlines for the lower shrouds on each mast and the futtock shrouds as shown.

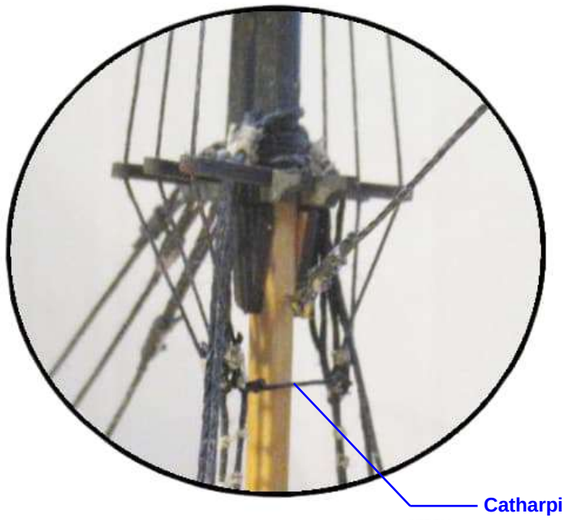


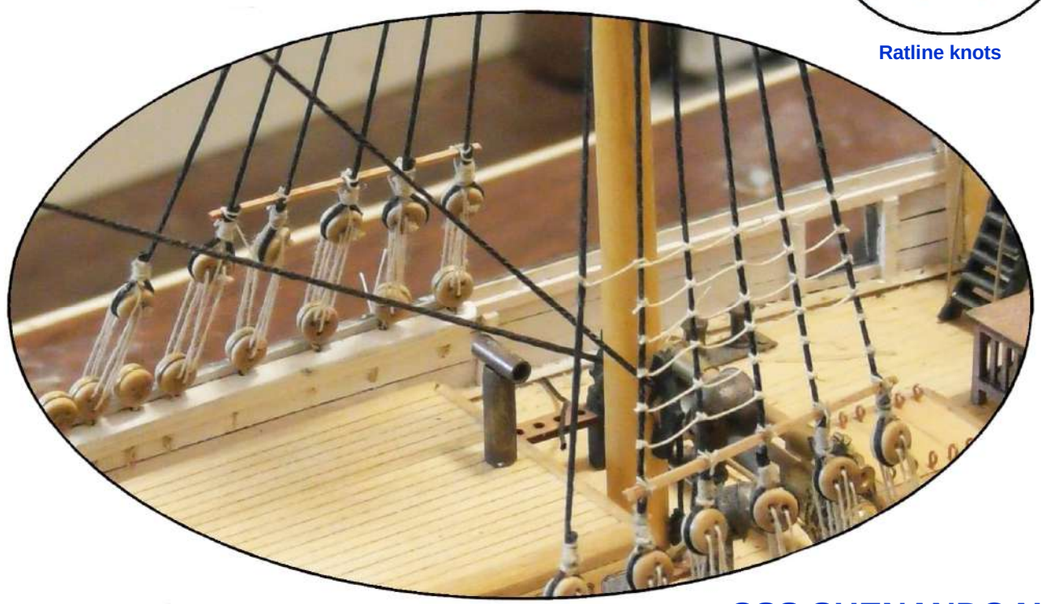




Ratline knots







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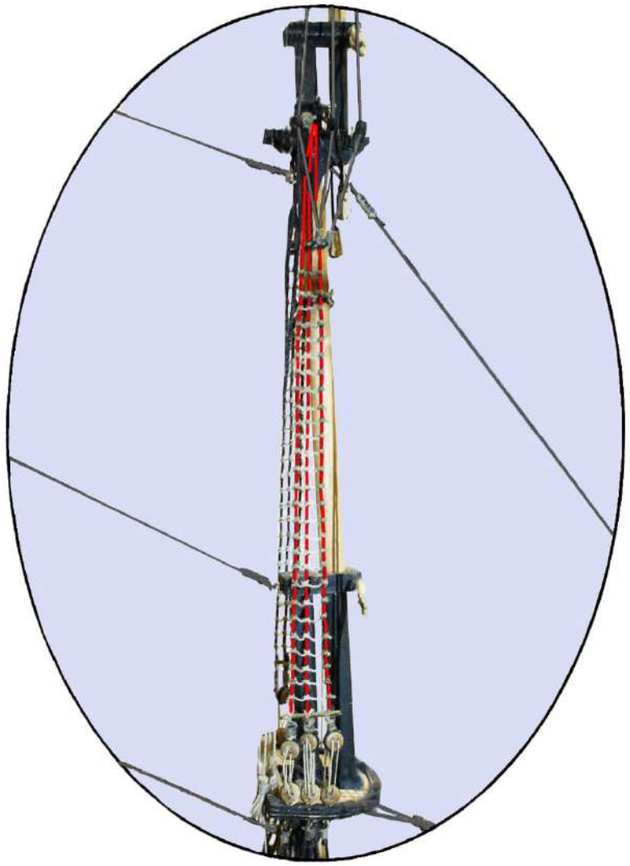
12.2.2 Shrouds - Topmast

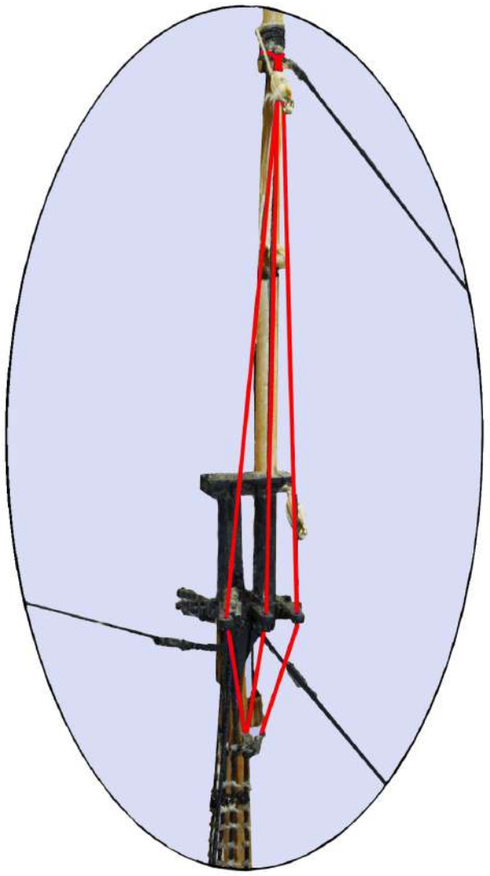
Use cord C3 for the topmast shrouds - fit shrouds as shown. Make a deadeye jig with the distance between the right-angle bends set to 12mm. Identify the 3mm deadeyes P109. Use cord C6 to reeve the deadeyes together As the shroud battens cut lengths of 1mm brass rod P134 to fit across the shrouds and lash in place as shown. Use cord C6 as ratlines. Repeat for each mast

12.2.3 Shrouds - Topgallant

Use cord C2 for the topgallant shrouds - fit shrouds as shown. Tie-off the topgallant futtocks to the topmast shrouds approximately 20mm below the underside of the topmast trestle & crosstree. Repeat for each mast.



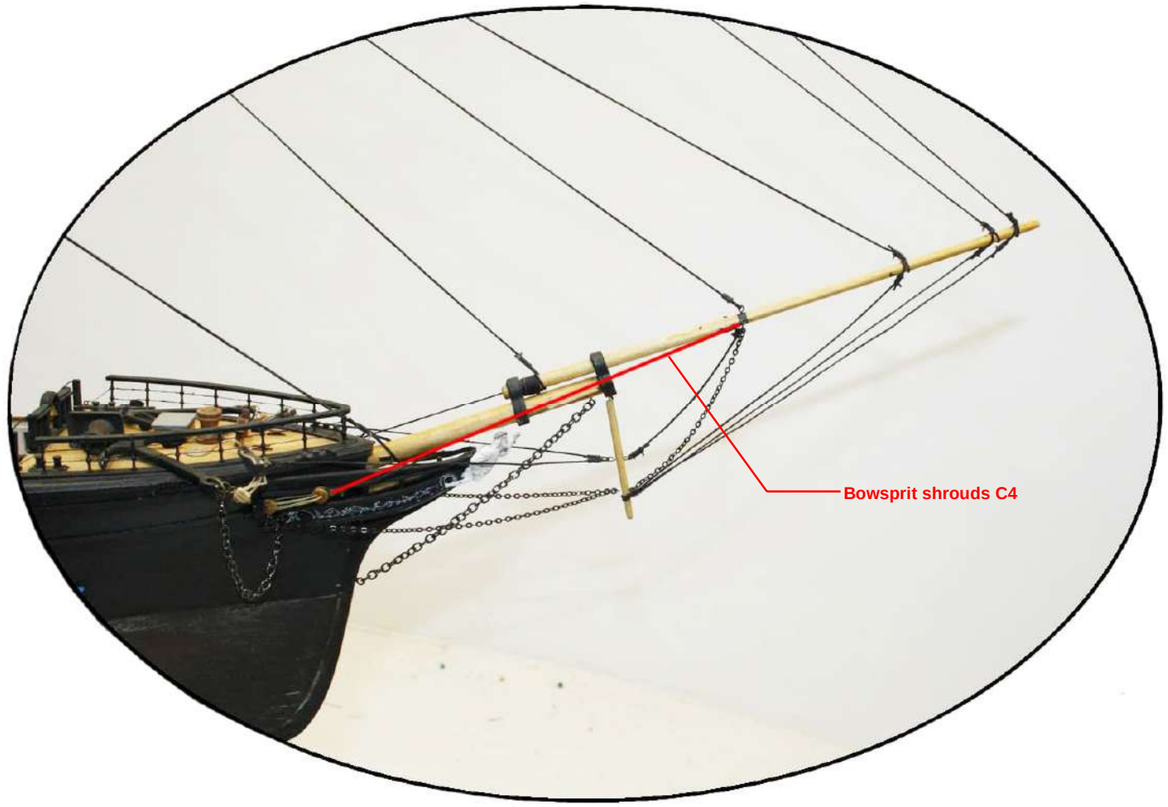
Topmast Shrouds



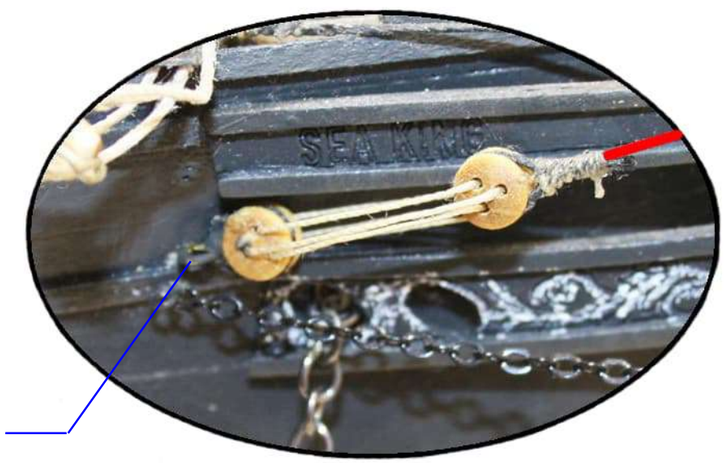
Topgallant Shrouds

12.2.4 Shrouds - Bowsprit

Fix an eye pin P77 below the cathead and immediately above the lower hull batten as shown. Tie a 5mm deadeye P108 to this eye pin. Use the 17mm deadeye jig run a length of cord C4 to the bowsprit as shown. Repeat for the other side.



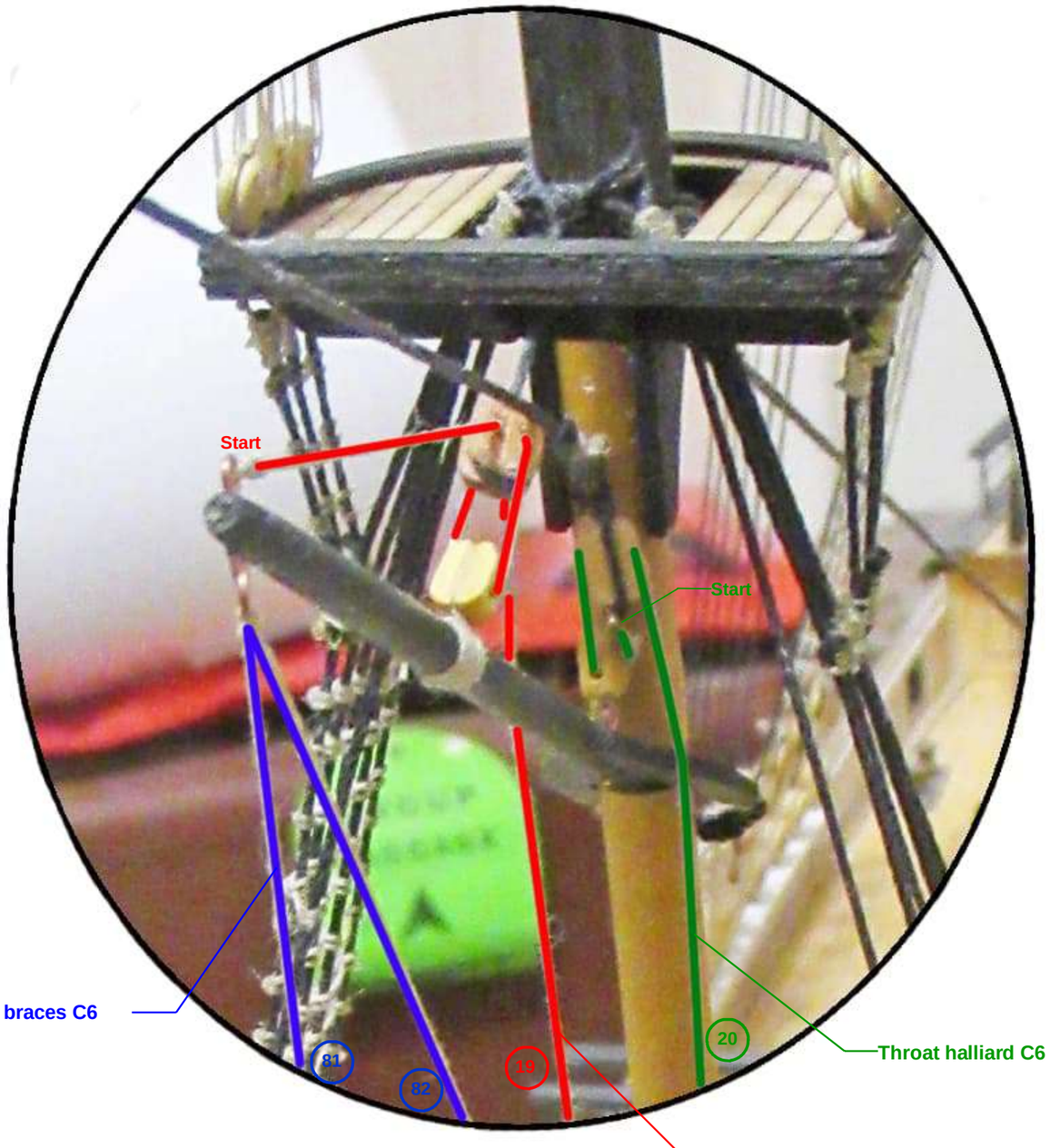
Bowsprit Shroud



CSS SHENANDOAH
1864
SHEET 110

12.3 Mainmast Gaff

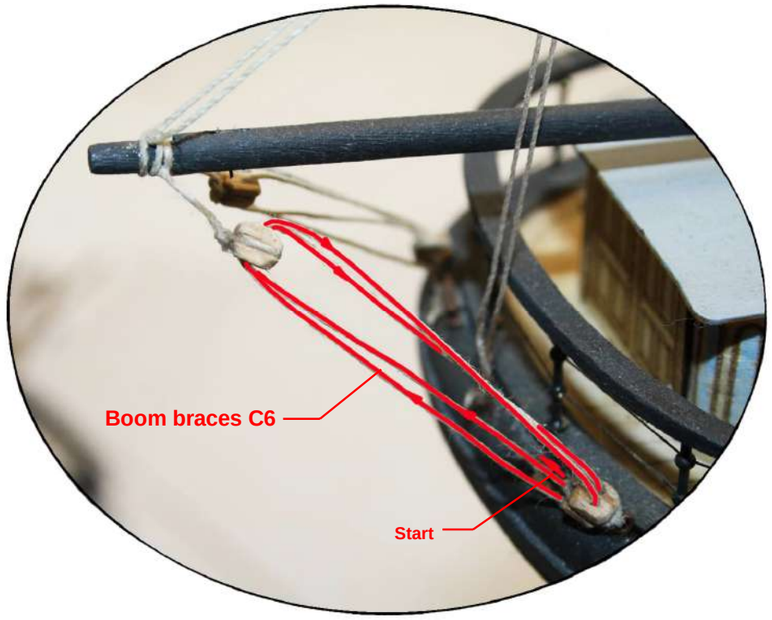
Retrieve the assembled mainmast gaff. Identify the parrals P157 - run the parrals onto a length of cord C5 on the yoke - place the gaff in place and tie-off the parral cord as shown. Rig the throat halliard as shown and terminating at point 20. Rig the peak halliard as shown and terminating at point 19. Rig the gaff braces as shown and terminate at points 81 & 82.



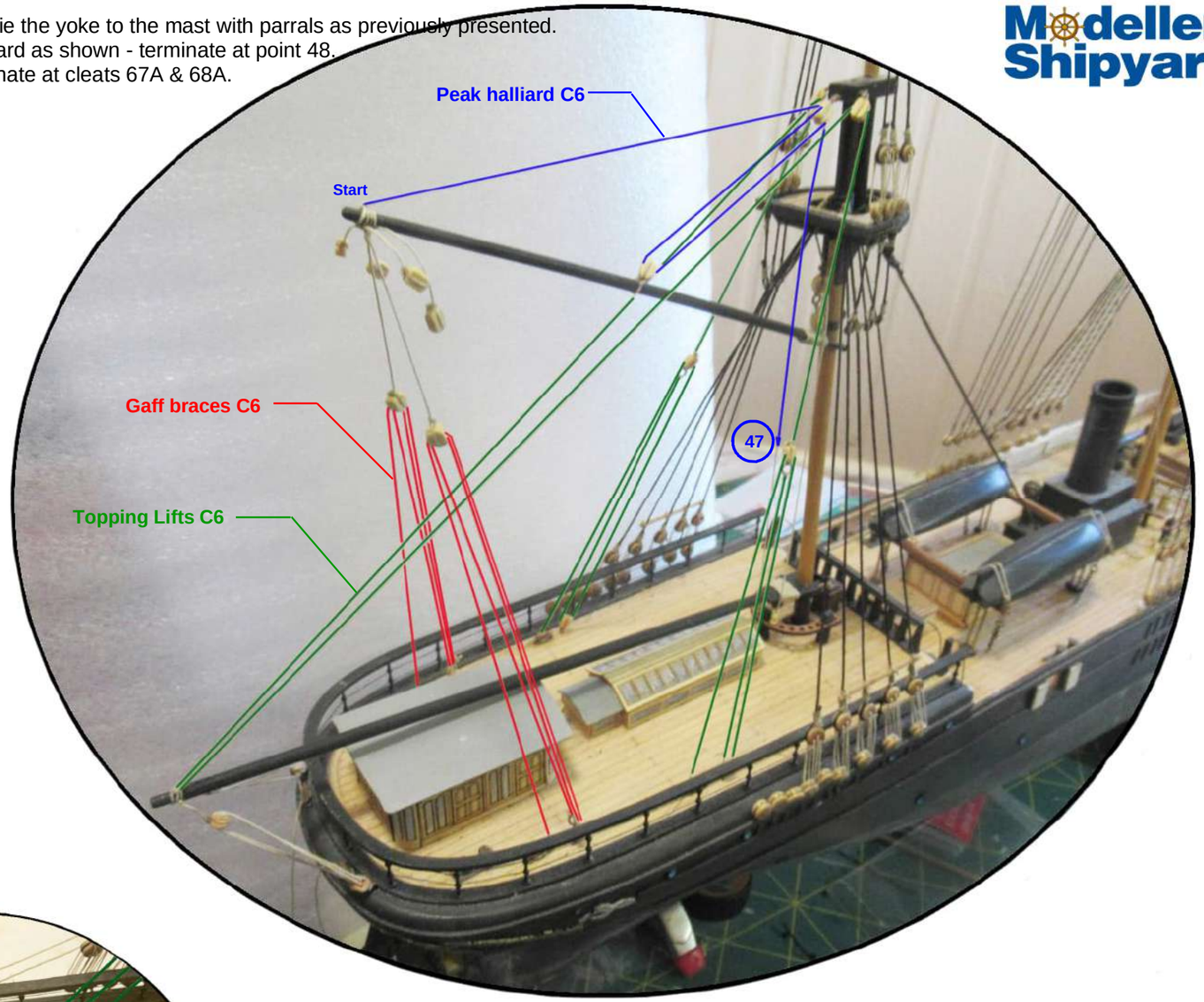
CSS SHENANDOAH
1864
SHEET 111

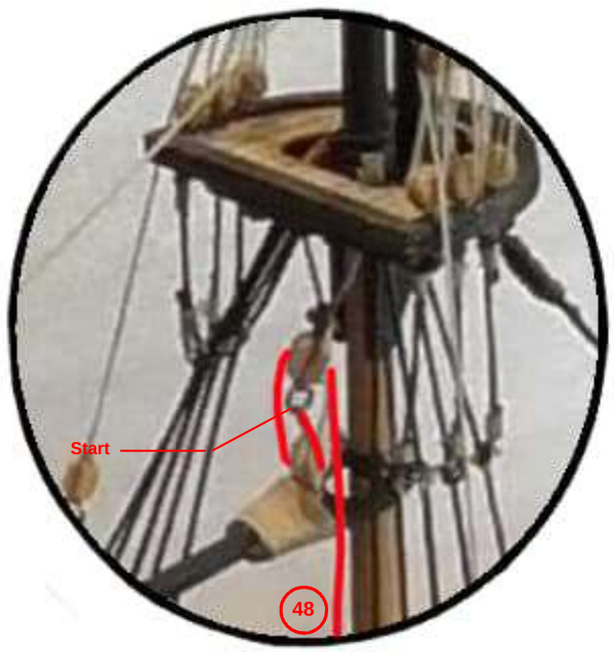
12.4 Mizzenmast Boom & Gaff

Retrieve the assembled mizzen boom - fit in place with the yoke resting on the boom rest - tie the yoke to the mast with parrals as previously presented.
Reeve the boom braces as shown - terminate at cleats point 77A & 78A. Rig the throat halliard as shown - terminate at point 48.
Rig the peak halliard as shown - terminate at point 47. Rig the topping lifts as shown - terminate at cleats 67A & 68A.
Rig the gaff braces as shown - terminate at cleats 73A and 74A.

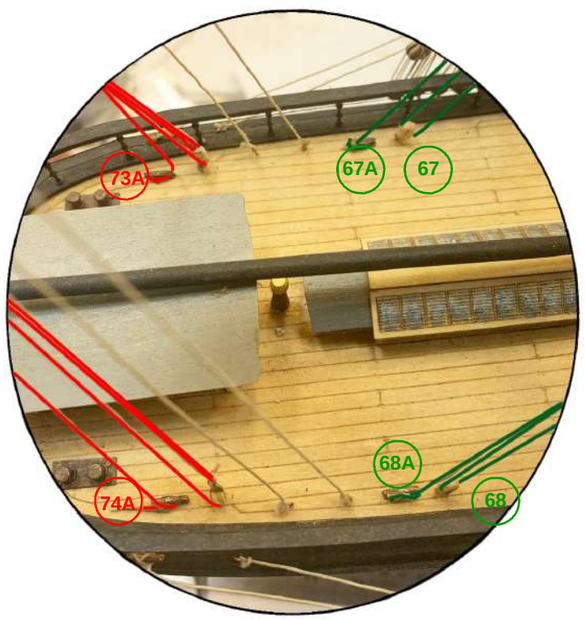


Boom Braces





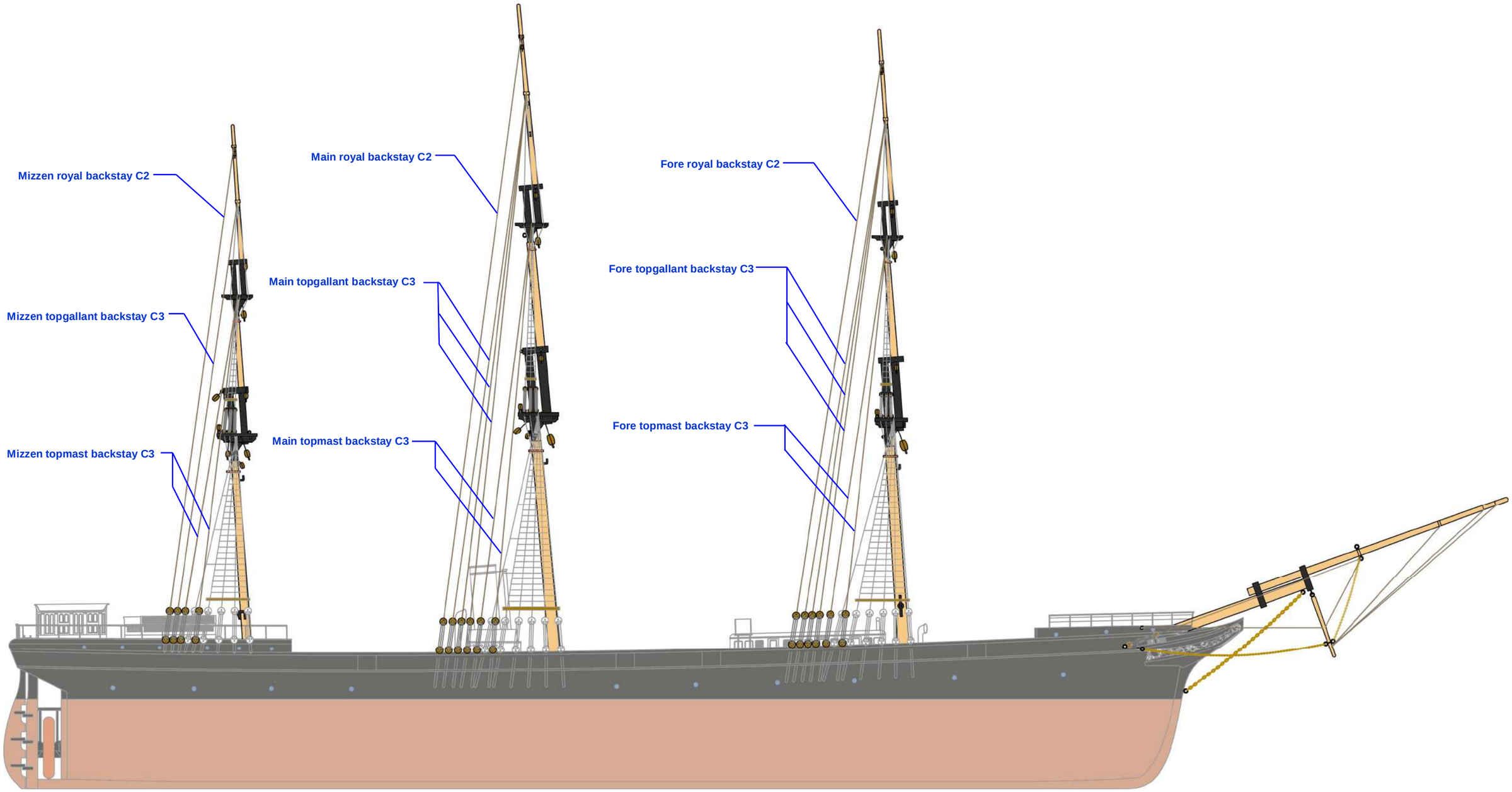
Throat Halliard C6



CSS SHENANDOAH
1864
SHEET 112

12.5 Backstays

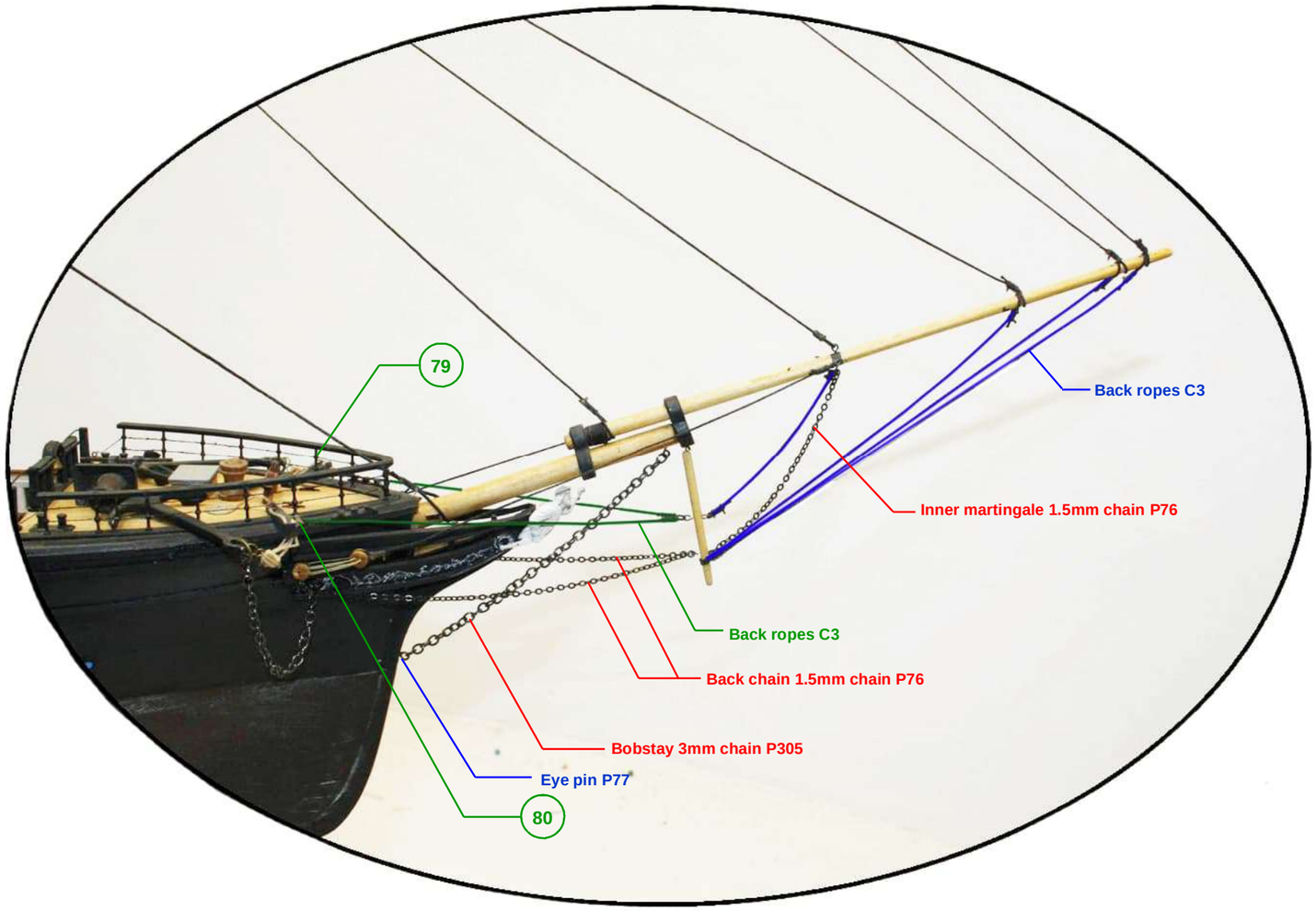
Rig the backstays as shown. Use 5mm deadeyes P108 - use the 17mm deadeye jig to set the gap between the upper & lower deadeyes. Use cord C6 to reeve the deadeyes.

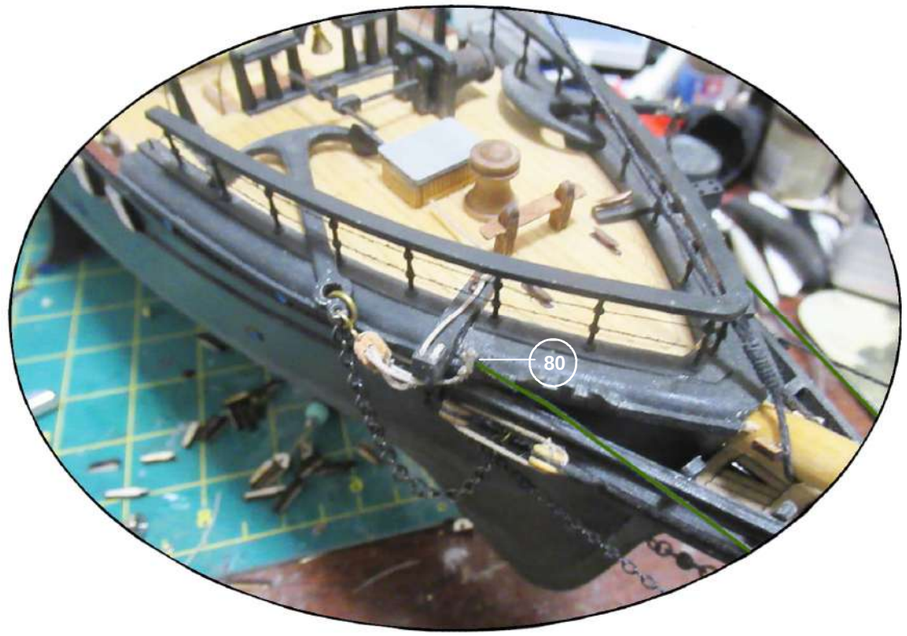


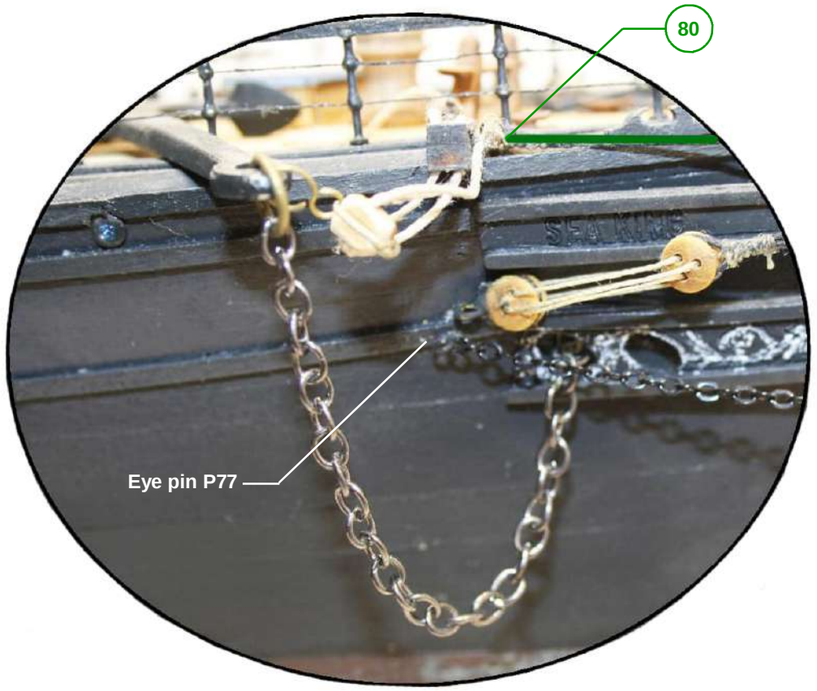
CSS SHENANDOAH
1864
SHEET 113

12.6 Bowsprit Rigging & Anchor Crane

Rig the bowsprit as shown. Rig the back ropes from the dolphin striker to points 79 & 80. Rig the back ropes from the jib boom to the dolphin striker. Rig the inner martingale from the jib boom to the dolphin striker. Fix an eye pin P77 on the lower hull batten immediately below the cathead as shown - repeat for other side of hull. Rig the back chains between these eye pins and the dolphin striker. Fix an eye pin P77 approximately 5mm above the copper line on the front centre of the stem post - rig the bobstay chain from the eye pin to the bowsprit as shown. For the anchor crane shape a length of 1mm brass wire P134 with a closed loop at one end and a hook at the other. Tie the loop to a block B3. Use cord C6 start at point 80 and reeve the block to the cathead as shown. Attach the hook to the loop at the top of the anchor shank as shown. Repeat for the other side of the hull.







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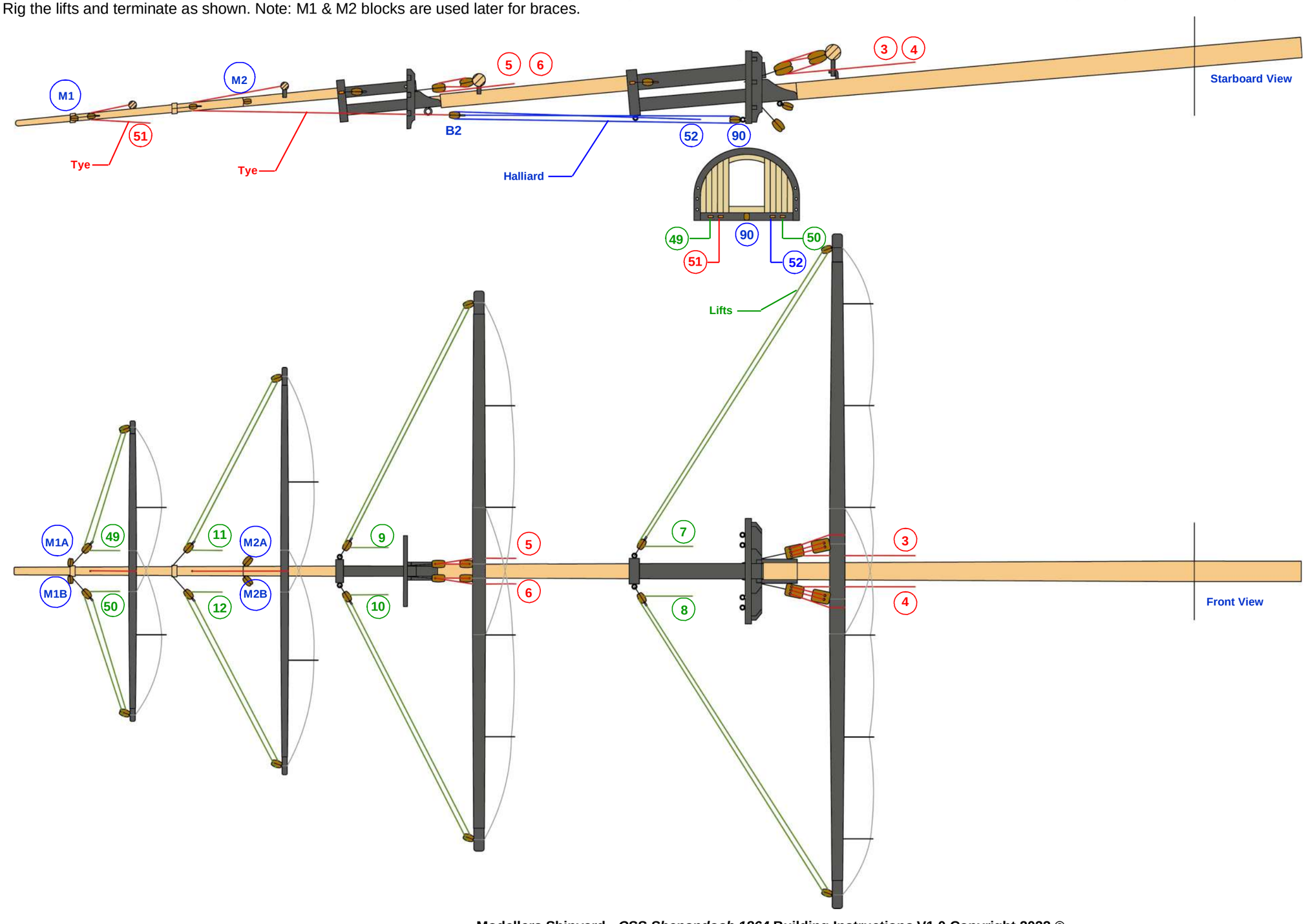
SHEET 114

13.0 Running Rigging

The next step is to complete the running rigging. The running rigging includes rigging for the yard jeers, lifts, pendants, braces and halliards. Use cord C6 for all running rigging.

13.1 Mainmast

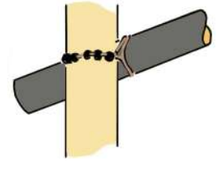
Retrieve the previously completed main mast yards and fit each in place as show. For the main yard attach the truss to the bracket. For the lower topmast yard attach cord and parrals P157 to the truss and tie cord around the mast. For the upper topmast yard fit a sling to the yard and fit a cord with parrals P157 tied around the mast. For the topgallant yard fit a sling to the yard and a rope truss as shown - at the chosen yard location drill a 0.7mm hole into the mast. As the model is static all yards can be glued in place - make sure they are at a right angle to the mast. Rig the jeers for the main and lower topmast yards and terminate as shown. For the upper topmast yard attach the tye to the sling - run cord as shown - fit block B2 with ring P302 to the end of the tye as shown - rig the halliard and terminate as shown. For the topgallant yard attach the tye to the sling - rig and terminate as shown. Rig the lifts and terminate as shown. Note: M1 & M2 blocks are used later for braces.



Truss & parrals

Sling

Rope truss



Rope truss with parrals

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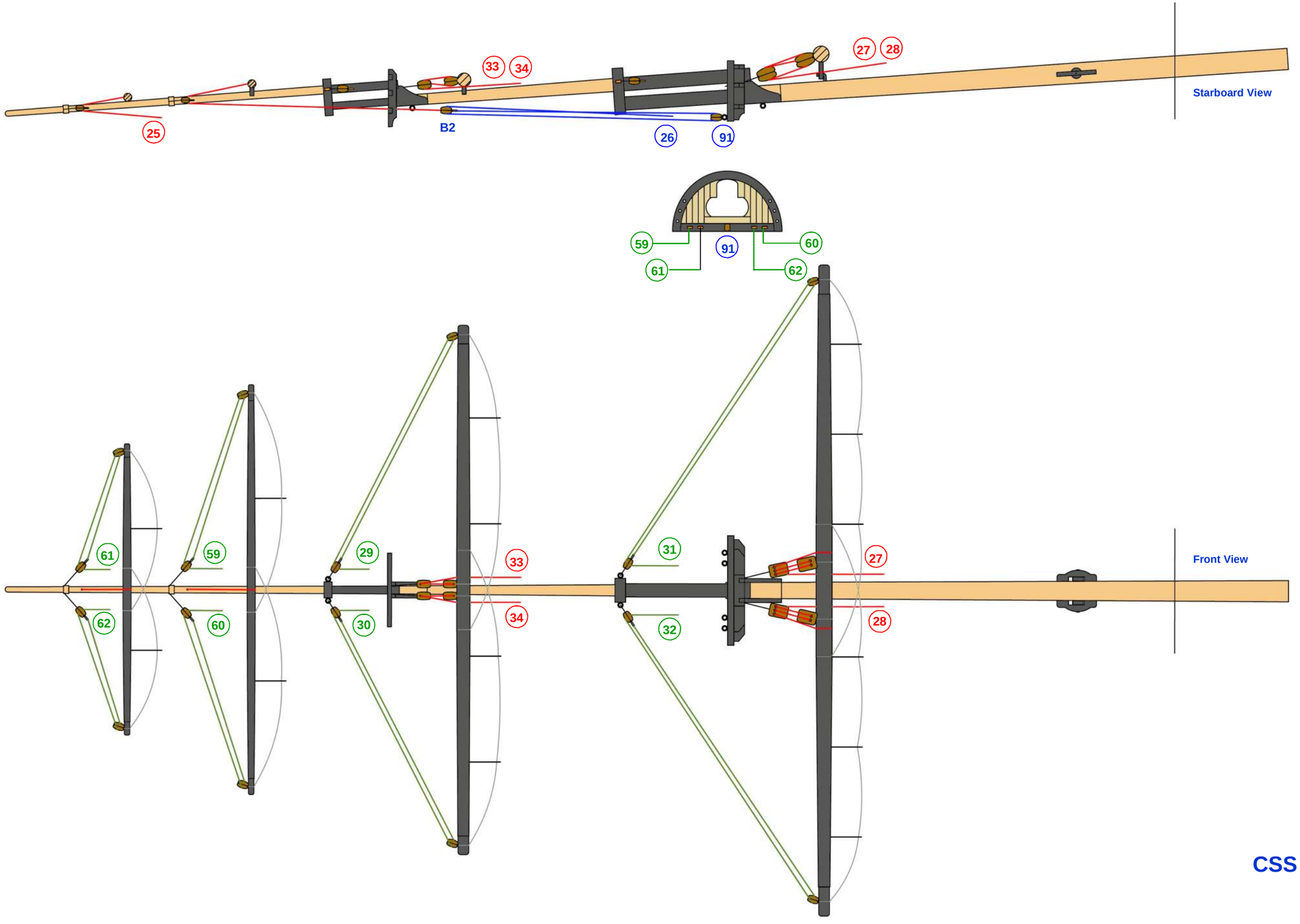
1864
SHEET 115

13.2 Foremast

Retrieve the previously completed foremast yards and fit each in place as show. For the fore yard attach the truss to the bracket. For the lower topmast yard attach cord and parrals P157 to the truss and tie cord around the mast. For the upper topmast yard fit a sling to the yard and fit a cord with parrals P157 tied around the mast. For the topgallant yard fit a sling to the yard and a rope truss as shown - at the chosen yard location drill a 0.7mm hole into the mast. As the model is static all yards can be glued in place - make sure they are at a right angle to the mast. Rig the jeers for the main and lower topmast yards and terminate as shown. For the upper topmast yard attach the tye to the sling - run cord as shown - fit block B2 with ring P302 to the end of the tye as shown - rig the halliard and terminate as shown. For the topgallant yard attach the tye to the sling - rig and terminate as shown. Rig the lifts and terminate as shown.



CSS SHENANDOAH
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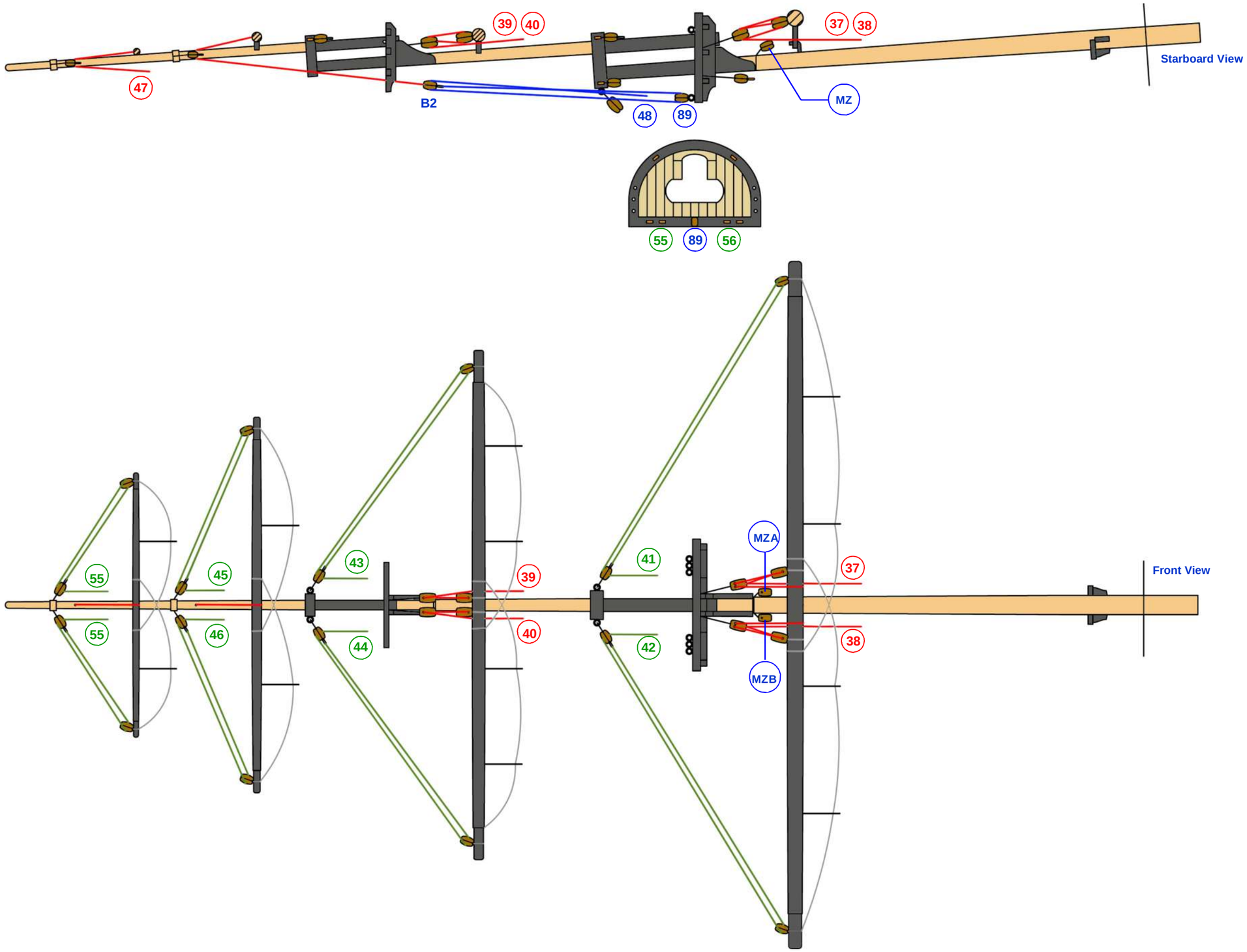
SHEET 116

13.3 Mizzenmast

Retrieve the previously completed mizzenmast yards and fit each in place as show. For the mizzen yard attach the truss to the bracket. For the lower topmast yard attach cord and parrals P157 to the truss and tie cord around the mast. For the upper topmast yard fit a sling to the yard and fit a cord with parrals P157 tied around the mast. For the topgallant yard fit a sling to the yard and a rope truss as shown - at the chosen yard location drill a 0.7mm hole into the mast. As the model is static all yards can be glued in place - make sure they are at a right angle to the mast. Rig the jeers for the main and lower topmast yards and terminate as shown. For the upper topmast yard attach the tye to the sling - run cord as shown - fit block B2 with ring P302 to the end of the tye as shown - rig the halliard and terminate as shown. For the topgallant yard attach the tye to the sling - rig and terminate as shown. Rig the lifts and terminate as shown. Note: MZ blocks are used later for braces.



CSS SHENANDOAH
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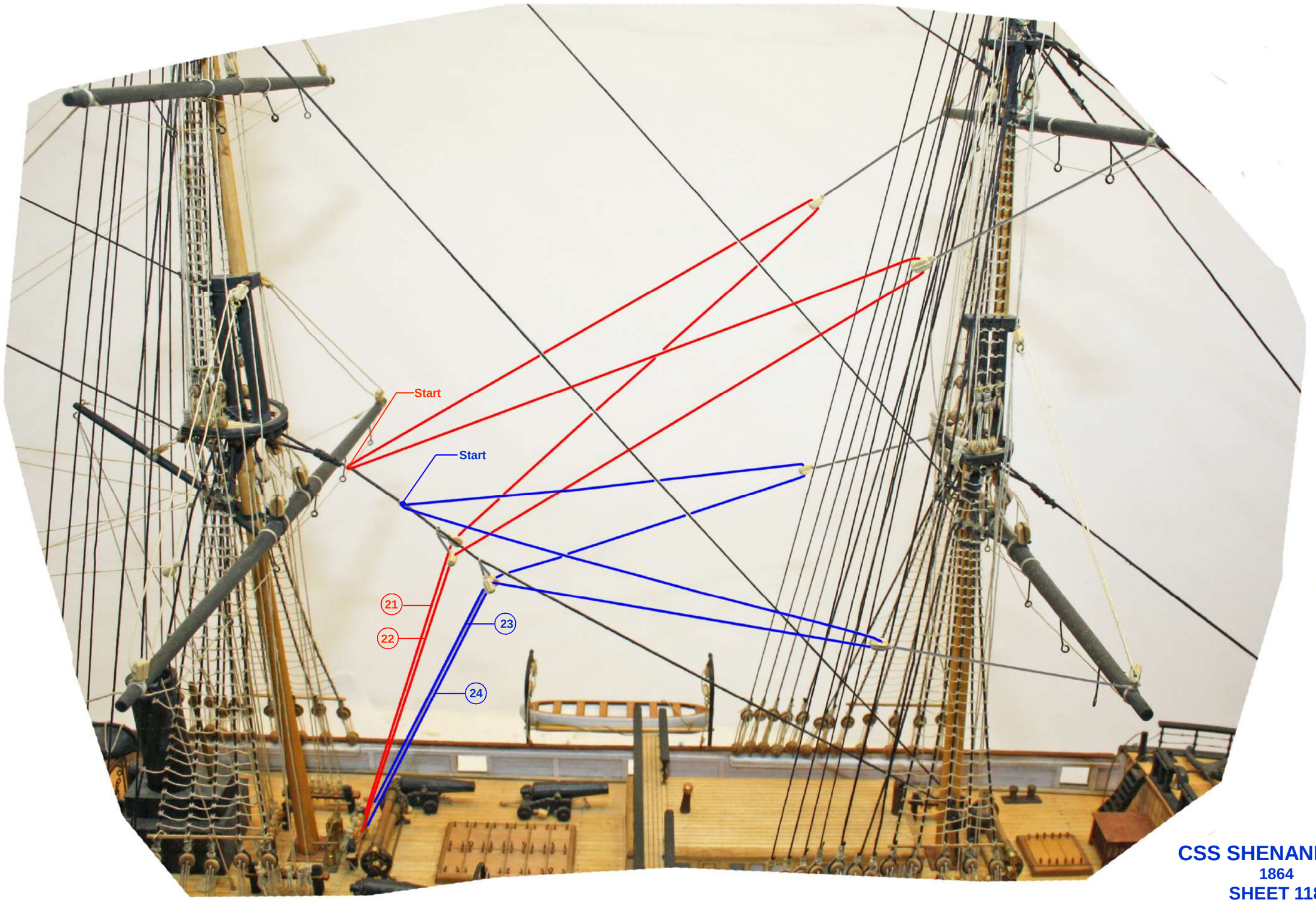
SHEET 117

13.4 Braces

13.4.1 Fore & Fore Lower Topsail

Attach blocks B1 to the main stay as shown. Rig and terminate the braces as shown.



CSS SHENANDOAH
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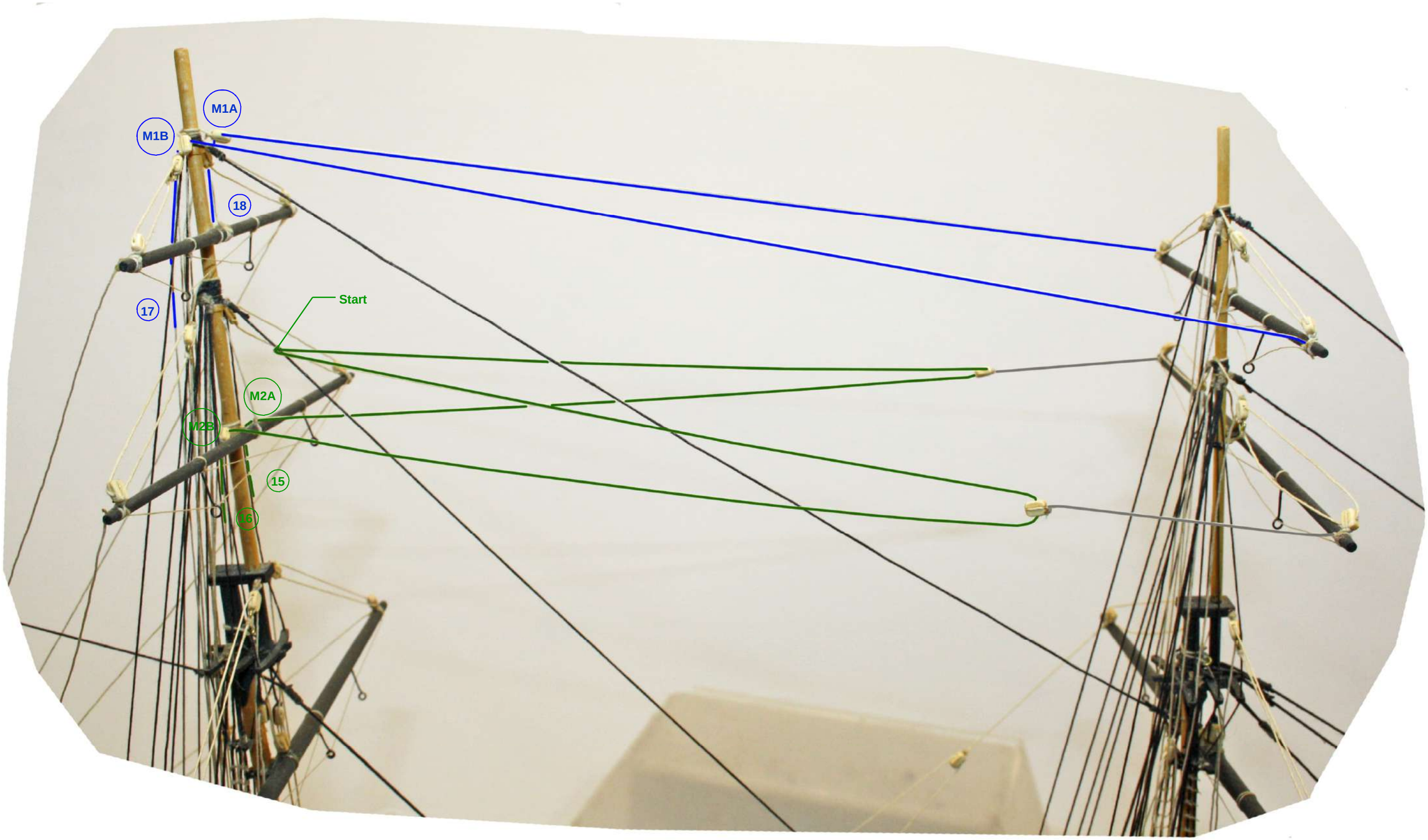
SHEET 118

13.4.2 Fore Upper Topsail & Fore Topgallant

Rig and terminate the braces as shown. Note: Upper topsail braces pass through blocks M2A & M2B and the topgallant braces pass through blocks M1A & M1B.



CSS SHENANDOAH
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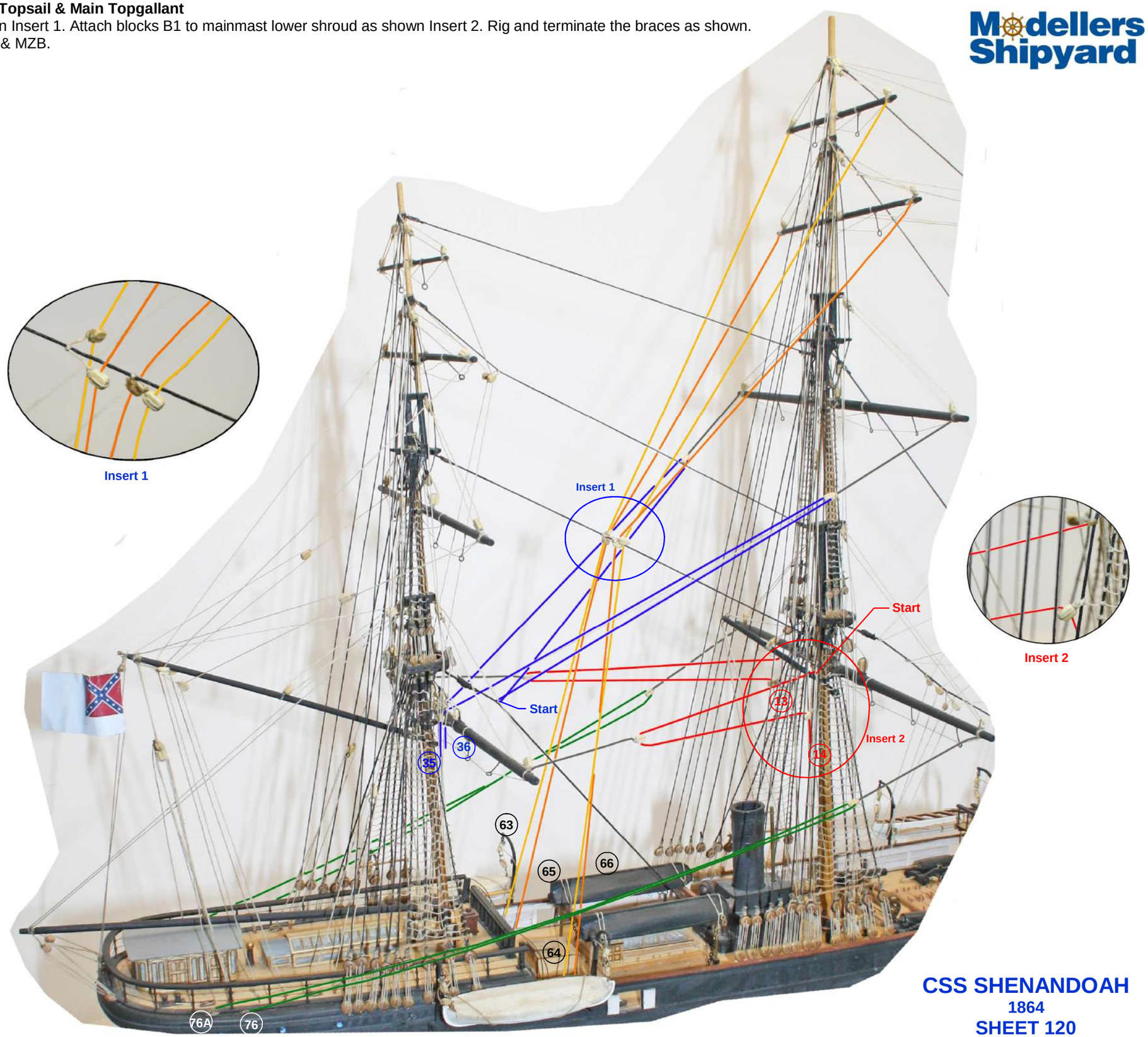
SHEET 119

13.4.3 Main, Main Lower Topsail, Main Upper Topsail & Main Topgallant

Attach blocks B1 to the mizzen topmast stay as shown Insert 1. Attach blocks B1 to mainmast lower shroud as shown Insert 2. Rig and terminate the braces as shown.
Note: Lower topsail braces pass through blocks MZA & MZB.

Insert 1



Insert 2

CSS SHENANDOAH
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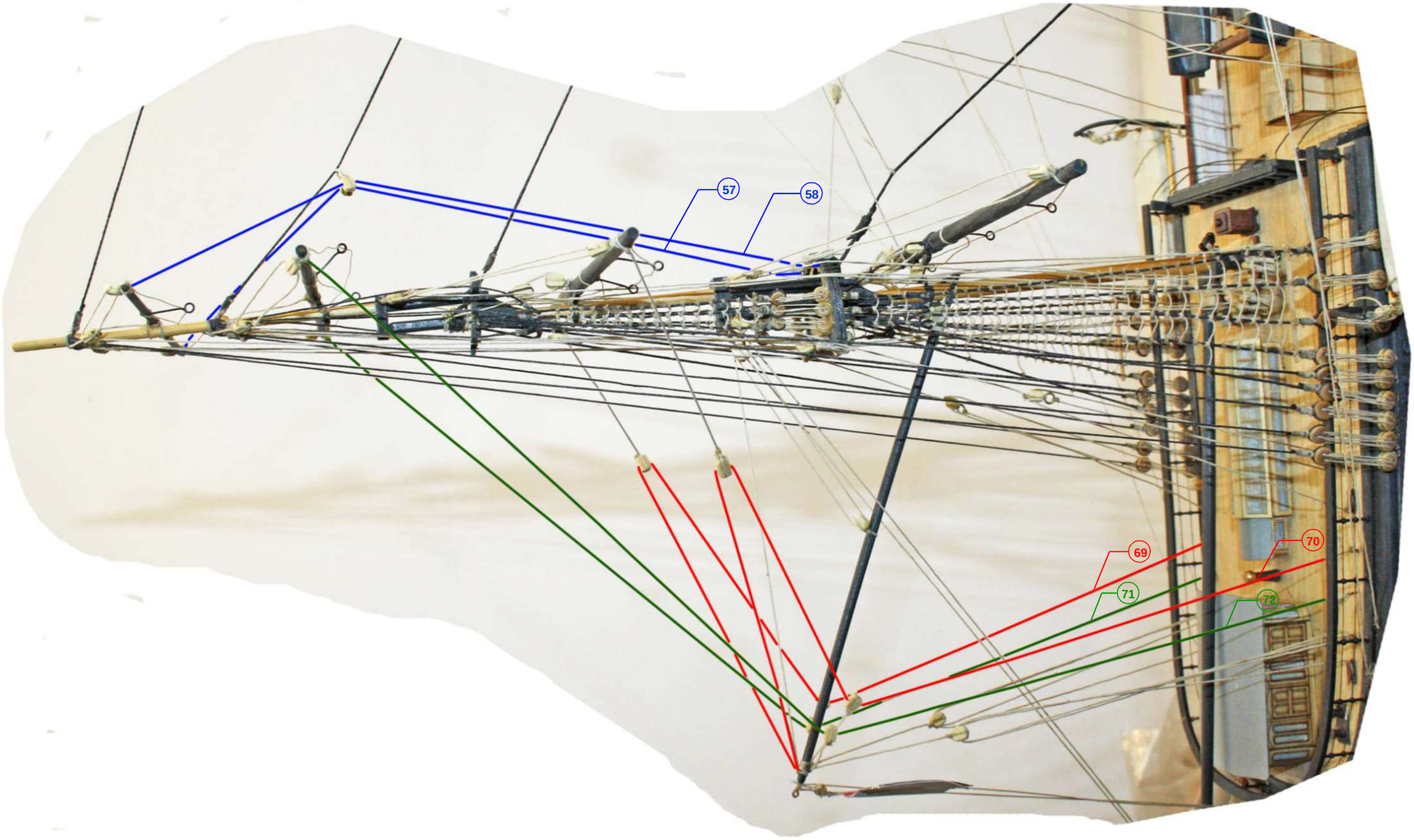
SHEET 120

13.4.4 Mizzen Lower topsail, Upper Topsail & Topgallant

Attach blocks B1 to the mizzen topgallant stay as shown. Rig and terminate the braces as shown.



CSS SHENANDOAH
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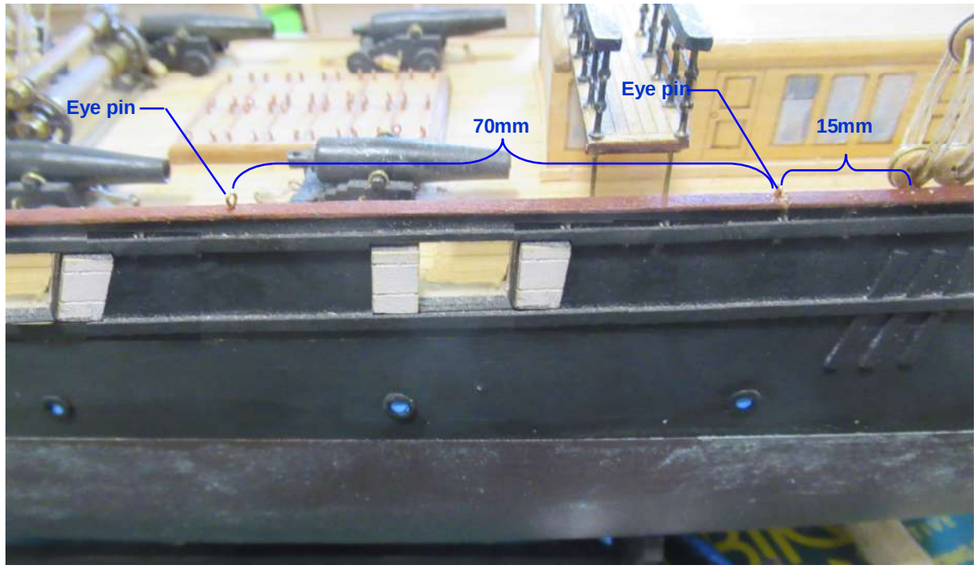
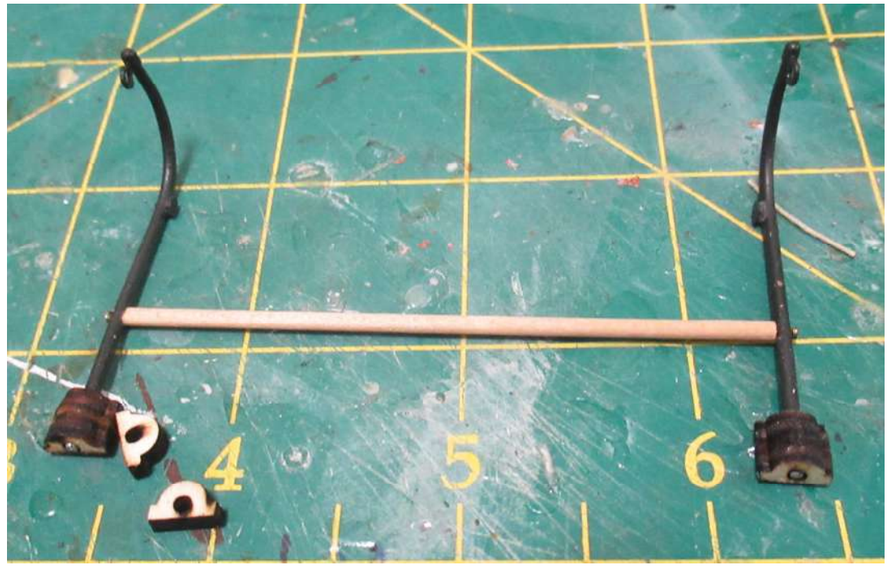
SHEET 121

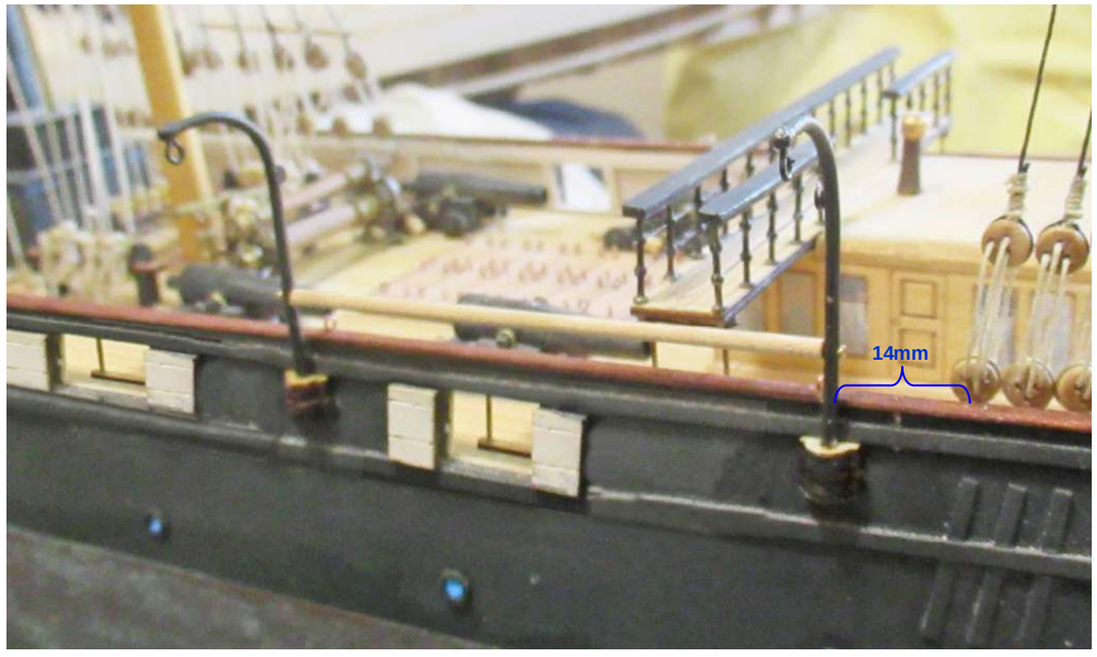
14.0 Davits

14.1 Mid-Ship Davits

Fix eye pins P77 into the cap rail at the points shown. Identify the four davit pairs P306 and the davit bases P307. Take one davit pair and fit two bases to each arm (do not glue). Identify the 2mm dowel P308 - cut 4 x 75mm lengths - apply a coat of shellac to each length of dowel. Drill a 0.7mm hole into the end of each length of dowel. Lay one pair of davit on the bench as shown - fit a pin through hole in the davit are glue the pin into the end of the dowel - repeat for the second davit arm as shown. With the davits attached glue the davit bases to the bulwark as shown - pin the bases if needed. Retrieve the two uncovered boats - attach block B1 using cord C6 to the eye pins previously fitted. Attach a 3mm ring P302 to block B1 - use cord C6 attach the block to the loops on the davit arms as shown. Starting at the ring, rig the two blocks as shown - tie-off the cord to eye pins. To secure the boat in position tie a length of cord over the boat and tie around the dowel. Repeat for the other side of the hull.



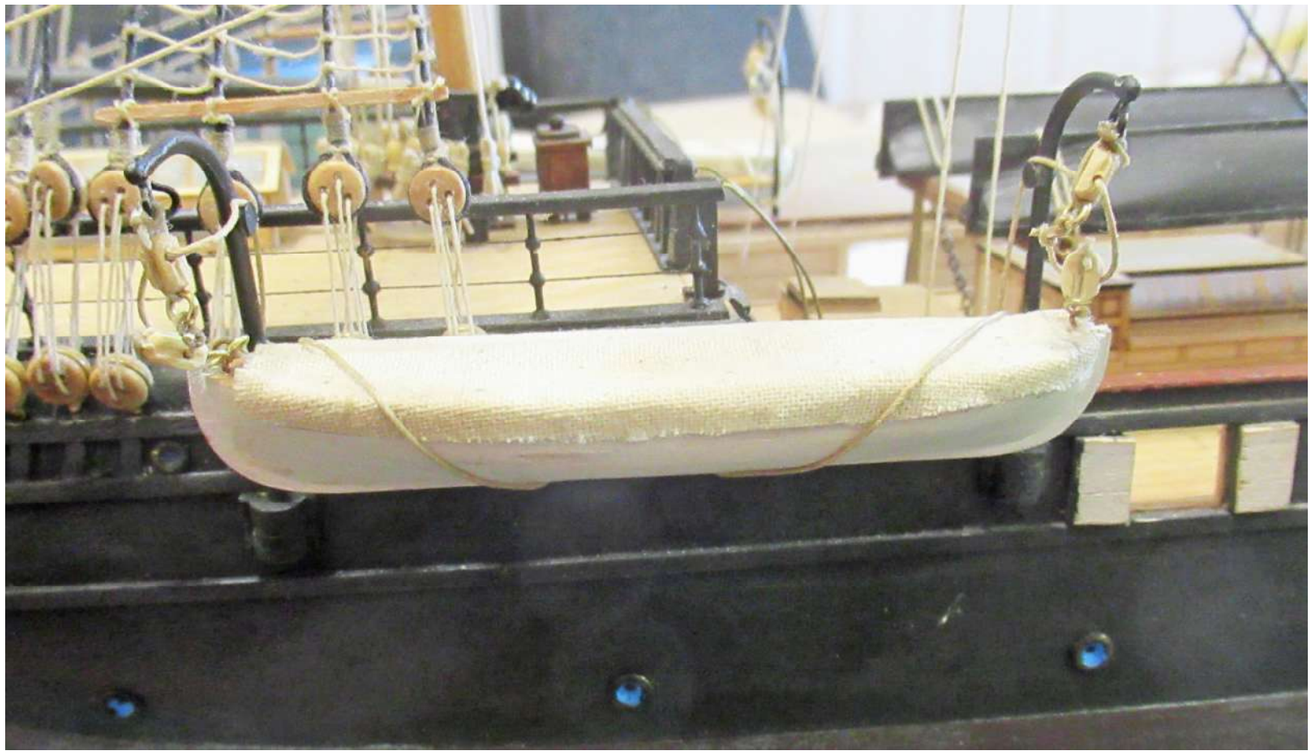




CSS SHENANDOAH
1864
SHEET 122

14.2 Aft Davits

Fix eye pins P77 into the quarter deck rail base and the bulwark cap rail at the points shown. Take one davit pair and fit two bases to each arm (do not glue). Lay one pair of davit on the bench as shown - fit a pin through hole in the davit are glue the pin into the end of the dowel - repeat for the second davit arm as shown. With the davits attached glue the davit bases to the bulwark as shown - pin the bases if needed. Retrieve the two covered boats - fit blocks B1 and rig as previously presented. Repeat for the other side of the hull.



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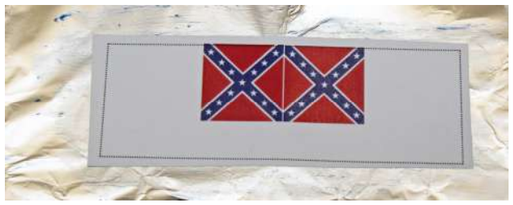
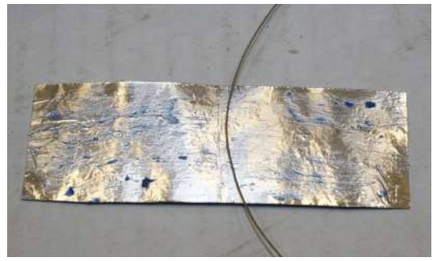
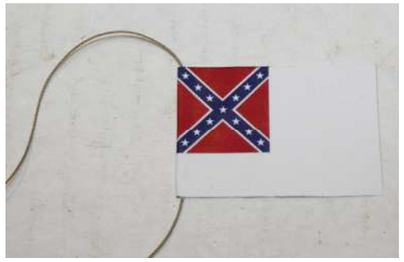
1864
SHEET 123

15.0 CSS Shenandoah Battle Ensign

Identify the flag P309. To create the effect of wind blowing the flag select a paper based glue and aluminium foil. Cut around the flag as shown. Cut a piece of foil slightly larger than the flag as shown. Lay the flag face up onto the foil. Press firmly down on the flag to remove any air bubbles. Turn the flag over - cut around the edge of the flag. Turn the flag over, apply the glue to the foil surface and lay a 400mm length of cord C6 across the mid-point on the overturned flag as shown. Fold the flag in half around the cord and press firmly and allow the glue to dry. Attach a block B1 to the eye pin on the end of the mizzen gaff as shown. Feed the cord through block - adjust cord so the flag is at the top of the block as shown and tie-off at points 83 & 84. Once in place shape the flag to give the appearance of blowing in the wind as shown.

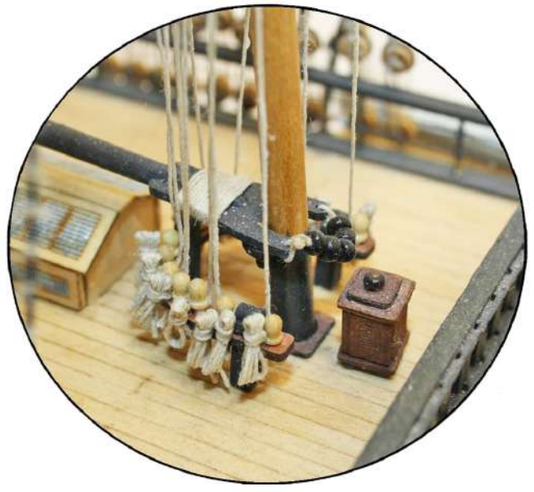


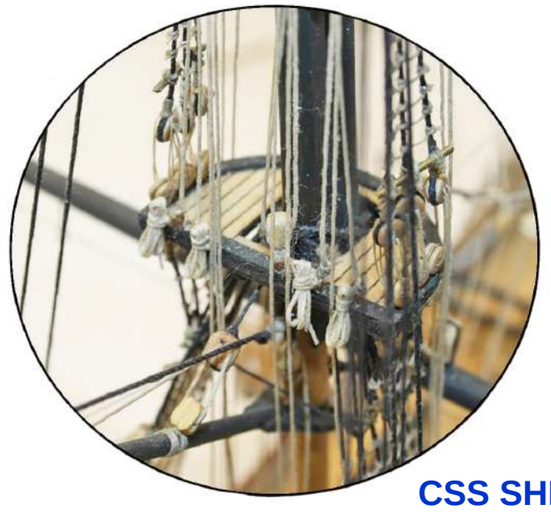




16.0 Rope Coils

Use cord C6 to make rope coils. Place these on pin rails and termination points on the model





Modellers Shipyard

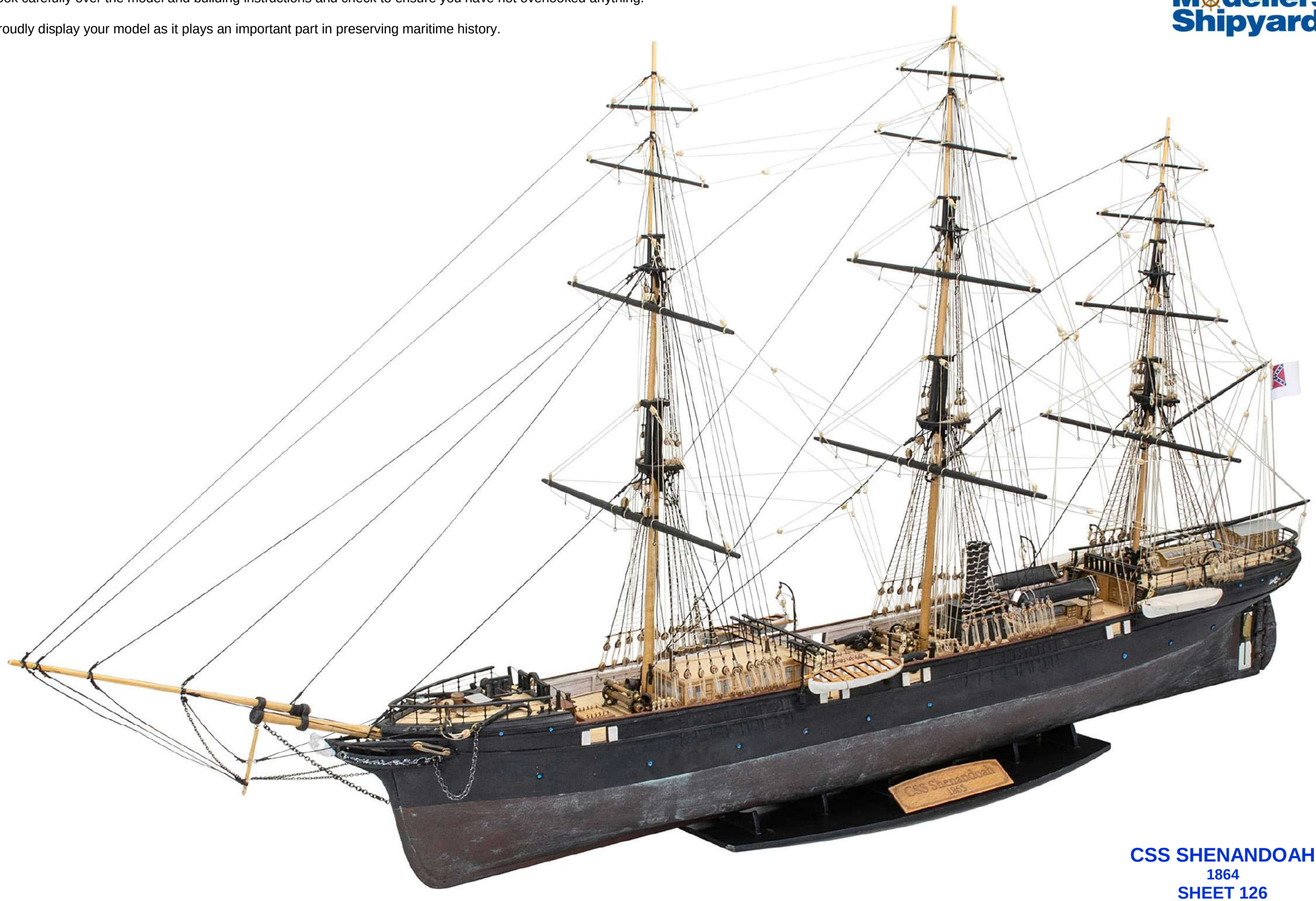
CSS SHENANDOAH
1864
SHEET 124

17.0 Completed Model
Identify the name plates P310 Shenandoah or P311 Sea King. Using a soft cloth, gently rub diluted brown acrylic paint into the chosen name plate. Apply Tung Oil if desired.

CSS SHENANDOAH
1864
SHEET 125

17.0 Completed Model
Look carefully over the model and building instructions and check to ensure you have not overlooked anything.

Proudly display your model as it plays an important part in preserving maritime history.



CSS SHENANDOAH
1864
SHEET 126

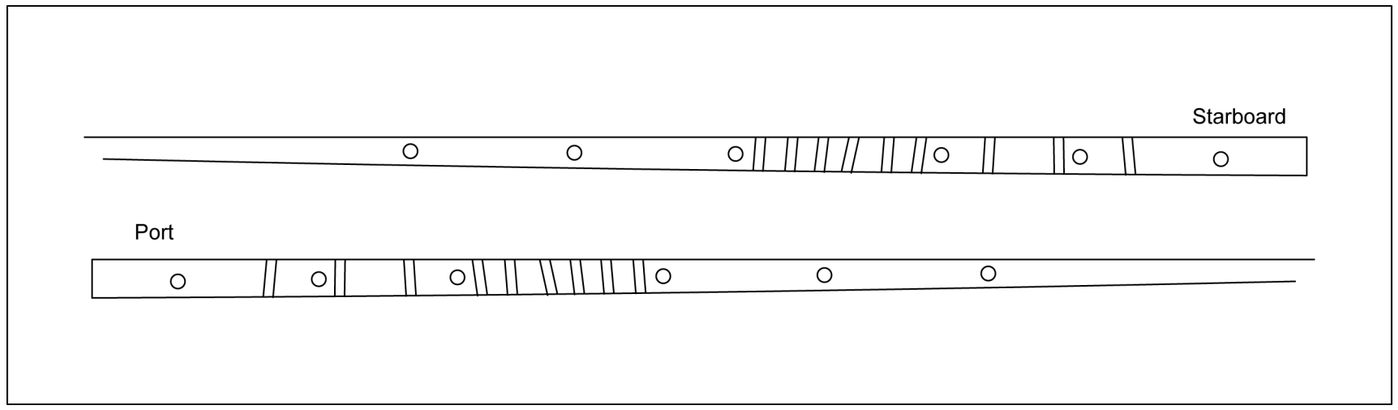
Model of CSS Shenandoah, Museum of the Confederacy, Richmond, Virginia, United States. Built by O.L. Raines, 2004.

Photo by Gary Renshaw February 2010

CSS SHENANDOAH
1864
SHEET 127

BLANK

P62 Quarter Deck Port Hole and Mizzen Deadeye Strap Template



P309 CSS Shenandoah Battle Ensign

CSS SHENANDOAH
1864
SHEET 128