

BUILD LORD NELSON'S  
HMS **Victory**



Pack 11  
Stages 101-110

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## Pack 11

### Stages 101-110

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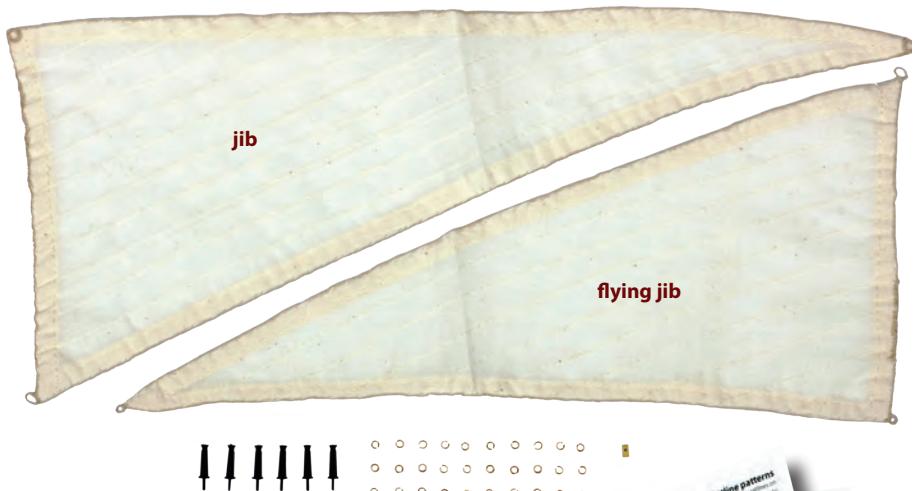
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# Stage 101: Adding the topgallant shrouds

Parts for continuing Victory's rigging and adding guns to the open ports, plus a set of patterns for positioning the ratlines on the shrouds.

## Fittings

flying jib (fitted forward on the flying jibboom)  
jib (fitted forward on the jibboom)  
6 x dummy 12-pounder guns  
single block 4 mm x 1  
30 x brass rings

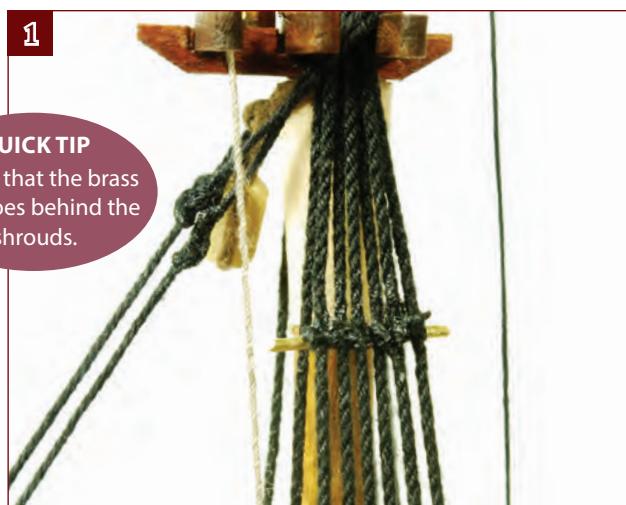


## Where the parts fit

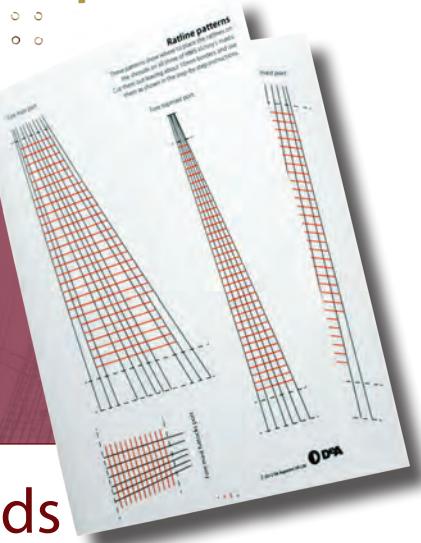
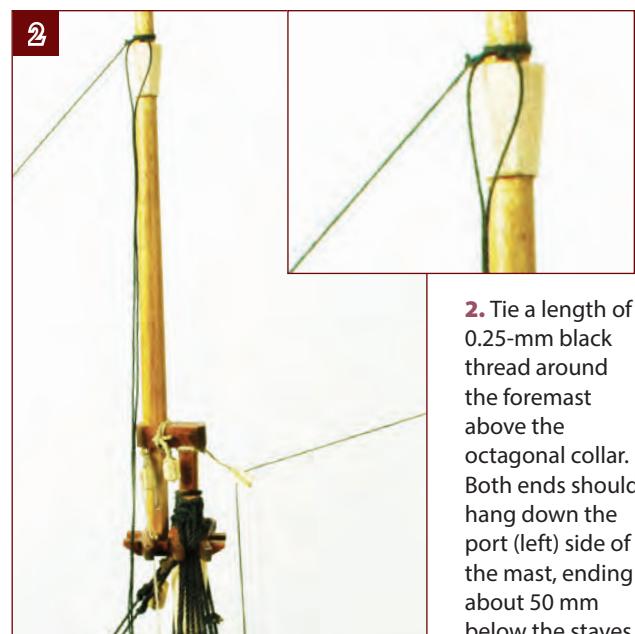
With the stays and staysails between the masts in place, you can complete the shrouds. Start by adding the topgallant shrouds, then add the horizontal ratlines to the lower shrouds on all three masts. This stage includes a full set of patterns to help you position the ratlines level.

## Adding the topgallant shrouds

The tallest parts of the masts are supported by shrouds that run down through the ends of the crosstrees, to be secured to futtock staves tied near the top of the topmast.



**1.** Cut the 1-mm brass wire from Stage 93 into six pieces, each about 13 mm long. Then use the same technique described in Stage 95 to fit them to all three sets of topmast shrouds, level with the bottom of the octagonal collar around the topmast.





3. Take the forward thread and feed it through the hole in the end of the front crosstree.



4. Now feed the end between the first and second shroud.



5. Tie it to the first shroud, just below the stave, with two half-hitches.



6. Repeat for the other shroud, feeding the thread through the middle crosstree and between the third and fourth shrouds. Tie the thread off to the third shroud with two half-hitches. Then repeat Steps 2 to 6 on the starboard (right) side.



7. Tie a single length of 0.25-mm thread above the octagonal collar so that it hangs down about 50 mm below the catharpin. Feed it through the aft crosstree and between the fifth and sixth shrouds. Tie it off to the sixth shroud with two half-hitches. Repeat this on the starboard side.



8. Repeat Steps 2 to 7 to complete the main mast topgallant shrouds. Remember to release the main topgallant stay before fitting the shrouds, or it will be sealed in place and you will be unable to re-tension it.

**QUICK TIP**

The stay can be left loose, as it will be re-tied and tensioned after the back stays are fitted in the next stage.



9. Repeat Steps 2 to 6 to complete the mizzen topgallant shrouds, remembering to release the topmast stay before fitting the shrouds. Note that there are only two pairs of shrouds on the mizzen mast. The front topgallant shroud goes between the first and second shrouds and is tied to the first shroud below the crosstrees. The aft topgallant shroud goes between the third and fourth shrouds, and is secured to the fourth shroud below the crosstrees.

# Fitting the fore mast ratlines

Start by adding ratlines to the three sets of shrouds on the fore mast, using the patterns provided.

## EXPERT TIP

There are two ways of tying the ratlines. The more traditional is to use clove hitches, which is how the ratlines on a real ship were tied. However, there are some drawbacks to this method:

- the knots can look over-scale
- the process is time-consuming, and it can be hard to tie each knot level, leaving the right amount of slack between the shrouds
- the thread also tends to snake rather than lie straight, giving an unnatural appearance.

You can use clove hitches if you prefer, but the main steps are demonstrated using an alternative method that gives a more realistic appearance, and is quicker to do.



Clove hitches used to tie the model ratlines to the shrouds.



Ratlines on HMS Victory.



Ratlines threaded through the shrouds as shown in the steps.



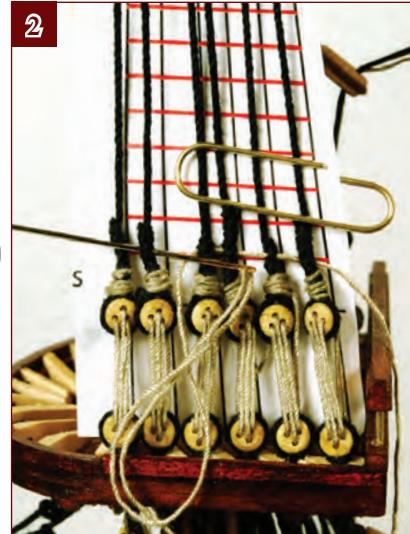
## QUICK TIP

Tie the ends with two half-hitches if you are using clove hitches on the ratlines.

3. Cut off the thread, leaving 10 mm to 20 mm overhang at each end.

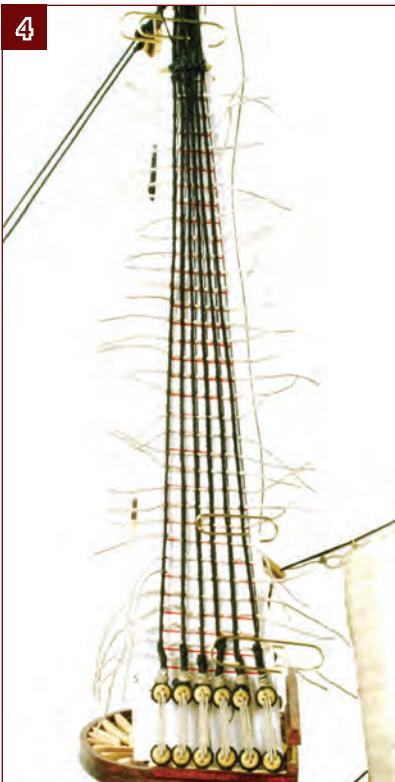


**QUICK TIP**  
It does not matter if the position of the stave varies a little on your model.



1. Cut out the pattern for the port fore topmast ratlines, leaving a border. Hold it behind the shrouds with paper clips, aligning the dotted line at the bottom with the centre of the deadeyes, and trim the top to fit under the crosstrees. Don't try to force the shrouds to align with the black lines, as you are only concerned with spacing the ratlines.

2. Thread a sharp needle with some 0.25-mm natural thread. Push the point through the middle of each shroud, following the red lines. The lowest ones will be quite stiff, as the deadeye bindings are sealed with diluted glue. Support the rigging when you pull the needle, to avoid stretching the shrouds.



4. Repeat the process to complete all the ratlines. You may need to even up the ratlines and shrouds until the shrouds and ratlines are all straight.



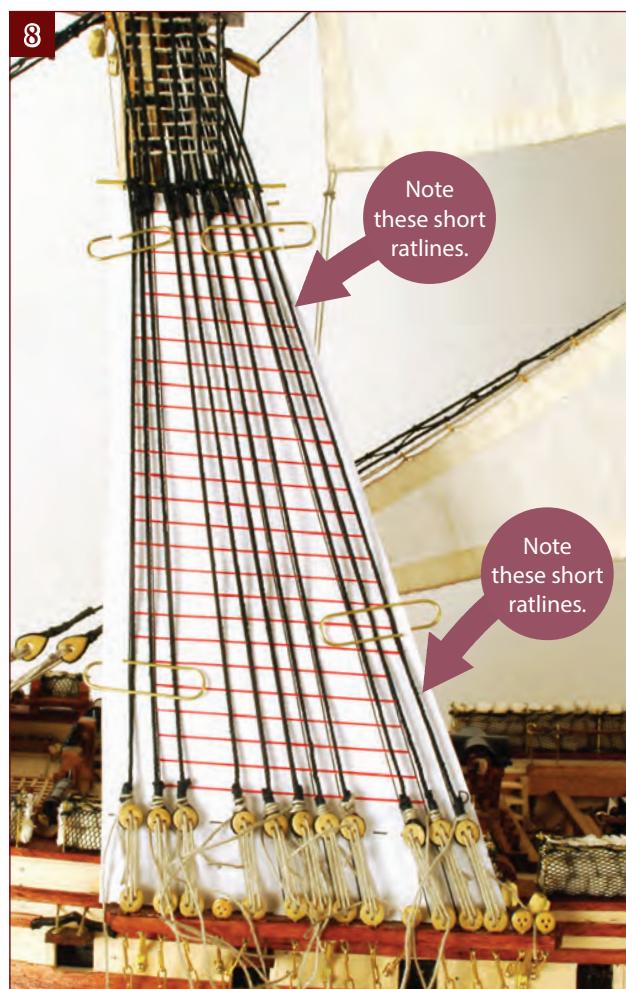
5. Remove the pattern, then paint the outer shrouds and ends of the ratlines with diluted glue. When it is dry, trim the ends of the ratlines close to the shrouds.



6. Cut out the foremast futtock shroud pattern and hold it in place with paper clips. Note that the lower edge marked as the stave is a little higher than the actual stave to allow for the lay of the threads.



7. Add the futtock ratlines in the same way as Steps 2 to 5.



8. Cut out and clip the lower ratlines pattern in place. Note that some of the upper and lower ratlines do not extend all the way through to the outer shrouds. Pay careful attention to the pattern to see which ones stop short.



9. Complete the lower mast ratlines, seal and trim the ends.

## Mizzen and main shrouds

Add the mizzen and main shrouds using the techniques demonstrated on the previous two pages.



1



2

1. The completed mizzen shrouds.

2. The completed main shrouds. Ensure you use the correct set of plans and repeat the process on both sides of the model.

# Stage 102: Continue the rigging

## Parts to continue rigging

*Victory*, including the mizzen sail.

## Fittings

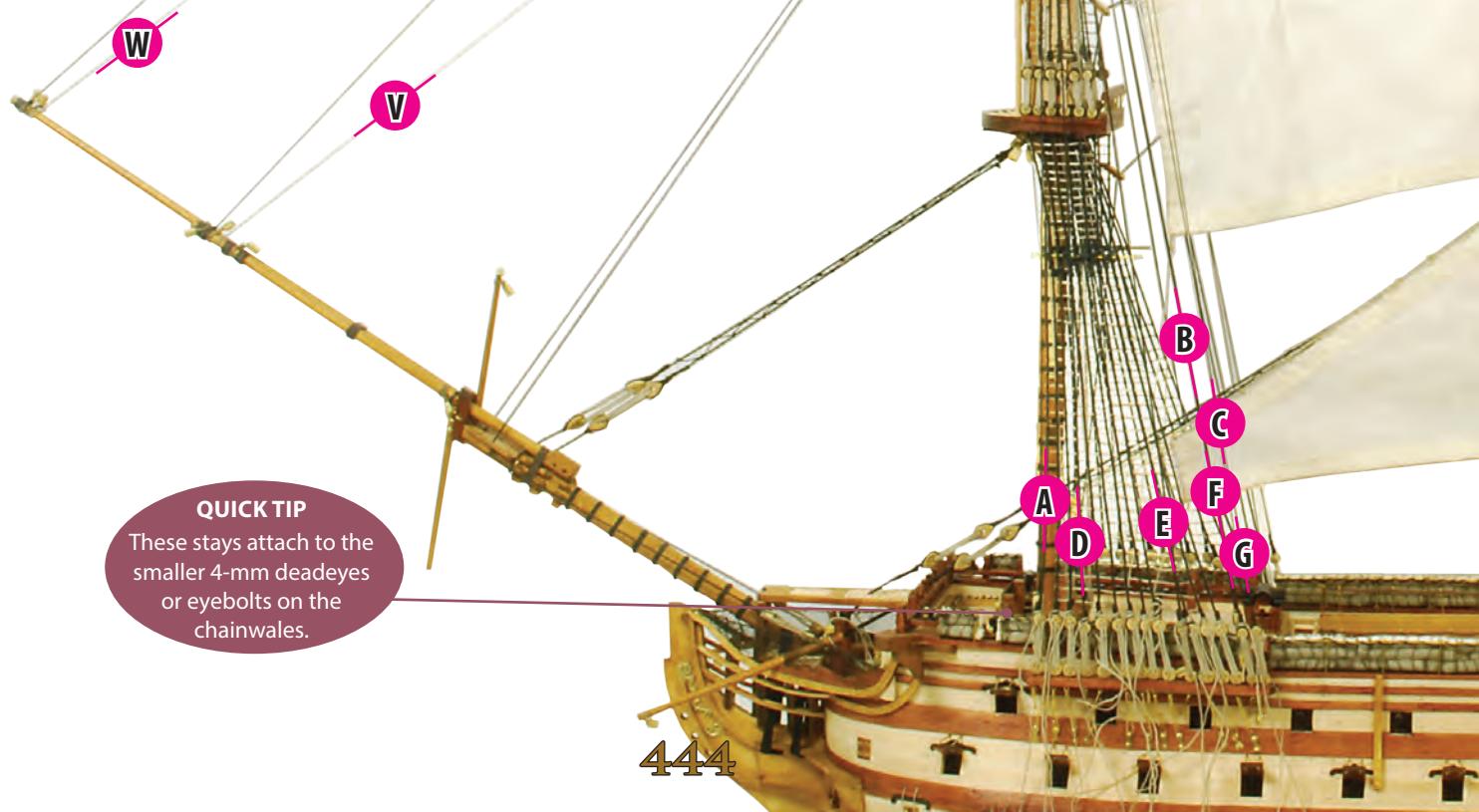
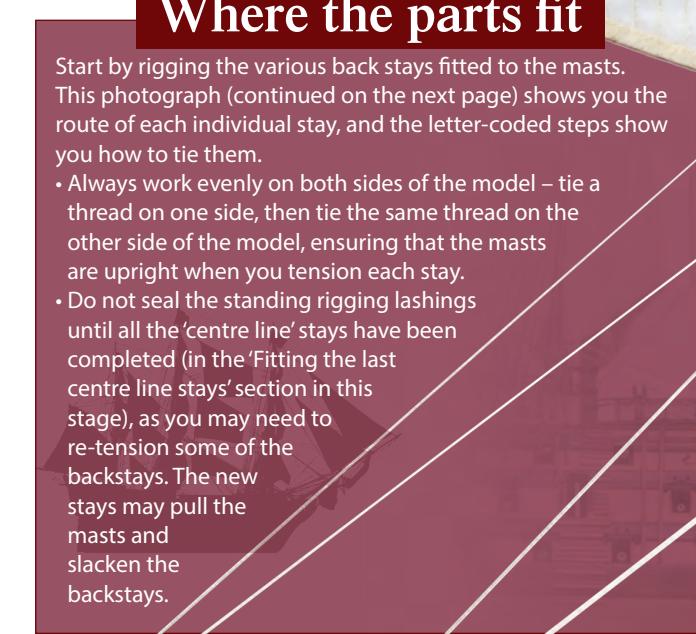
mizzen sail  
triple blocks 5 mm x 2  
double blocks 5 mm x 5  
single blocks 5 mm x 6  
single blocks 4 mm x 7  
glass beads x 7  
eyebolts 10 mm x 4

## Where the parts fit

Start by rigging the various back stays fitted to the masts.

This photograph (continued on the next page) shows you the route of each individual stay, and the letter-coded steps show you how to tie them.

- Always work evenly on both sides of the model – tie a thread on one side, then tie the same thread on the other side of the model, ensuring that the masts are upright when you tension each stay.
- Do not seal the standing rigging lashings until all the 'centre line' stays have been completed (in the 'Fitting the last centre line stays' section in this stage), as you may need to re-tension some of the backstays. The new stays may pull the masts and slacken the backstays.



# Fitting the fore mast backstays

Refer to the letter codes on the main photograph to see where each line you are rigging should run. Use the 4-mm deadeyes supplied with Stages 90 and 96, and the 4-mm blocks supplied with Stage 96.

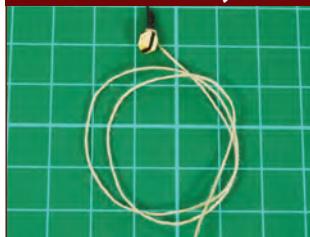
## QUICK TIP

The upper 'centre line' stays (R-W) are covered together in the 'Fitting the last centre line stays' section in this stage.

## QUICK TIP

Note that we have released the first shroud to ease access.

### A1 Breast backstays



**A1.** Bind a double block to the end of the 0.5-mm black thread. Then add a 250-mm tail using 0.25-mm natural thread.

### A2



**A2.** Using a 30-mm rigging jig made from brass wire, hold the block in place against the forward block on the chainwale.

## QUICK TIP

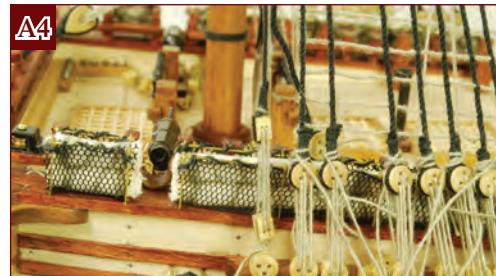
Run the thread behind the rear crosstree.

### T



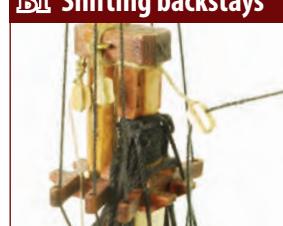
**A3.** Lightly tension the thread and tie it to the top of the fore topmast above the shrouds.

### A4



**A4.** Now remove the rigging jig and secure the blocks with the tail. Tie off the lashing at the lower block. Repeat Steps A on the other side of the model.

### B1 Shifting backstays



**B1.** Fit the first shifting backstay in the same way as a breast backstay, using 0.5-mm black thread. Tie the upper end of the stay to the top of the fore topmast.

### B2



**B2.** Secure the block on the lower end of the stay to the next to the last block at the rear of the chainwale. Then repeat Steps B on the other side of the model.

H, K, L, I, J, M, N, O, P, Q

**C1 Royal backstays**



**C1.** Tie a plain length of 0.25-mm black thread (no block is needed) to the very top of the fore mast. Trim the lower end to length so that it hangs about 40 mm below the chainwale.

**C2**



**C2.** When *Victory* was rigged for the Battle of Trafalgar, her royal backstay was not fitted with a block and tackle, so you can remove the rearmost double block on the chainwale and tie the stay to the eye. Repeat Steps C on the other side of the model.

**DEF1 Standing backstays**



**DEF1.** Using 0.5-mm black thread, tie a length to the top of the fore topmast with a reef knot, leaving two lengths that hang down about 30 mm below the chainwales. Repeat for the other side of the model.

**DEF2**



**QUICK TIP**  
Note that these threads lead behind the crosstrees.

**DEF3**



**DEF3.** Bind 4-mm blocks to the stays using the method described in Stage 92. Secure them to the forward three 4-mm deadeyes on the chainwale with 0.25-mm natural thread, using the method shown in Stage 95. Do not seal the lashings yet, as you will still need to access the blocks behind them.

**G1 Topgallant standing backstays**



**G1.** Tie a length of 0.25-mm black thread above the octagonal collar on the fore topgallant mast so that it hangs down to about 30 mm below the chainwales on each side of the model.

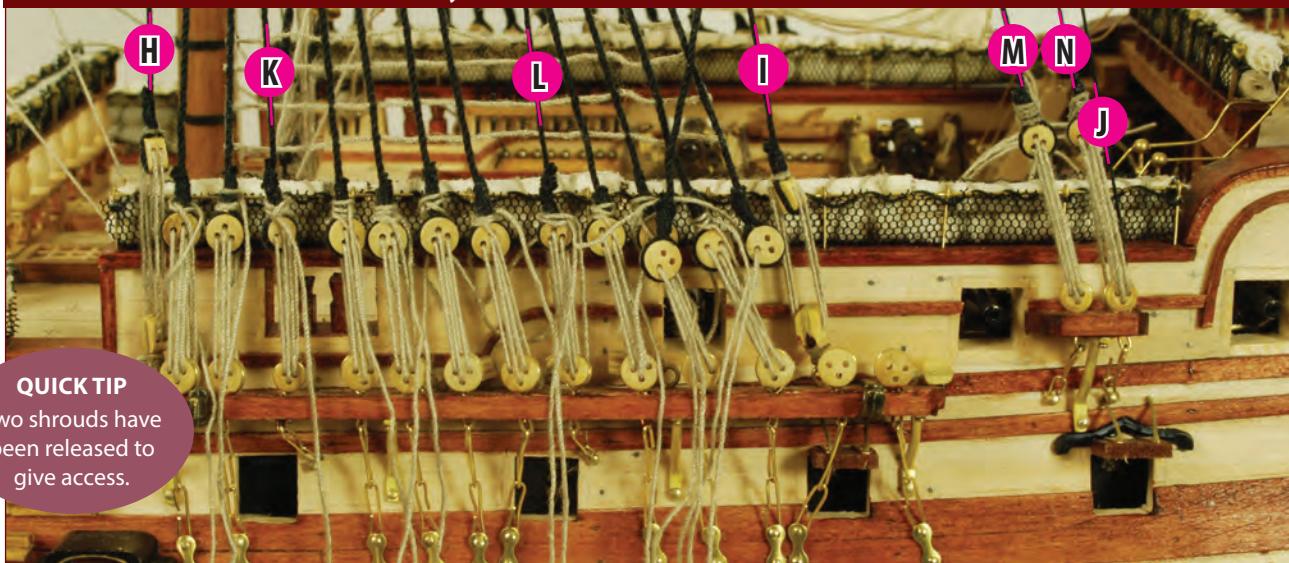
**G2**



**G2.** Bind 4-mm deadeyes to both ends of the thread and make them fast to the last deadeye on the chainwale on each side. This completes the fore mast backstays.

H I J K L M N

Main mast backstays

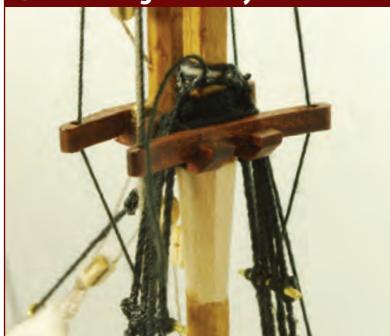


**H I J K L M N.** The main mast backstays are identical to those fitted to the fore mast. The shifting backstay (Stay I) runs to the next to the last block on the main chainwale. The royal backstay (Stay J) goes to the smaller aft chainwale with the block removed. The aft standing backstay (Stay M) and the topgallant standing backstay (Stay N) are also fitted to the small aft chainwale.

## Mizzen mast backstays

The mizzen has fewer backstays than the other masts, but the rigging techniques are very similar. No mizzen royal backstay was fitted at Trafalgar, so remove the block on the smaller chainwale.

### Q1 Shifting backstays



**Q1.** These are fitted in the same way as the fore mast shifting backstays. Use 0.25-mm black thread and tie the top end above the mizzen mast crosstrees.

### Q2



**QUICK TIP**  
Note the rear shroud has been released for access.

**Q2.** Make the lower end fast to the aft 4-mm block on the main mizzen chainwale.

### P1 Standing backstay



**P1.** Tie 0.25-mm black thread above the crosstrees, hanging down both sides to about 30 mm below the small chainwales.

### P2



**P2.** Secure the bottom end of the stay to the forward deadeye on the small chainwale.

### Q1 Topgallant standing backstay



**Q1.** Tie a 0.25-mm black thread above the octagonal collar on the topgallant, hanging down both sides to about 30 mm below the small chainwales.

### Q2



**Q2.** Make the bottom end of the stay fast to the aft deadeye on the smaller chainwale. These two standing backstay lashings can be sealed and trimmed as there is no need to remove them again.

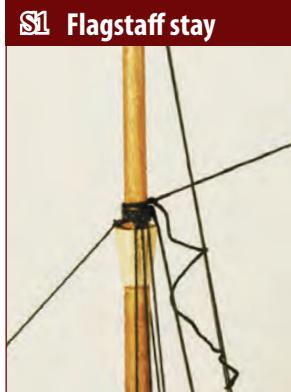
Remember to refix any shrouds you released while fixing the backstays.

# Fitting the last 'centre line' stays

The remaining stays run down the centre line of the ship and are labelled from R to W on the main photograph on the opening pages of this stage.



**R1.** Reattach the main topgallant mast stay to the main topgallant mast. The tension needs to be tight enough to support the weight of the main topgallant staysail without sagging too much.



**S1.** Tie some 0.25-mm black thread to the fore mast above the octagonal collar.



**S2.** Tie the other end to the very top of the main mast. The tension should be about the same as the main topgallant stay (R).



**T1.** Reattach the mizzen topgallant stay. Again the tension needs to be enough to support the weight of the sail (fitted later on).



**U1.** Tie some 0.25-mm black thread to the main topmast.



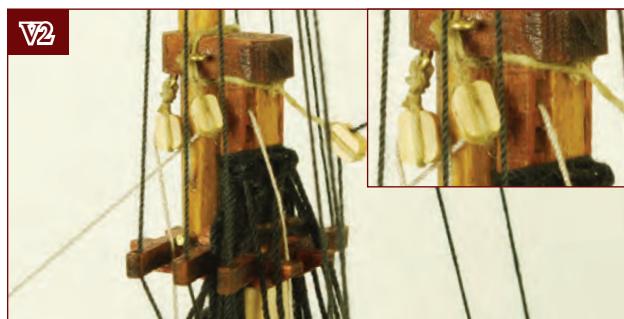
**U2.** Tie the other end of the stay to the very top of the mizzen. The tension should be about the same as before.



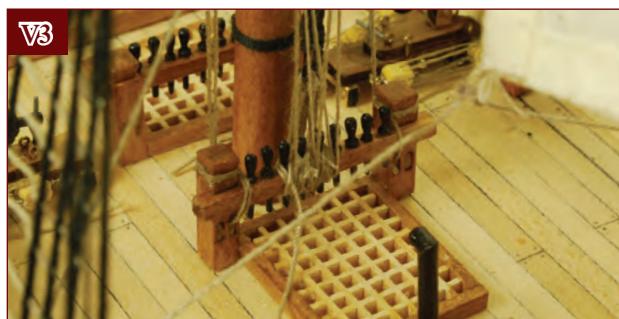
**V1.** Tie a 1.1-m length of 0.25-mm natural thread to the end of the jibboom.

**QUICK TIP**

Do not tie this too tightly as you may want to re-tension the stay after Step V3.



**V2.** Feed the thread up through the bracket on the foremast, and down through the foremast top between the crosstree arms.



**V3.** Take the thread down to the pinrail and secure it to the third belaying pin from the port (left) side.



**QUICK TIP**

Do not tie this too tightly as you may want to re-tension the stay after Step W3.



**W2.** Feed the end of the thread through the lower hole above the octagonal collar on the foremast. Then feed the thread down through the fore top.

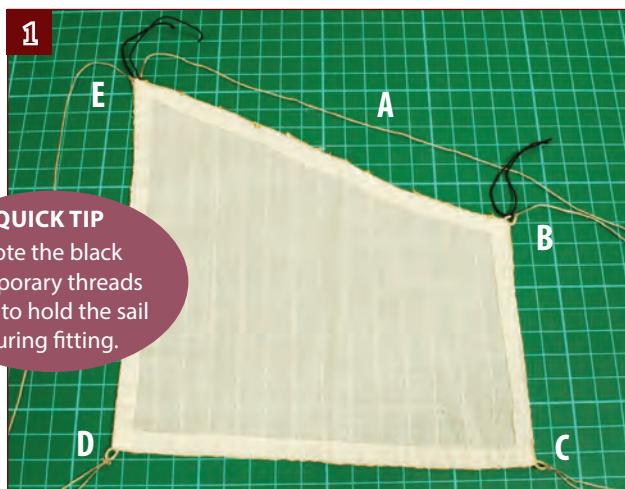


**W3.** Secure the thread to the fourth belaying pin from starboard (right).

**W1.** Tie a 125-cm length of 0.25-mm natural thread to the end of the flying jibboom.

# Rigging the main topgallant staysail

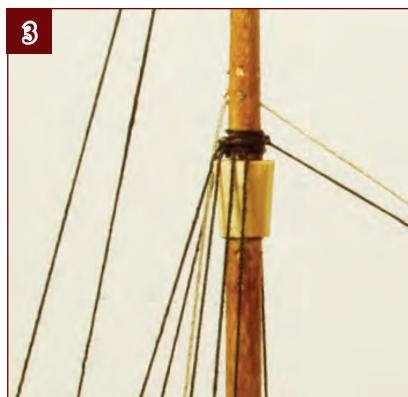
This sail was provided with Stage 99 and is attached in a similar way to the previous staysails.



**1.** Prepare the sail in a similar way to the previous sails. The thread lengths are:  
 A. 800 mm  
 B. 650 mm  
 C. Two 250-mm tails  
 D. Two 550-mm tails  
 E. 850 mm.  
 Fit 10 small brass rings spaced evenly along the top.  
 Note that this sail does not have a block fitted to it.



**2.** Working from the right side of the model, secure the sail to stay R, closing the brass rings and trapping thread A.



**3.** Feed thread E through the hole in the main mast above the octagonal collar and down through the main top.



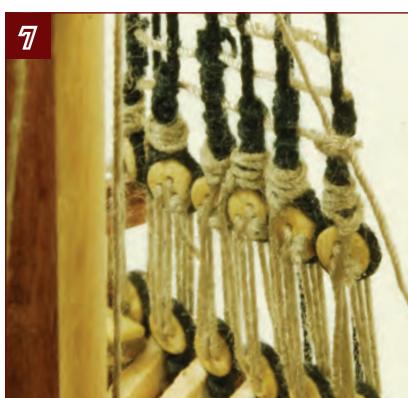
**4.** Secure the thread to the third belaying pin from starboard (right).



**5.** Feed threads A and B through the bracket above the crosstrees, and down through the fore top.



**6.** Tie the threads A and B off to the third belaying pin from the right. Tie thread A first, followed by thread B.



**7.** Tie threads C to the bottom of the forward shroud on the fore top.



**8.** Tie threads D off to the third belaying pin from the front. This can be quite tricky to do.

# Stage 103: Rigging the jibs and mizzen

The spritsail carried on the bowsprit, plus parts to continue the rigging and fit out the hull.

## Fittings

spritsail  
2 x dummy 32-pounder guns  
2 x dummy 12-pounder guns  
double blocks 4 mm x 2  
single blocks 4 mm x 8  
glass beads x 17  
0.25-mm natural thread x 60 m  
7-mm eyebolts x 6



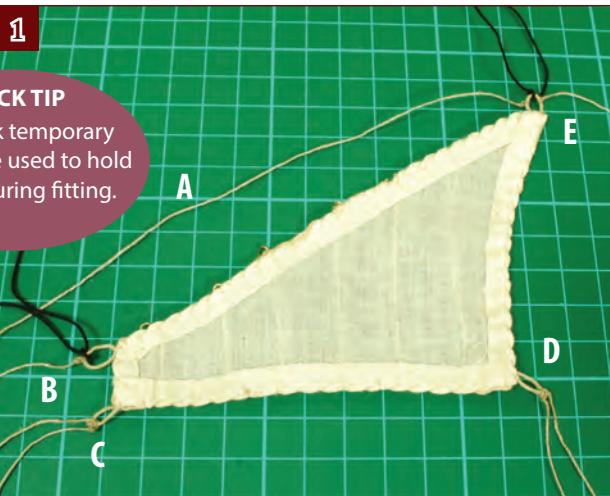
## Where the parts fit

Most of the parts provided will be fitted a little later on in the assembly. This time, start by fitting the remaining staysails – the topmost sails carried on the mizzen stays, plus the jib and flying jib rigged on the stays running from the fore mast to the bowsprit. Next, take the

lanterns you assembled in Stage 94 and fit them to the stern before adding the rigging for the mizzen booms (assembled in Stage 81). As the position of the booms is adjusted by the rigging, you will need to tension the lines after adding the mizzen sail.

## Rigging the mizzen topgallant staysail

This sail was provided with Stage 99 and is attached in a similar way to the previous staysails.



**1.** Prepare the sail in a similar way to the previous sails. The thread lengths are:  
 A. 650 mm  
 B. 450 mm  
 C. Two 200-mm tails  
 D. Two 500-mm tails  
 E. 750 mm  
 Fit eight small brass rings spaced evenly along the top.  
 Note that this sail does not have a block fitted to it.



**2.** Working from the left of the model again, fix the sail to the mizzen topgallant stay with the brass rings.



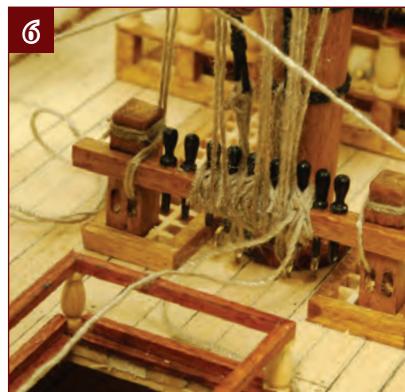
**3.** Feed thread E through the hole in the mizzen topgallant mast, and down through the mizzen top.



**4.** Secure the thread to the deck eyebolt shown.



5. Feed threads A and B through the hole in the heart block, and down through the main top.



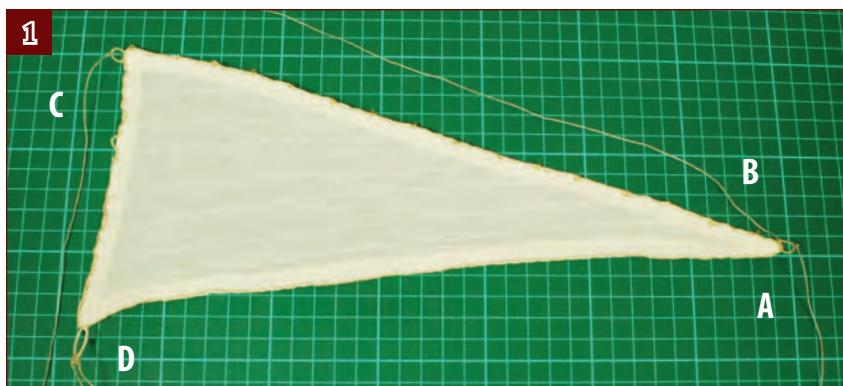
6. Secure both to the third belaying pin from the right, thread A first.



7. Tie threads C to the bottom of the forward shroud on the main top, above the deadeye. Threads D will be secured at a later stage.

## Rigging the jib

The jib and flying jib provided with Stage 101 are attached in a similar way to the previous staysails.



1. Prepare the larger of the two sails, the jib, in a similar way to the previous sails. The thread lengths are: A. 750 mm, B. 850 mm, C. 550 mm, and D. Two 450-mm tails. Fit 15 small brass rings spaced evenly along the front edge of the sail.



2. Fit the sail in position on the jib stay and hold it with temporary threads while you close the rings around the stay and thread B.



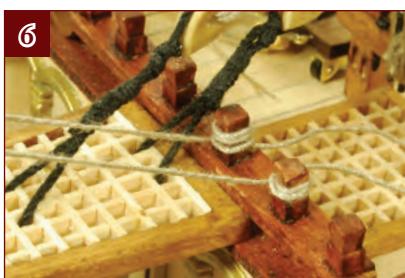
3. Feed thread A through the lower hole in the bracket on the mast. Then feed it down through the fore top.



4. Secure thread A to the third belaying pin from the port (left) side.



5. Feed threads B and C through the two blocks on the jibboom. Thread B goes through the forward block.



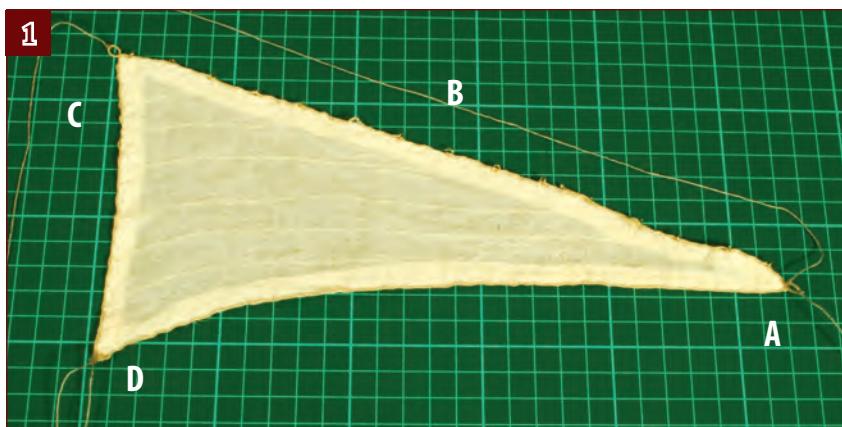
6. Secure thread B to the timberhead close to the centre line. Then secure thread C on the adjacent timberhead.



7. Secure both threads D to the outboard double timberheads, one thread on each side of the model.

# Rigging the flying jib

The smaller flying jib is added in a very similar way to the jib.



1. Prepare the threads as follows: A. 950 mm, B. 1,050 mm, C. 700 mm and D. Two 500-mm tails. Fit 15 small brass rings spaced evenly along the front edge.



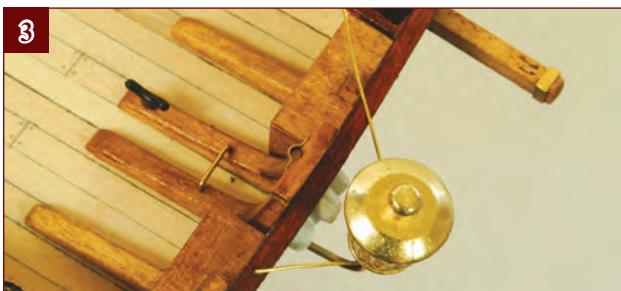
## Fitting the stern lanterns

Before rigging the mizzen booms, add the stern lanterns, assembled in Stage 94.

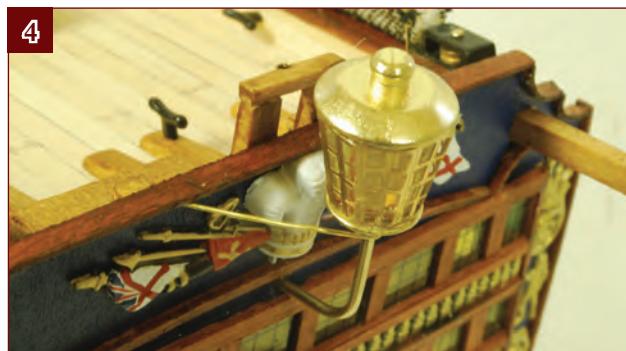


1. Start with the grand lantern. Drill a hole just below the centre of the stern decoration – use a 1-mm bit and angle the drill upward to match the angle of the lantern's support rod.

2. Fix the lantern in place with superglue.



3. Cut about 60 mm from the left-over 0.5-mm brass wire, and bend it into a V. Hook the apex of the V around the top of the support rod, below the base of the lantern. Then cut the legs to fit under the overhang of the poop deck capping strip.



4. Glue the wire in place with superglue. (Paint the wire black for the painted version of the model.)



5. Drill 1-mm holes for the two smaller lanterns in a position so that they sit just a little lower than the grand lantern, and the support rod is just inboard of the top corner of the gallery. Glue the lanterns in position.



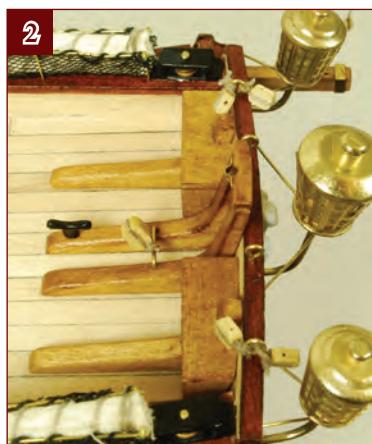
6. Add V-shaped stays to the smaller lanterns using the method described in Steps 3 and 4.

## Rigging the mizzen booms

You can now attach the mizzen driver and gaff booms, which you assembled in Stage 81.



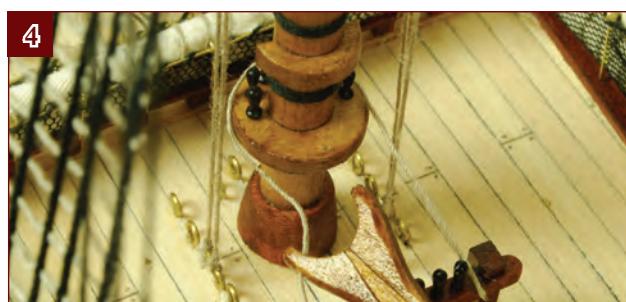
1. Start by fitting four eyebolts to the taffrail as shown. Position a 0.6-mm drill at the front of the capping strip, and very carefully drill vertically down. With care, the hole will stay within the thickness of the bulkhead. If it does stray through the edge of the bulkhead, fit the eyebolt with superglue and fill the shank with paint to hide it.



2. Fit two 4-mm single blocks to each of the outboard eye bolts, and a double block to the brass wire that runs between the knees in the centre.



3. Take the driver boom and carefully drill an angled 0.6-mm hole in each side of the jaw. Do this very carefully so you do not split the tips of the jaws (do not use an electric mini-drill).



4. Thread some 0.25-mm natural thread through one of the holes, and around the mast. Be careful not trap any rigging lines between this thread (the parrel rope) and the mast.



**5.** Feed the free end through the hole in the other jaw, slipping six glass beads onto the thread as you do so. Ease the boom back from the mast to give you room to tie a knot in the end (the same as used to tie the deadeye lashings).



**6.** Pull the thread back through the jaws until the knot is resting against the jaw, and the boom is resting against the mast in the position shown. Then cut the thread and secure the end with another knot pulled tight up to the jaw.

**EXPERT TIP**

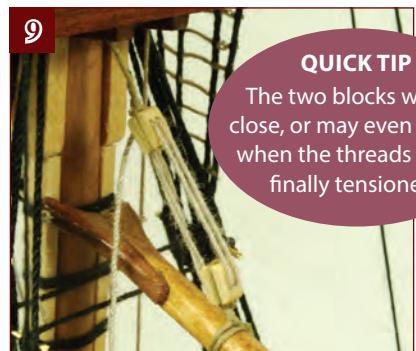
Insert a large needle into the loop of the knot as you tie it. This will help you slide it down the thread into position.



**7.** Repeat Steps 1 to 6 with the gaff boom, but this time, thread seven black beads onto the parrel rope before threading it through the second jaw. Make sure the block shown in Step 9 is on the upper side of the boom.



**8.** Add the throat halyard that supports the gaff boom. Cut a 500-mm length of 0.25-mm thread and tie it to the block below the Mizzen top.



**QUICK TIP**

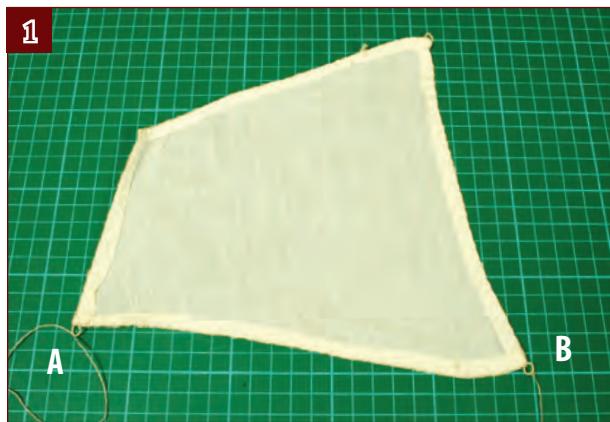
The two blocks will be close, or may even touch, when the threads are all finally tensioned.

**9.** Feed it through the double block on the boom, through the block on the Mizzen top, through the block on the yard and then the top again, and leave the end hanging down the port (left) side of the model.

## Rigging the mizzen

The ropes attached so far need adjusting so that the positions of the booms match the sail, so they are only tied off at the end. If you are building a 'bare spars' model, ignore Steps 1-4, Step 8 and Step 11.

Use 0.25-mm natural thread throughout, unless otherwise stated.



**1.** Prepare the sail (provided in Stage 102) by tying a 200-mm length of thread to corner A, leaving 100-mm tails on each side. Tie 400 mm of 0.25-mm natural thread to corner B.



**2.** Tie corner A to the driver boom. Do not tighten this thread yet, as you may need to adjust it.



**3.** Slip the loop in the top of the sail over the end of the gaff boom, and start to sew the sail to the boom with loops as shown in Step 4.

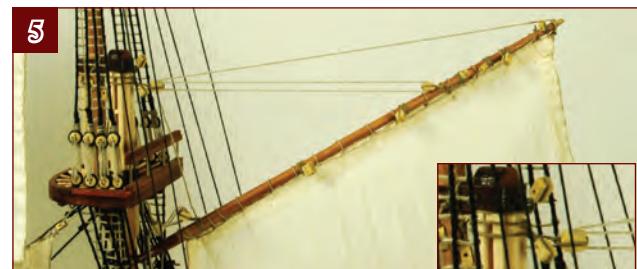
**QUICK TIP**

Tie an offcut of thread around the loop of the sail to prevent it from slipping down the boom.





**4.** Sew the sail to the boom with a thread about  $2\frac{1}{2}$  to 3 times as long as the edge of the sail. Make loops every 15 mm or so, feeding the thread behind the loop just sewn (inset), so that the loops are all pulled square to the boom, not at an angle. Continue to the end of the sail and tie the thread to the boom.



**5.** Add the peak halyard. Tie 900 mm of thread to the tip of the gaff boom. Then feed it through the double block below the mizzen mast cap, through the single block on the boom and back through the double block, and leave it hanging down the right side of the model. Tension the thread to raise the boom until the front edge of the sail hangs neatly. If you are not fitting a sail, follow the angle in the Step 9 photograph below.



**6.** Tie 300 mm of thread to the block on the driver boom.



**7.** Loosely thread it through the double block attached to the knees to form the boom strop (it is shown pulled taut for clarity).



**8.** Feed the clew line on corner B through the end hole in the boom and then through the rectangular bracket on the boom.

**9.** Adjust all the lines until the sail and booms hang neatly, as below. (If you are rigging bare spars, you will not have line 3.) There is no set order to tension the lines, but as a guide, start with the peak halyard (1) followed by the throat halyard (2), then the clew line (3) and the boom strop (4). Repeat bit by bit as necessary until the booms and sail are in the right position, and the threads are all under a gentle tension.



**10.** Secure the peak halyard to the front eyebolt on the starboard deck. Secure the throat halyard to the same eyebolt on the port deck.



**11.** Tie the clew line to the rectangular bracket. Secure the boom strop to the cleat.



**QUICK TIP**

The extra rigging lines shown in this view are used to control the sail and will be added later on.

# Stage 104: Rigging the bobstays

The parts provided with this stage include the sprit topsail, dummy guns and rigging parts.

## Fittings

### sprit topsail

2 x dummy 32-pounder guns  
2 x dummy 12-pounder guns  
single blocks 4 mm x 4  
brass strip 0.3 x 2 mm, 50 mm long  
brass eyebolts 7 mm x 12  
brass pins x 4  
brass rings x 2  
cleats, black x 2  
cleats, brass x 2

## Wooden strips

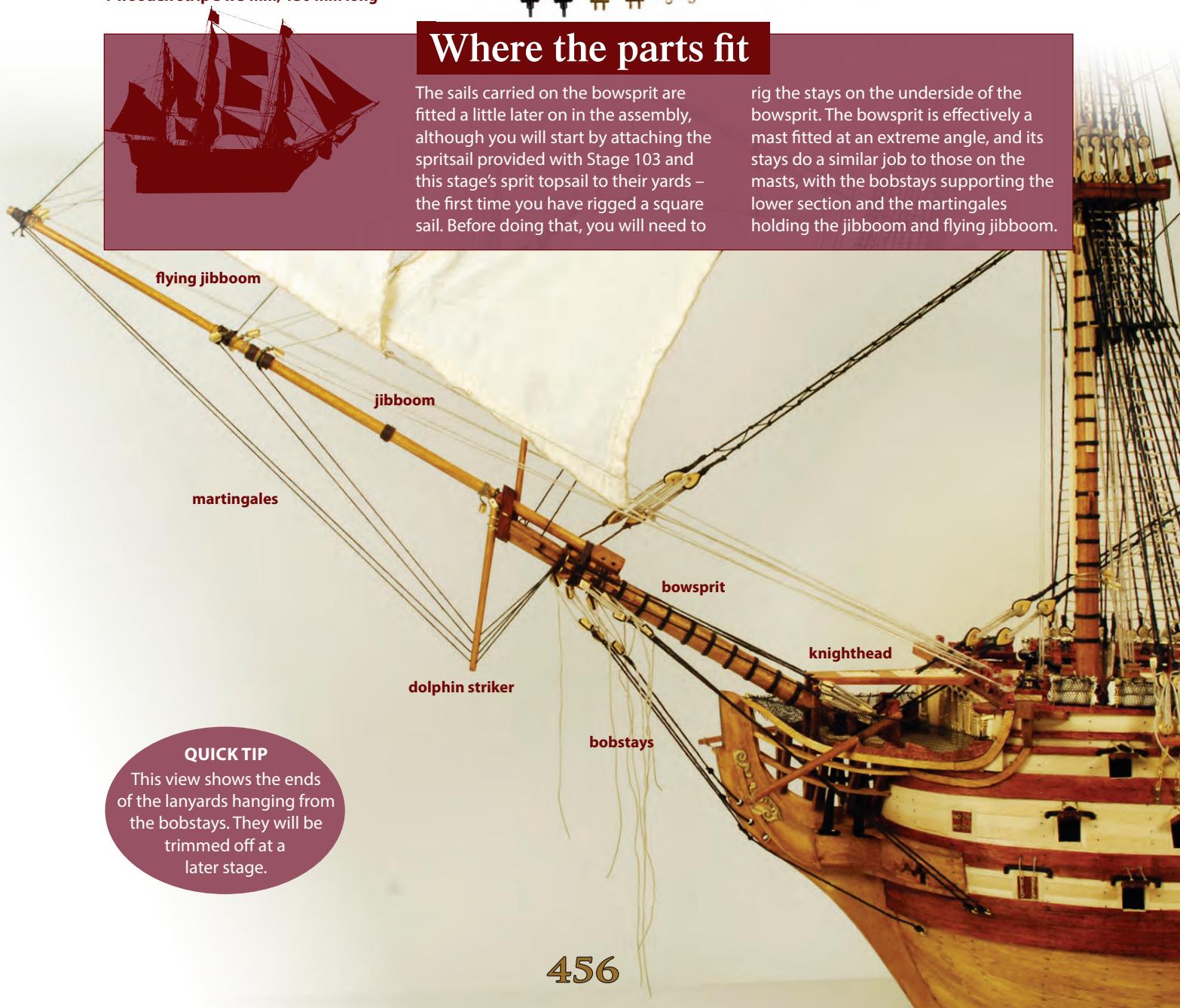
1 wooden strip 2 x 2 mm, 300 mm long  
1 wooden strip 3 x 3 mm, 130 mm long



## Where the parts fit

The sails carried on the bowsprit are fitted a little later on in the assembly, although you will start by attaching the spritsail provided with Stage 103 and this stage's sprit topsail to their yards – the first time you have rigged a square sail. Before doing that, you will need to

rig the stays on the underside of the bowsprit. The bowsprit is effectively a mast fitted at an extreme angle, and its stays do a similar job to those on the masts, with the bobstays supporting the lower section and the martingales holding the jibboom and flying jibboom.



## Rigging the bobstays

These lines run down to the stem to brace the bowsprit against the upward pull from the fore stay. To rig them, you will need eight double blocks from Stage 96 and six single blocks from Stage 102.



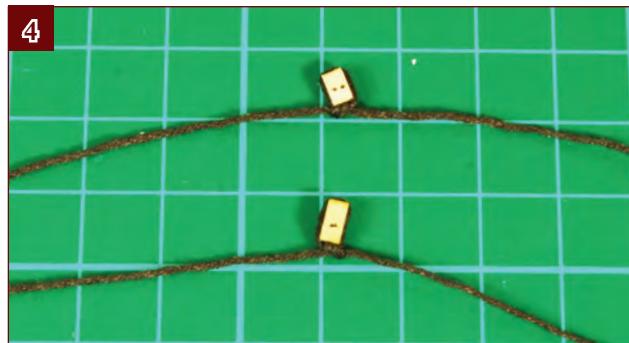
1. Using a 1-mm bit, drill two horizontal holes across the wood between the bowsprit and jibboom.



2. Fit two brass eyebolts to the hull in the positions shown. Note how the eyes are angled up slightly. Repeat this on the other side of the model.



3. Fit a further eyebolt just below the lower wale, in line with the centre of the hawseholes, with the eye angled up again. Repeat this on the other side of the model.

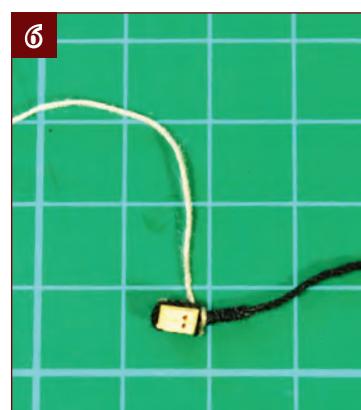


4. Take four double blocks (supplied in Stage 96) and tie them with 0.5-mm brown thread, leaving 60-mm tails on each end. Take three 5-mm single blocks (Stage 102) and tie them with 0.5-mm brown thread, leaving 100-mm tails on each end.



**QUICK TIP**  
Do not trap any other rigging lines under these threads.

5. Tie the four double blocks around the bowsprit so that the blocks end up lying between the middle and lower rows of brackets. Fit two just below the jibboom binding, using a blunt needle to feed the thread between the binding and the base of the jibboom. Fit two through the hole drilled in Step 1 nearest the hull. Do not overtighten the knots, and do not seal them at this stage.



6. Prepare the first bobstay by binding a double block on the end of a 350-mm length of 0.8-mm black thread. Add a 250-mm length of 0.25-mm natural thread to make the lashing.



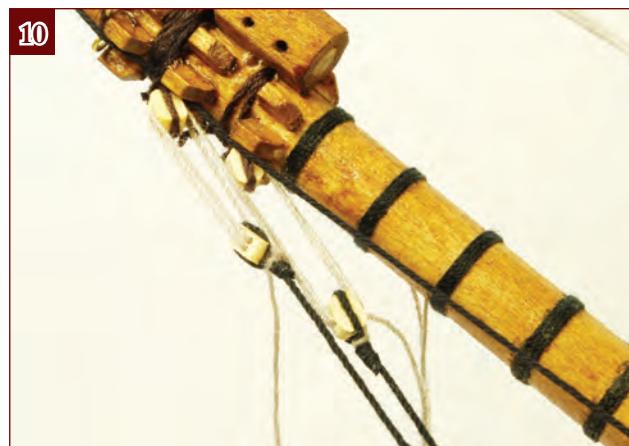
**7.** Use your 30-mm rigging jig to hook the block to the lower block on the port side of the bowsprit.



**8.** Take the thread down to the first eyebolt and tie it off under a light tension.



**9.** Lash the blocks, but do not secure the lashing, as you may want to slacken it when you fit the figurehead.



**10.** Repeat Steps 6-9 to rig a second bobstay from the forward block to the eyebolt immediately behind the one in Step 8. Then repeat the process on the other side of the model. You can now seal and trim the threads from Step 5.



**11.** Take the three single blocks prepared in Step 4 and tie them around the bowsprit so that they hang vertically downward. The lowest one goes through the second hole drilled in Step 1. The other two are fitted just in front of the tabs. You can seal and trim these blocks now.



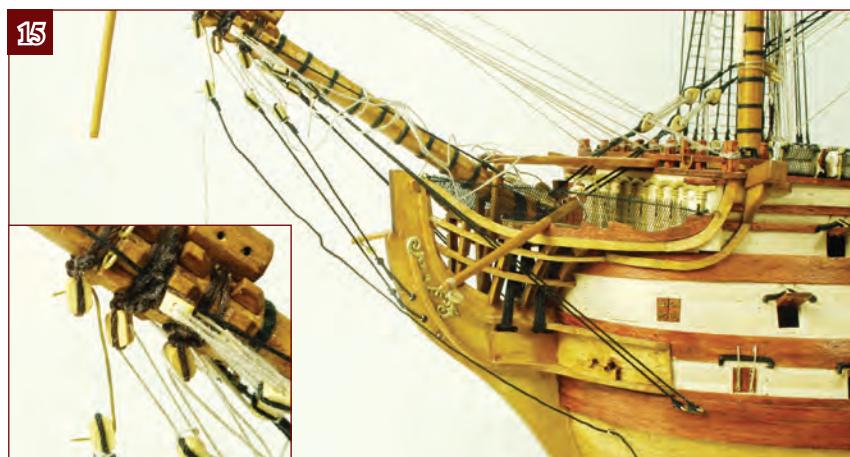
**12.** Prepare three bobstays. Make two of them by binding a single block to a 300-mm length of 0.8-mm black thread, and add a 200-mm natural thread lashing to it. Make the third stay using a 400-mm length of black thread.



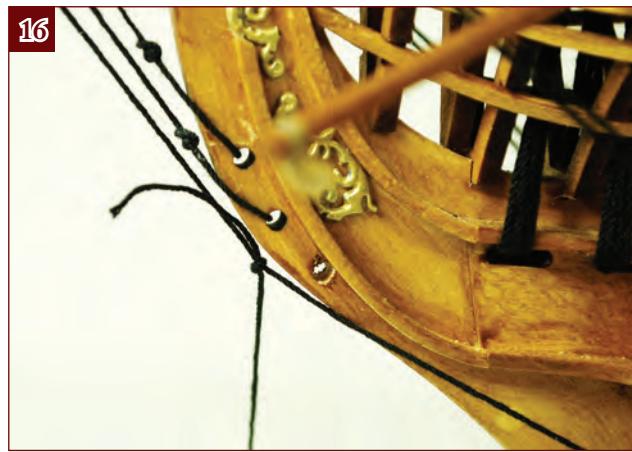
**13.** Taking one of the two shorter stays, use your 30-mm rigging jig to hook the block to the lowest of the three blocks from Step 11. Tie the thread around the upper hole in the stem, leaving some slack (see inset). Lash the blocks together, but do not seal the binding yet so you can remove the stay later.



**14.** Repeat this with the second shorter stay, running it from the second block to the middle hole in the stem.



**15.** Hook the third, longer stay to the uppermost block using the jig (inset). Loosely thread the other end through the eyebolt below the lower wale on the port side (below).



**16.** Tie an 8-inch length of thread to the stay using an overhand knot. Lightly tension the stay by pulling it through the eyebolt, and slide the knot down until it is just below the other bobstays. Check that the two ends will form an inverted Y as in Step 17. Then, without moving the knot, bind the threads together so the position of the Y is fixed.



**17.** Take the end of the thread from Step 16 over to the starboard eyebolt. Centre the Y over the stem, then tie both threads off to the eyebolts. Finally, lash the blocks together, but do not seal the binding yet.

## Rigging the martingales

These stays run through the dolphin striker to support the jibboom and flying jibboom. Refer back to the main image on the first page of this stage to see how they are routed.



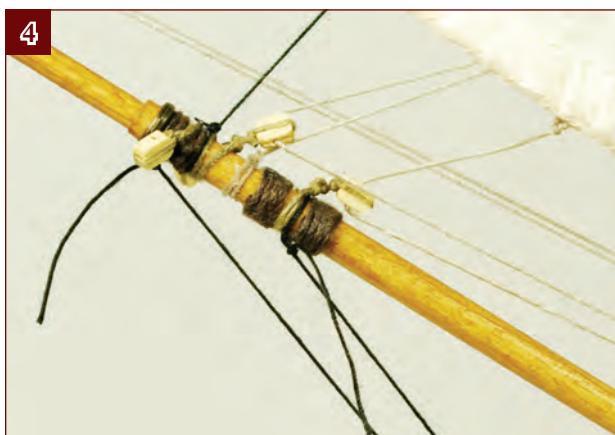
**1.** Take a 1,150-mm length of 0.25-mm black thread, and bind it to a double block. Fit the block in the centre of the thread so the block has two 570-mm tails. Then add a 250-mm length of natural 0.25-mm thread.



**2.** Starting on the port side, hook the double block to the block on the knighthead, using your wire rigging jig.



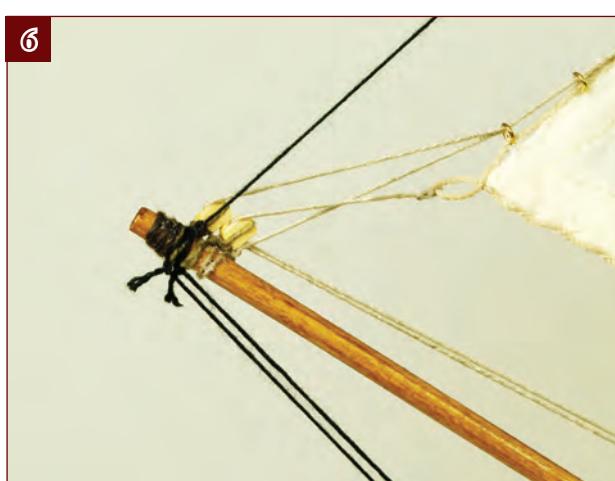
**3.** Feed the ends of both threads through the upper eye on the bowsprit, then feed the threads through the upper two holes of the dolphin striker.



**4.** Now tie the two threads off to the end of the jibboom. One thread is fitted just above the lower binding, and the second is fitted just behind the jibboom iron.



**5.** Now lash the block, using the technique described in Stage 99.



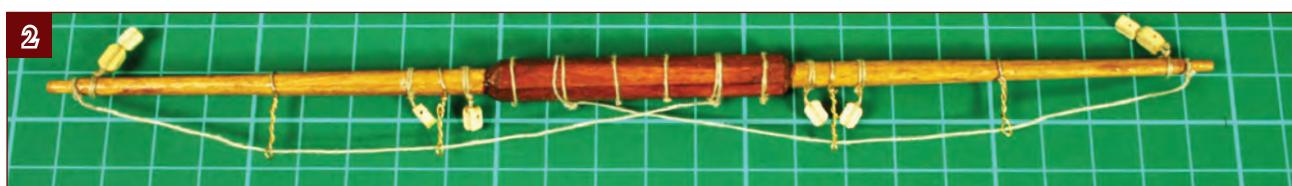
**6.** Repeat Steps 1-5 on the starboard side of the model, but feed the threads through the lower holes in the dolphin striker and tie them off to the end of the flying jibboom.

## Preparing the spritsails

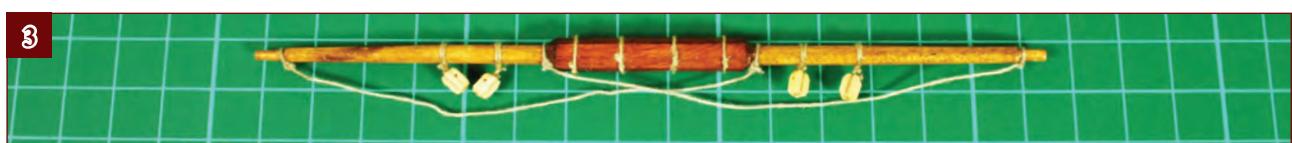
These are the first of the square sails to be rigged. Start by attaching them to their yards, which will be attached a little later on in the assembly, after you have completed work around the stem.



**1.** Take the spritsail yard and use 0.25-mm natural thread to tie the footropes, known as horses. Start by tying the thread next to the second rope band from the right on the centre section. Then feed the thread back to the left through the two brass footrope supports, and finally tie it off to the end of the yard. The thread can either be pulled tight or left a little slack.



**2.** Repeat the process to make the starboard horse. Try to get the same amount of slack on both sides.



**3.** The topsail yard horses are tied at the ends of the centre section and the opposite tips. Try to match the slack on both sides.



**4.** Tie a 4-mm single block to each of the bottom corners of the topsail. Add two 4-mm single blocks to each of the bottom corners of the spritsail.



**5.** Sew the sprit topsail to its yard using the same stitch used to secure the driver to the gaff boom in Stage 103.



**6.** Sew the spritsail to its yard in the same way.



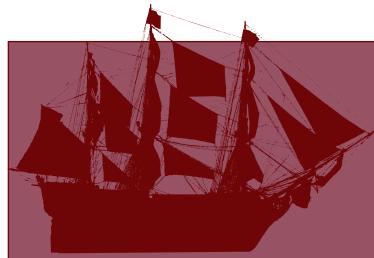
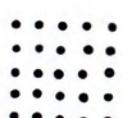
**7.** Add the earings that secure the top corners of the sails to the ends of the yards. You can either slip the loops on the sail over the ends, or, if necessary, tie the loop to the end of the yard with a short length of 0.25-mm natural thread.

# Stage 105: Fitting the fore sail

The parts provided with this stage include the fore sail and rigging components.

## Fittings

fore sail  
glass beads x 25  
diecast parrel spacers x 14  
single blocks 4 mm x 12



## Where the parts fit

This stage, you will fit the first yard (after attaching the fore sail if you are adding the canvas rather than building a 'bare spars' model). The yards were only held in place by the rope lines that controlled

their position, so whether or not you are adding sails, you will need to attach most of the rigging. The introductions to each set of steps will tell you which lines can be left out.

## Fitting the fore sail

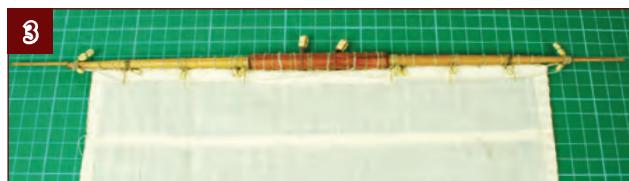
The fore yard used here was assembled in Stage 71. For a 'bare spars' model, omit Step 2.



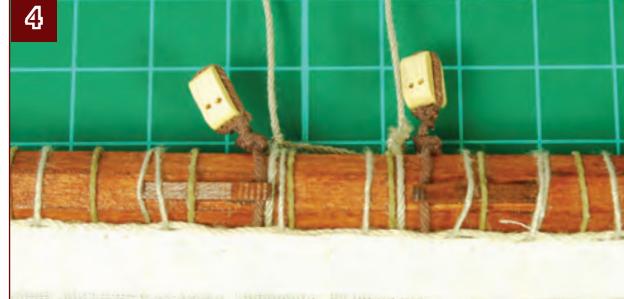
**1.** Take a pair of small wire cutters and carefully trim the ends of the catharpins on all four shrouds on all three masts to about 1 mm. Make sure that the outer shrouds do not slip off the catharpins.



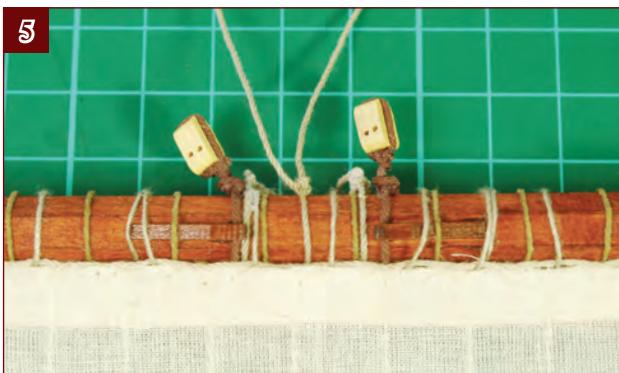
**2.** Prepare the main foresail by adding three 4-mm single blocks to each lower corner.



**3.** Add foot ropes to the fore yard (as shown in Stage 104), and sew the foresail to the yard using the same stitches used there. You will need a length of thread about four times the width of the sail. Note that the sail goes in front of the footropes and all the blocks – the photo shows the back of the sail. Tie the top corner loops (earings) to the ends of the yard.



**4.** Take two 700-mm lengths of 0.5-mm natural thread and tie them just inboard of the blocks to make the jeer falls.



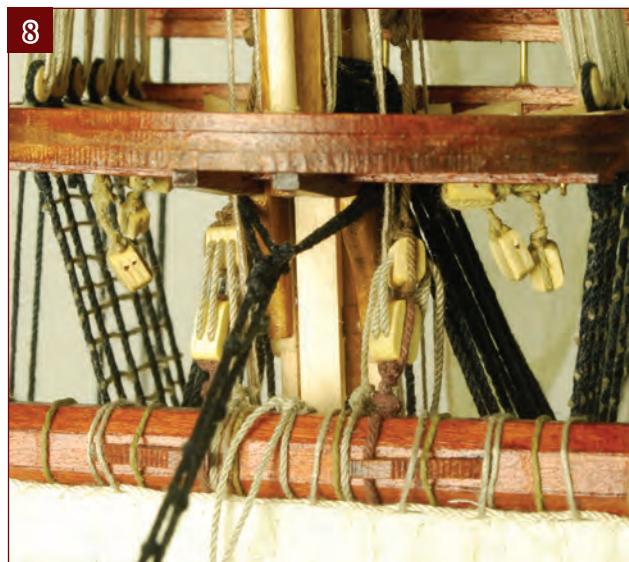
5. Take 600 mm of the same thread and tie it to the centre of the yard to make the yard sling. Leave a 250-mm tail on one side and 350 mm on the other. The knot does not need sealing.



6. Gently lay the yard across the model, ahead of the fore mast, with the tails running neatly to the front.



7. Start to lash the double blocks on the yard to the treble blocks just below the foretop, using the jeer falls that you fitted in Step 4.



8. Raise the yard until there is a gap of about 25 mm between the top of the yard and the bottom of the foretop and tighten the lashings. The blocks will be very close or may even touch.



9. Feed both ends of the yard sling through the 'eye' of the fore stay and up through the front hole in the fore top.



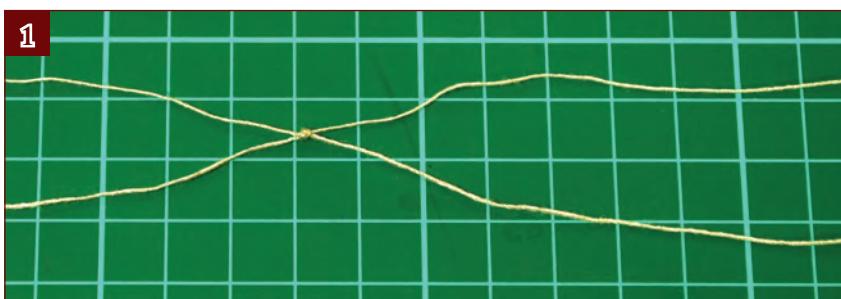
10. Take the longer end and feed this up behind the brass eyebolt in the foremast cap, then across the aft-most groove in the foremast cap, and down behind the brass eyebolt on the other side of the cap.



11. Now tie the two ends of the sling together. Use the short end to tie a half-hitch around the longer end. Slide the knot up until the sling is tight. Then secure it by tying a half-hitch in the longer end.

## Adding the parrel

The parrels are the rope loops that hold the yards to the masts. To protect them from chafing as the yards are raised and lowered, they have a 'necklace' of rotating discs, which are modelled with beads.



1. Start by taking two lengths of 0.25-mm natural thread, each 600 mm long. Tie the two threads together about 250 mm from one end.

### QUICK TIP

You can make the yard easier to handle by holding the sail with paper clips. Do not leave the sails folded overnight, as you do not want them to 'set' in this position.



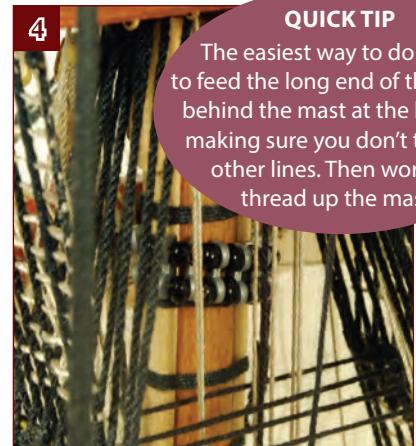
2. Slide 10 of the 'B'-shaped metal ribs on to the longer tails, interspersed with black beads, keeping the Bs the same way up. Then tie the threads together to secure the assembly.



3. Tie the shorter end of the parrel around the yard, just inboard of the jeer fall on one side.

### QUICK TIP

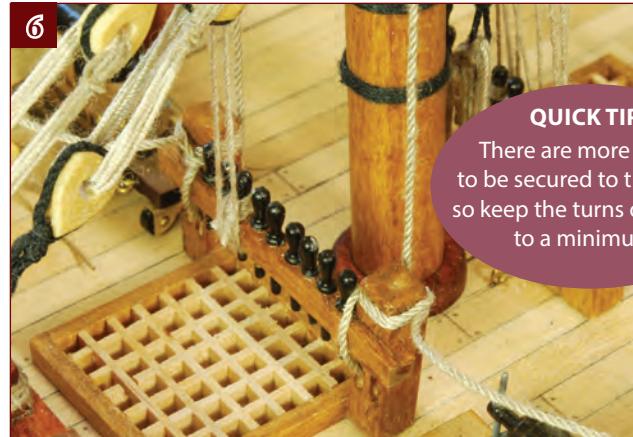
The easiest way to do this is to feed the long end of the thread behind the mast at the bottom, making sure you don't trap any other lines. Then work the thread up the mast.



4. Feed the parrel around the mast, making sure that the straight sides of the ribs face inward.



5. Tie the other side of the parrel to the yard inboard of the jeer fall opposite to Step 3. Seal and trim the ends.



6. Now that the yard is fitted, secure the jeer falls to the forward pinrail posts. Take the thread through the inner slot before securing it to the post with one or two half-hitches. Seal and trim the threads.

### QUICK TIP

There are more ropes to be secured to the pillar, so keep the turns of thread to a minimum.

## Rigging the sail

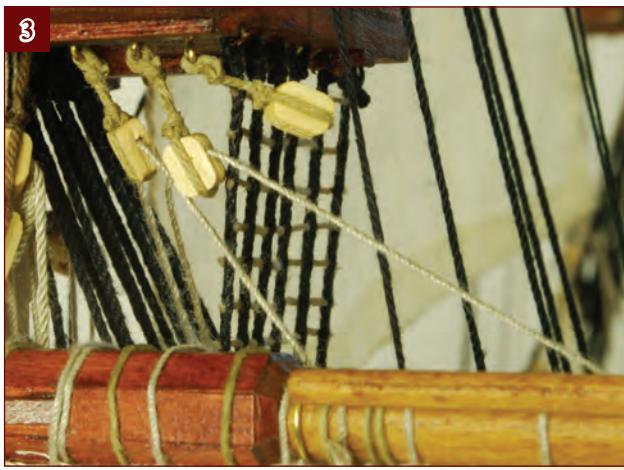
You can now unfurl the sail and add the lines used to control it, as shown in the large photograph bottom right. All these steps can be omitted if you are making a 'bare spars' model.



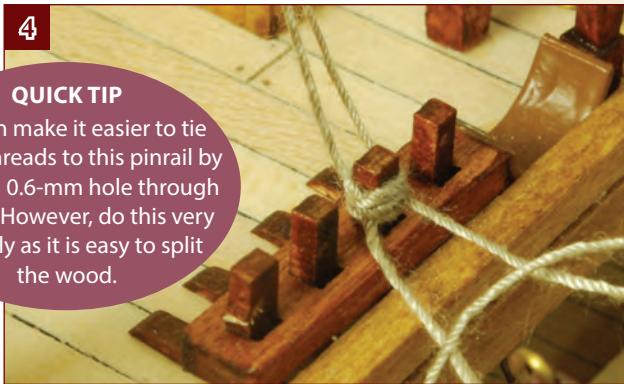
**1.** Cut a 750-mm length and an 800-mm length of 0.25-mm natural thread. These form the buntlines (A and B). Tie the shorter one to the yard close to the end of the centre section. Tie the longer one to the yard adjacent to the block halfway along the yard.



**2.** Feed these threads down under the foot of the sail, and back up through their respective blocks. Note that the inner buntline is rigged through the outermost of the three blocks.

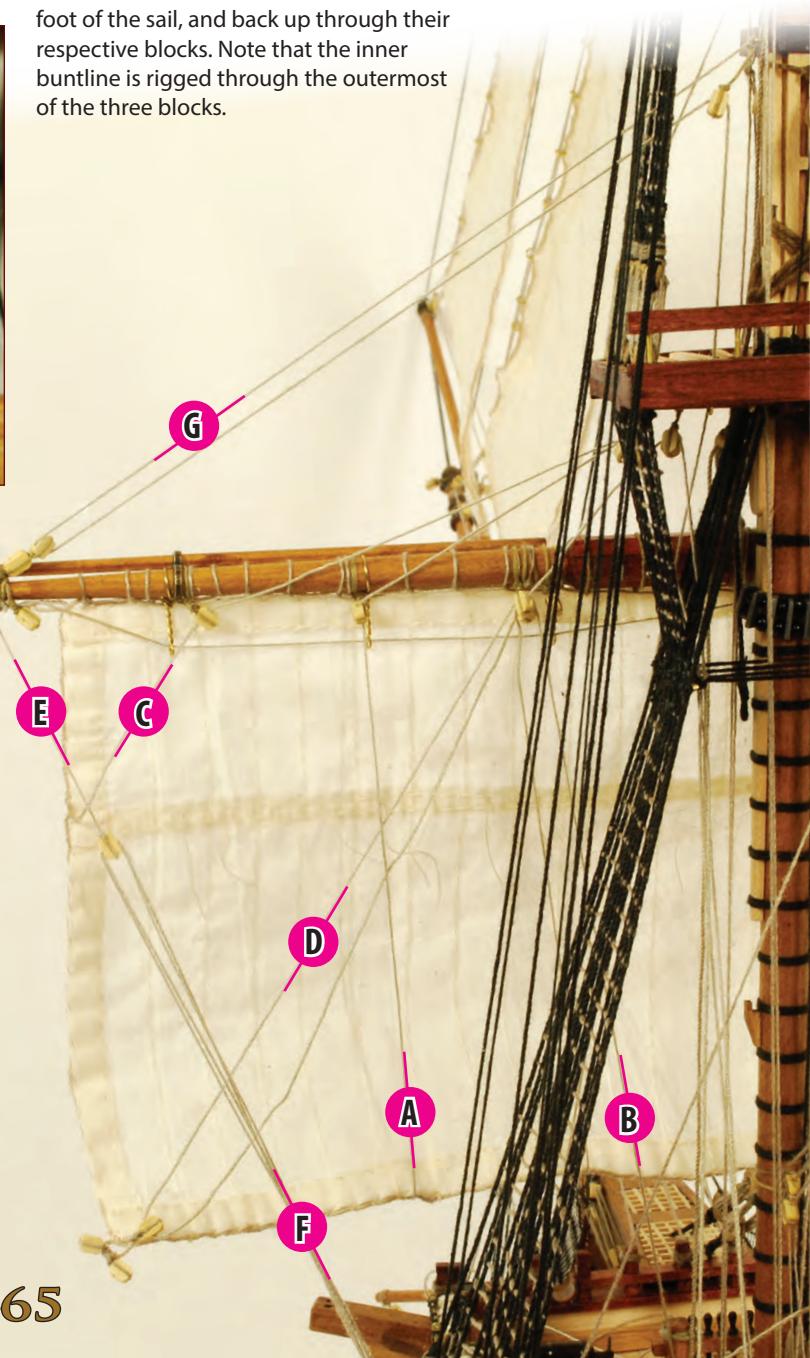


**3.** Feed the inner buntline through the inboard single block under the foretop. Feed the outer buntline through one of the holes in the adjacent double block. Then take both lines down, through the shrouds and catharpin legs, to the cockpit pinrails.



**QUICK TIP**  
You can make it easier to tie off the threads to this pinrail by drilling a 0.6-mm hole through the pin. However, do this very carefully as it is easy to split the wood.

**4.** Pull the lines just enough to give the sail a gentle bag. Tie both to the third post on the pinrail. Repeat Steps 1-4 on the other side of the model, making sure that the yard is level. Do not seal the threads just yet, in case you need to readjust them after the sail is completely fitted.





**5.** Cut 650 mm of 0.25-mm natural thread to form the leechline (C). Tie it to the yard by the block near the studdingsail boom irons. Take the end diagonally down to the edge of the sail.



**6.** Pass the thread between the edge of the cloth and the thread that forms the boltrope around the sail. Then take it up the back of the sail, through the block on the yard.



**7.** Feed the thread through the other hole in the double block used in Step 3.



**8.** Lead the thread down through the shrouds and catharpin legs, and tie it off to the outboard pin. Repeat Steps 5-8 on the other side of the model.



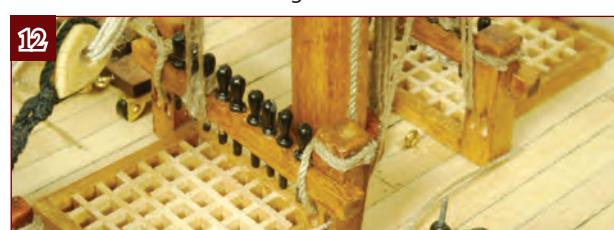
**9.** Cut 700 mm of 0.25-mm natural thread to make the clew lines (D). Tie one end to the yard next to the group of three blocks near the centre section.



**10.** Feed the thread through one of the blocks you rigged on the corner of the sail in Step 2 on the first page of this stage.



**11.** Feed the thread through the middle of the three blocks.



**12.** Now take the thread down through the outer slot in the forward pinrail post, but do not secure this thread yet. This will be done when the sheets and tacks are added. Repeat Steps 9-12 on the other side of the model.

## Rigging the fore yard

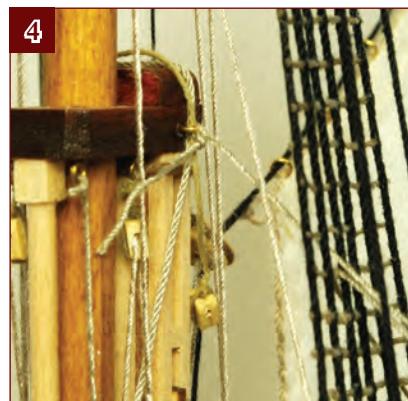
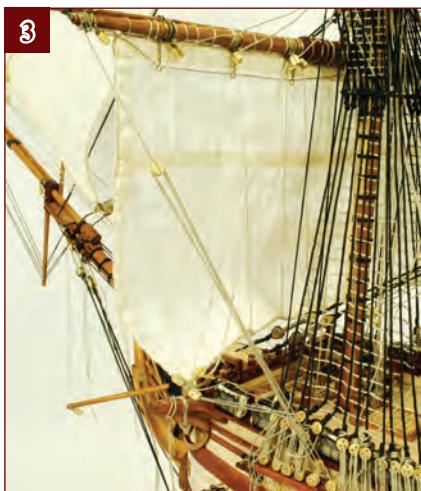
Carry out all these steps whether or not you are adding the sails.



**1.** Tie a double block (supplied with Stage 96) to the end of the yard, leaving a 50-mm tail. This is the yard tackle pendant (E).

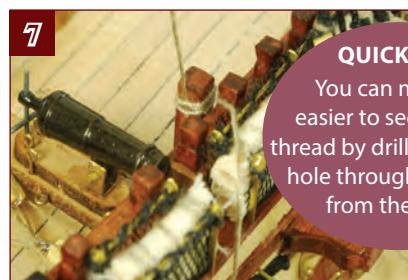


**2.** Cut a 700-mm length of 0.25-mm natural thread and tie one end to the eyebolt holding the block behind the fifth and sixth deadeyes. (Release the deadeyes so you can access the block.) This is the inner tricing line (F).



**3.** Use the inner tricing line to lash the yard tackle pendant to the chainwale block, and tie the end of the line around the base of the sixth deadeye. Repeat Steps 1 to 3 on the other side of the model, and ensure the yard is level before sealing the knots. Reattach the deadeyes, then seal and trim the lanyards on the forward six deadeyes.

**4.** Now fit the lifts (G). Take 800 mm of 0.25-mm thread and tie one end to the eye on the foremast cap. Take the other end through the shrouds toward the tip of the yard. You will have to use trial and error to find which gap in the shrouds gives the thread a straight pull.



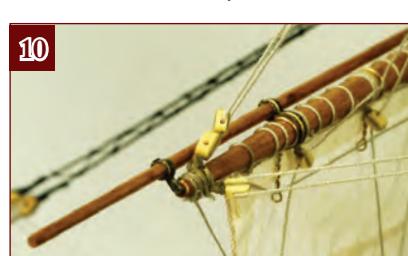
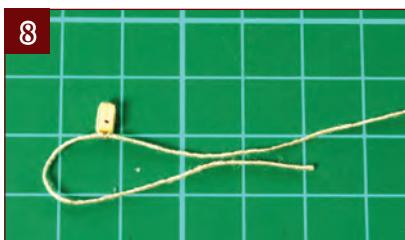
**QUICK TIP**

You can make it easier to secure the thread by drilling a small hole through the bitt from the rear.

**5.** Feed the thread through the block on the end of the yard.

**6.** Take the thread back through the shrouds, and through the block on the mast cap. Then run the thread down through the front end of the hole in the side of the fore top.

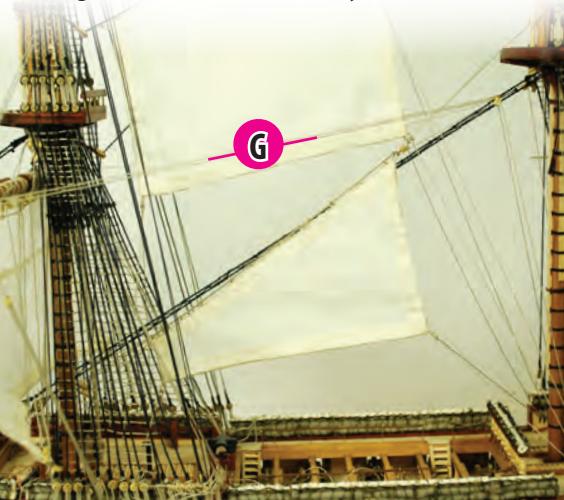
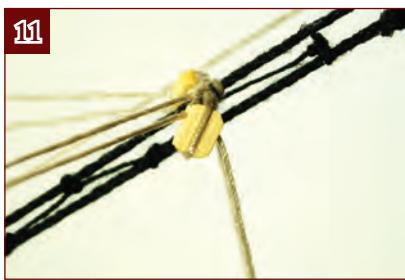
**7.** Feed the thread down behind the yard, and tie it to the bitt just aft of the carronade. Wrap the thread around the bitt a couple of times and finish off with a half-hitch or two. Repeat Steps 4-7 on the other side of the model and tension both threads at the same time so the blocks on the mast cap are even.



**8.** To make the braces (H), cut two 1,050-mm lengths of 0.25-mm thread. Tie a 4-mm single block about 50 mm from one end of each thread.

**9.** Tie both blocks to the main stay close to the main mast top.

**10.** Feed the end of one thread through the single block on the end of the yard.



**11.** Feed the thread back through the block fitted to the main stay.

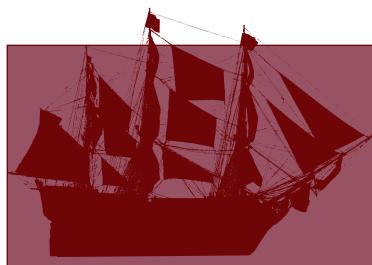
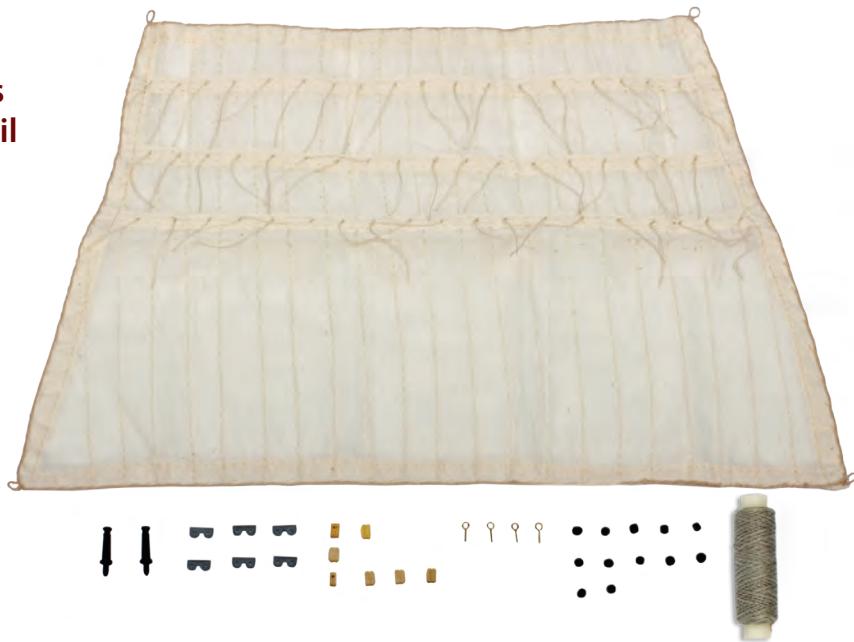
**12.** Feed the thread through the outer slot in the main mast pinrail post and secure it to the top of the post. Repeat Steps 10-12 on the other side.

# Stage 106: Fitting the fore top yard and sail

The parts provided with this stage include the fore topsail and rigging components.

## Fittings

fore topsail  
dummy 12-pounder guns x 2  
diecast parrel spacers x 6  
single blocks 4 mm x 4  
double block 4 mm x 1  
double blocks 5 mm x 2  
eyebolts 7 mm x 4  
glass beads x 12  
0.2-mm natural thread x 60 m



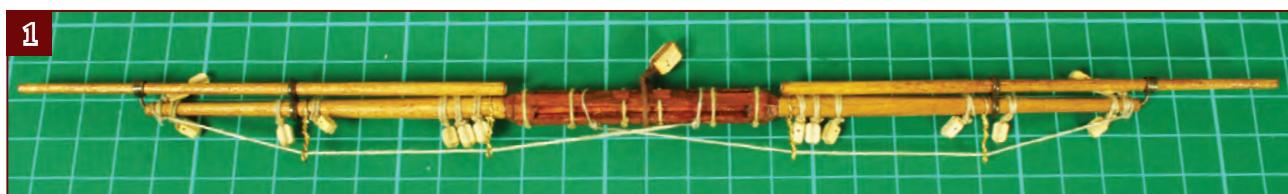
## Where the parts fit

This stage, you will fit the fore top yard (after attaching the fore topsail if you are adding the canvas rather than building a 'bare spars' model). The yards were held in place by the rope lines that controlled

their position, so whether or not you are adding sails, you will need to attach most of the rigging. The introductions to each set of steps will tell you which lines can be left out.

## Fitting the fore top yard and sail

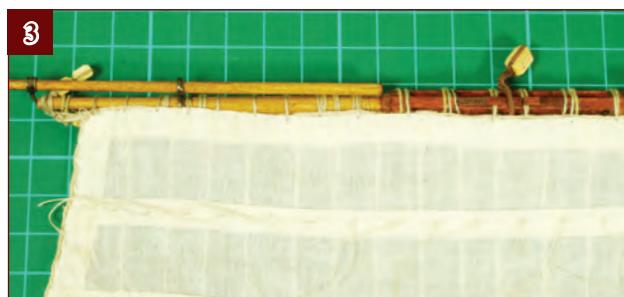
The process is similar to that carried out in the previous stage. For a 'bare spars' model, omit Steps 2-3.



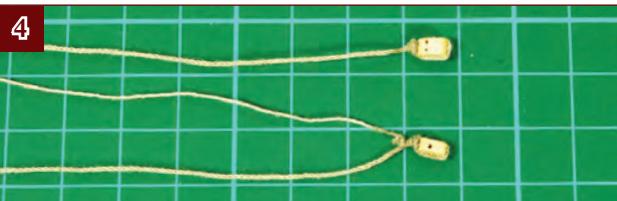
1. Use 0.25-mm natural thread to tie the footropes (horses) to the yard.



2. Prepare the sail by adding a 4-mm single block to the earring. Tie a 500-mm length of 0.5-mm natural thread directly to the corner of the sail, rather than fitting it to the earring. Repeat this on the other bottom corner.



3. Sew the sail to the yard using the same method as with the other square sails.



**4.** The yard is supported on port and starboard tyes, rigged as shown on the right. Make the port one first. Tie a 5-mm double block to a 600-mm length of 0.5-mm natural thread. Tie a 4-mm single block to a 150-mm length of 0.5-mm natural thread, and add a 700-mm lasher from 0.25-mm natural thread.



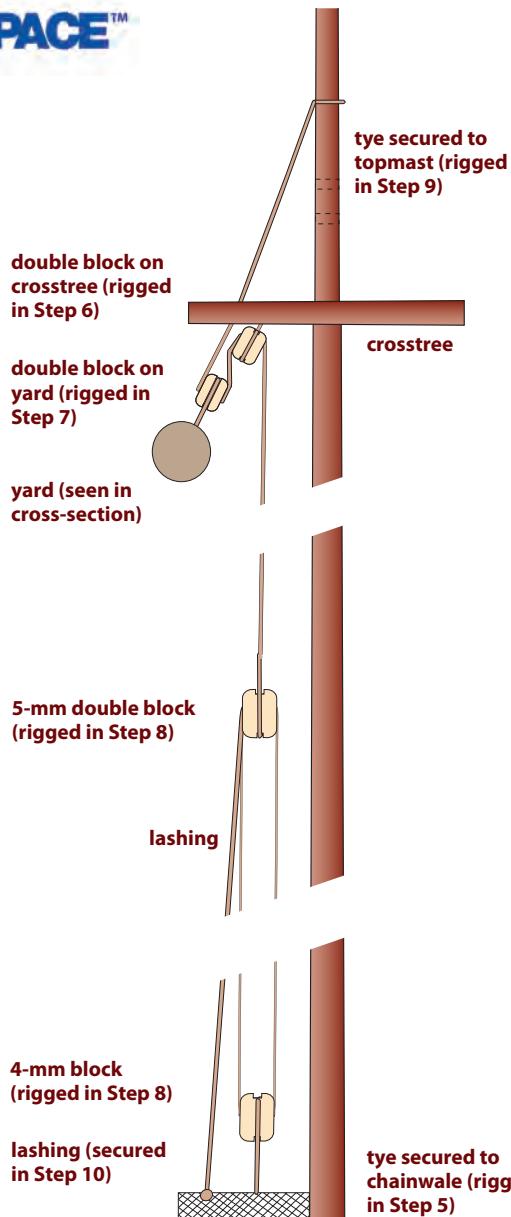
**5.** Tie the 150-mm thread to the rearmost eyebolt on the forward chainwale, which already has the royal backstay attached. You will need to release the aft two deadeyes. The single block should be about 25-30 mm above the chainwale.



**6.** Feed the 600-mm thread through the left hole in the large double block below the crosstrees. Leave the 5-mm double block on the other end hanging down beside the fore mast.



**7.** Now hold the yard roughly in position and feed the end of the 600-mm thread through the left-hand hole in the double block on the yard. Pull the thread through both blocks until the 5-mm double block on the other end is roughly in line with the catharpins on the fore mast shrouds.



**8.** Lash the lower (4 mm) and upper (5 mm) blocks together using the 0.25-mm thread so that the upper block will sit a little way below the catharpins – about 150 mm above the deck.

9



9. Pull the free end of the tie to raise the yard until the two blocks touch, then tie off the end of the tie to the topmast above the shrouds.

10



10. Repeat Steps 4-10 on the other side of the model, then tension both ties with the lashings and tie them off to the eyebolt that is second from the rear.

## Adding the parrel

As with the lower yard, the truss that holds the topsail yard is protected with a 'necklace' of rotating discs, which are modelled with beads.

1



1. Make the parrel in the same way as in Stage 105, but this time use six of the diecast metal ribs and ten beads.

2



2. Tie the parrel to the yard and around the mast in the same way as you did with the fore yard.

## Rigging the sail

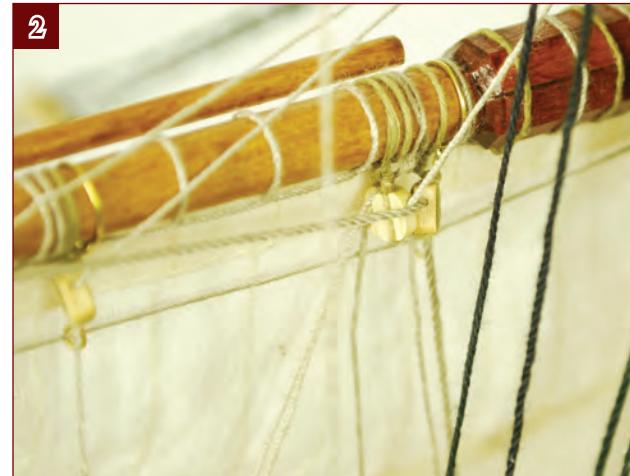
You can now add the lines used to control the sail, as shown in the large photograph on the bottom right of the next page. Omit Steps 1-10 if you are making a 'bare spars' model.

1

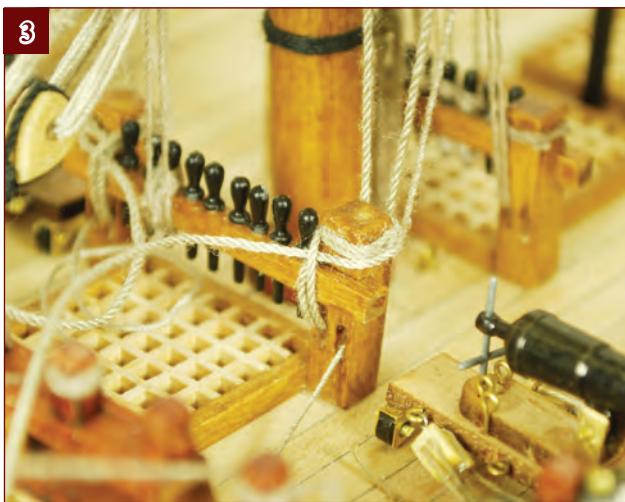


1. To make the sheet (A), take the thread already secured to the corner of the sail and feed it through the block on the end of the fore yard.

2



2. Feed the end of the thread through the furthest inboard of the three blocks on the fore yard, and lead it downward.



3. Take the end of the thread down to the deck, feed it through the inboard slot of the pinrail post, and secure the sheet with one or two half-hitches around the post.



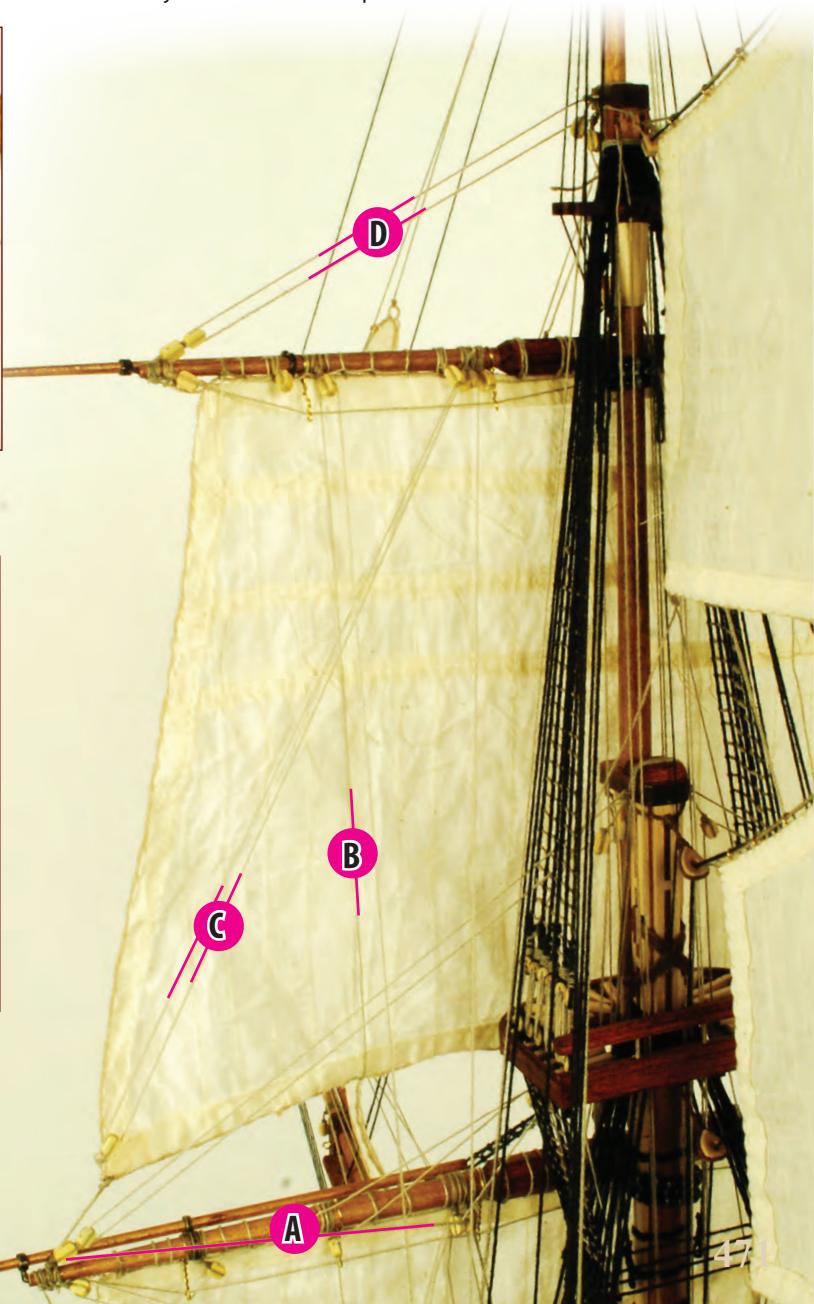
4. To make the buntline (B), tie the end of a 1-m length of 0.25-mm natural thread to the yard in front of the sail, close to the block just inboard of the quarter iron.



5. Take the thread under the sail and back up through the block just inboard of the quarter iron.



6. Now take the thread down and tie it off to the fourth shroud from the front (just above the upper deadeye). In reality, the rope is made fast to a cleat secured to the shroud, but the cleat is too small to be represented on the model. Repeat Steps 1-6 on the other side of the model.

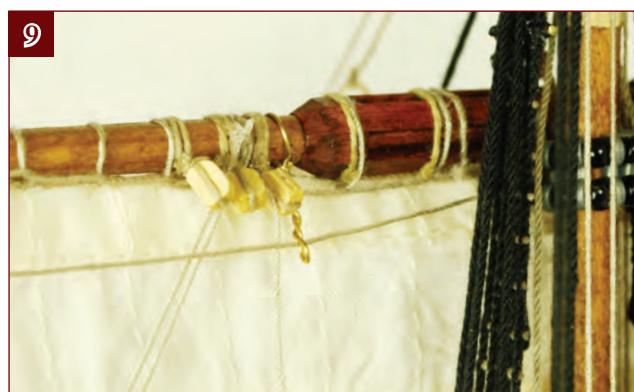




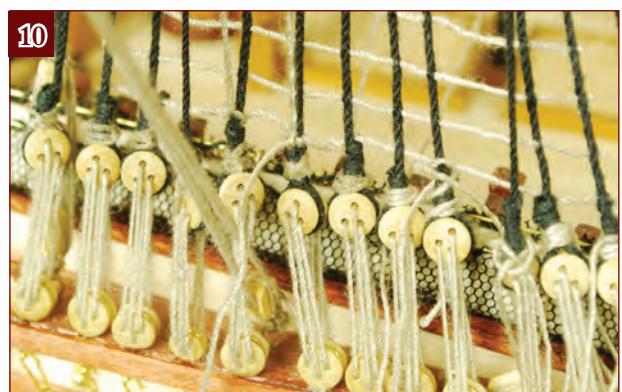
7. To make the clew line (C), tie a 1-m length of 0.25-mm natural thread to the yard close to the group of three blocks.



8. Take the clew line down through the block in the bottom corner of the sail.



9. Feed the thread through the middle one of the three blocks on the yard.



10. Tie the thread off to the 5th shroud (just above the deadeye). Repeat Steps 7-10 on the other side of the model.



11. To make the lifts (D), take a 850-mm length of 0.25-mm natural thread. Tie one end to the eye on the topmast cap.



12. Take the thread down through the block on the end of the yard.



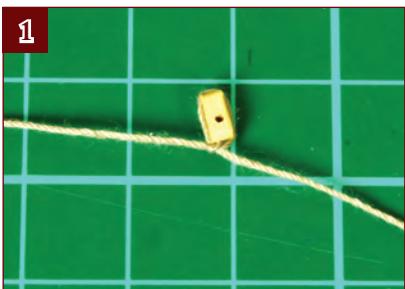
13. Take the thread back up through the block on the mast cap.



14. Now take the thread down and tie it off to the second shroud. Repeat Steps 11-14 on the other side of the model. You can now seal and trim all the deadeye lashings on the fore mast chainwale.

# Rigging the braces

Carry out all these steps whether or not you are adding the sails.



**1.** Prepare port and starboard braces (E) from 1.1-mm lengths of 0.25-mm natural thread, with a 4-mm single block tied about 50 mm from one end.



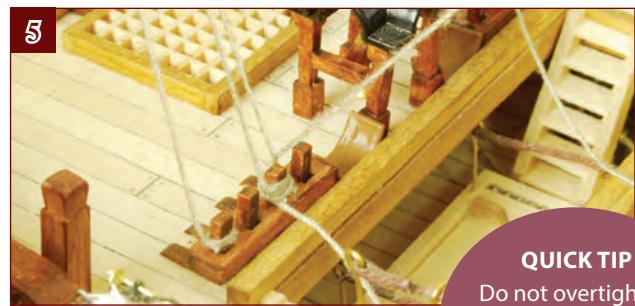
**2.** Use the short ends of thread to tie both blocks to the main stay, just above the block carrying the fore yard braces.



**3.** Take the long ends up through the single blocks in the ends of the yard, then back to the blocks just fitted.



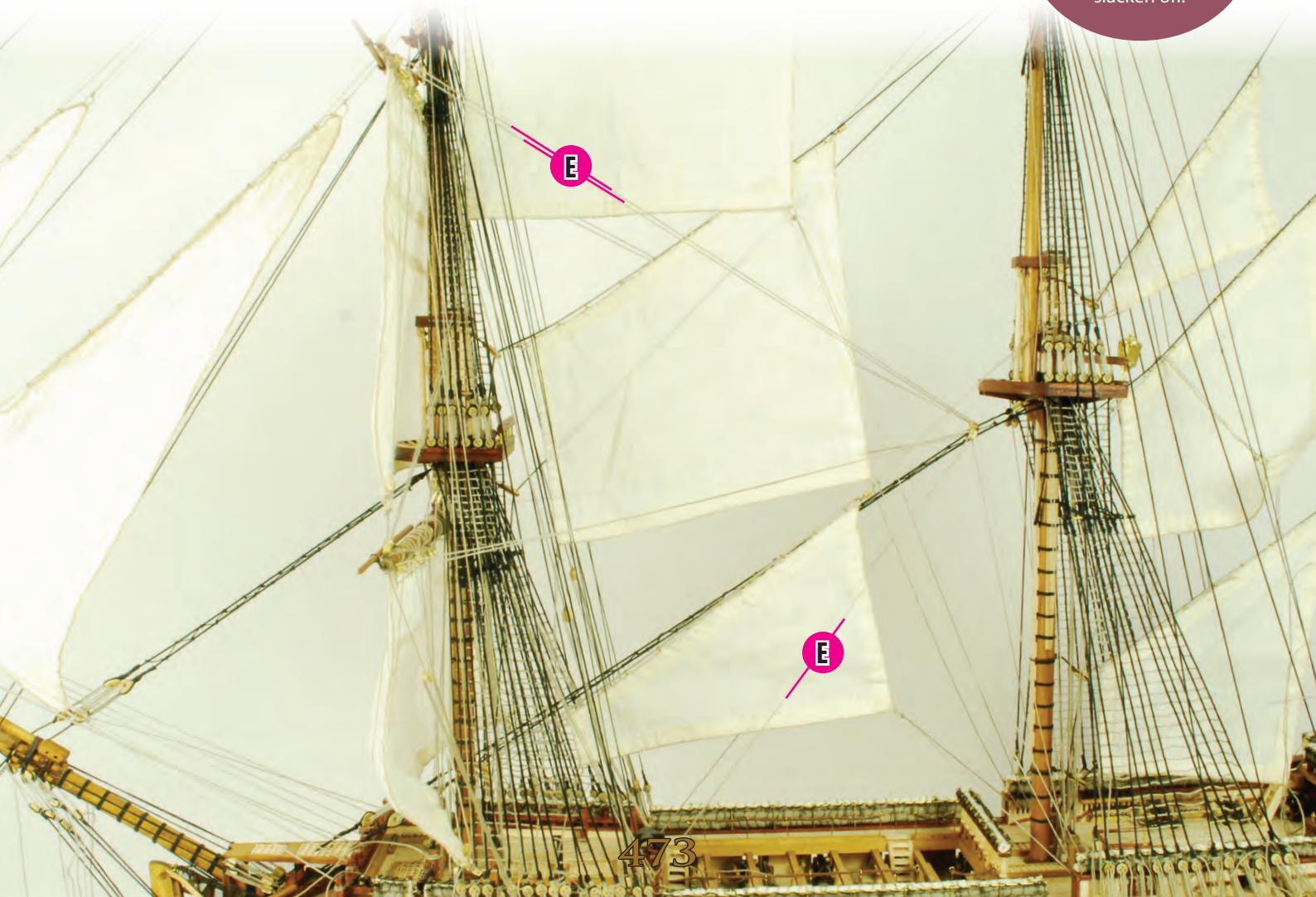
**4.** Take the threads through their blocks and down to the deck.



**5.** Tie the two threads off to the second-from-middle pins on the cockpit pinrail.

## QUICK TIP

Do not overtighten the braces or you may cause the stays to slacken off.



# Stage 107: Rigging the fore topgallant and mizzen

The parts provided with this stage include the fore topgallant sail and rigging components, plus more dummy guns.

## Fittings

fore topgallant  
dummy 32-pounder guns x 8  
single blocks 4 mm x 4  
double block 4 mm x 1



## Where the parts fit

This stage, you will fit the fore topgallant yard (after first attaching the fore topgallant sail if you are adding the canvas rather than building a 'bare spars' model). You will also attach the running

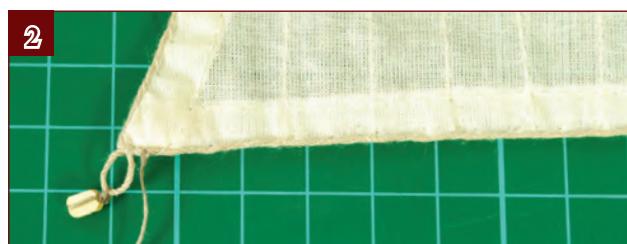
rigging for this sail and continue the mizzen you began in Stage 103. As before, the introductions to each set of steps will tell you which lines can be left out if you are not fitting the canvas.

## Attaching the fore topgallant sail

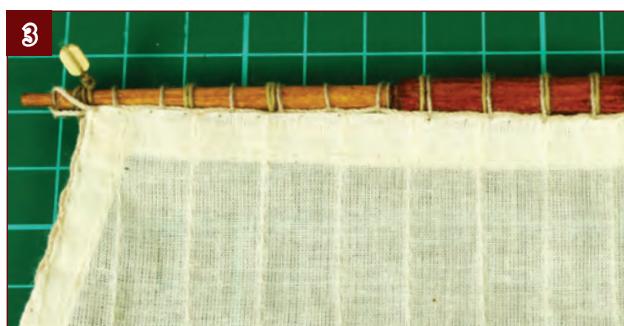
The fore topgallant yard was assembled in Stage 73. Use 0.25-mm natural thread for the rigging, and if you are making a bare spars model, omit Steps 2 and 3.



1. Take the fore topgallant yard and attach the footropes (horses) as shown in Stage 104.



2. Prepare the sail by adding a 4-mm single block to the earring in each bottom corner. Then tie 700-mm lengths of 0.25-mm natural thread directly to the bottom corners of the sail. These are used to make the sheets (A) in the main picture on the next page.



3. Sew the sail to the yard in the usual way.

# Rigging the fore topgallant

For a bare spars model, omit all but the first three steps, which add the tye that supports the yard.



**1.** Tie a 700-mm length of 0.25-mm natural thread to the centre of the yard by wrapping it around the yard twice and securing it with two half-hitches close to one end. This forms the tye.



**2.** Feed the tye through the upper hole in the fore topgallant, just below the octagonal collar.



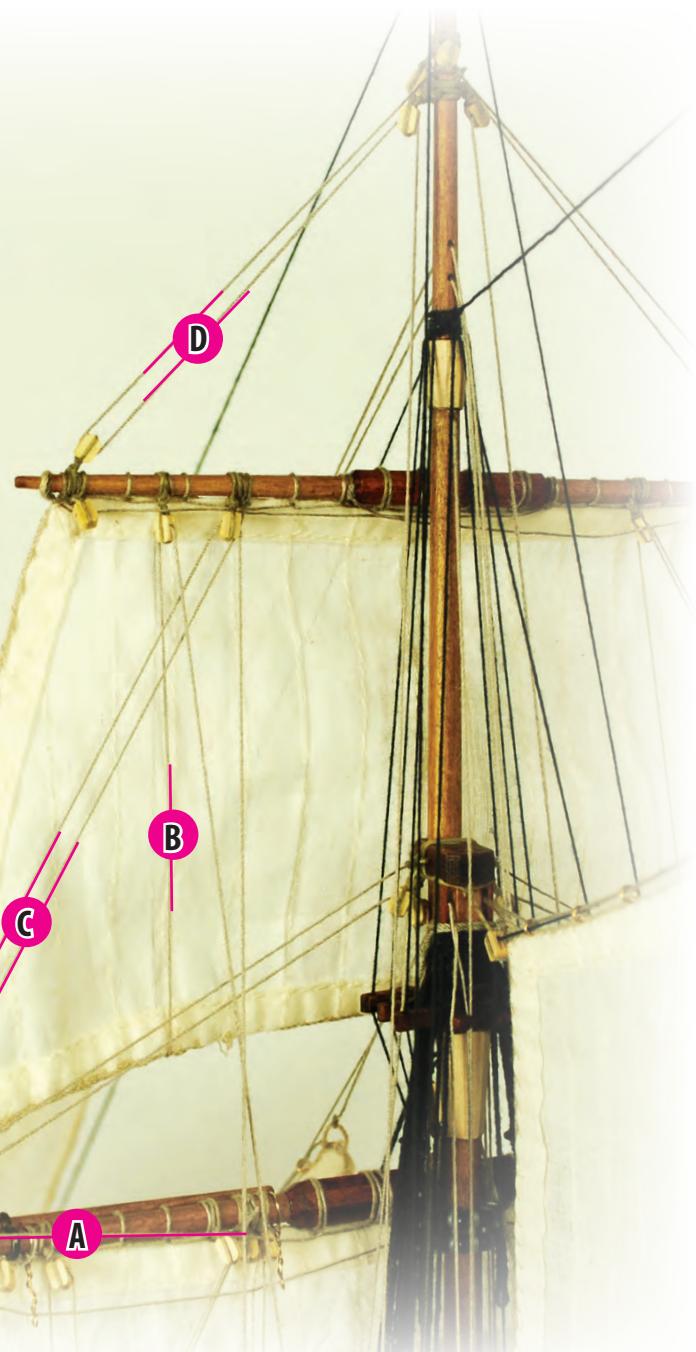
**3.** Drop the tye down through the hole in the fore top and secure it to the pin second from the left (port) side in the rack behind the fore mast, pulling the yard up as high as it will go.

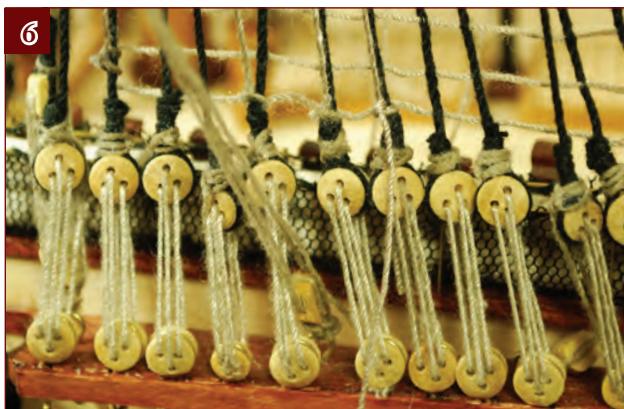


**4.** Feed the sheet (A) through the block on the end of the fore topsail yard.



**5.** Feed the thread through the inboard block on the group of three blocks on the foretop yard.





6. Tie the sheet off to the sixth shroud, next to the lowest ratline. Repeat Steps 4-6 on both sides of the model.



7. Tie a 700-mm length of thread next to the central one of the three blocks along one arm of the yard and take it down the front of the sail to form the buntline (B).



8. Take the buntline under the sail and then back up through the central block.



9. Tie off the buntline to the rear shroud on the fore top. Seal and trim the threads. Now repeat Steps 7-9 on the other side of the model.



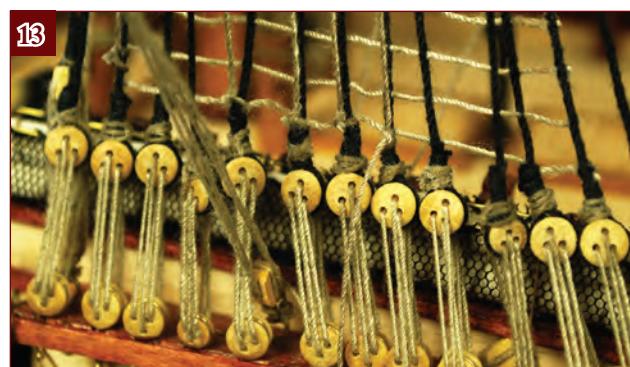
10. Tie a 900-mm length of thread to the yard close to the inner block to form the clew line (C).



11. Feed this thread through the block in the bottom corner of the sail.



12. Take the thread back up and through the inner block on the yard.



13. Tie the thread off to the 7th shroud. Now repeat Steps 10-13 on the other side of the model.

## Adding lifts and braces

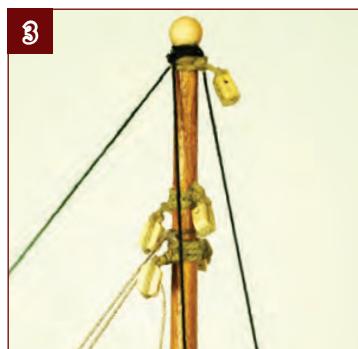
Fit these lines whether or not you are adding sails. Use 0.25-mm natural thread throughout.



1. Take a 700-mm length of thread to form the lift (rope D on this stage's diagram). Tie one end to the topgallant between the two pairs of blocks.



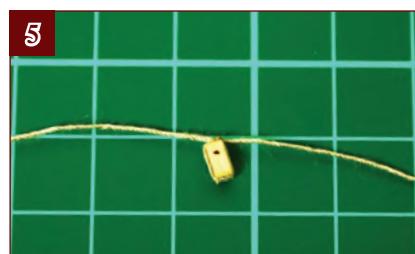
2. Take the thread down through the block on the end of the yard, and double it back up along itself.



3. Take the thread up through the block on the mast. Then repeat Steps 1-3 on the other side of the model to rig the other.



4. Now tie both threads off to the fifth shrouds on the fore top, making sure the yard is set level. Seal and trim the knots.



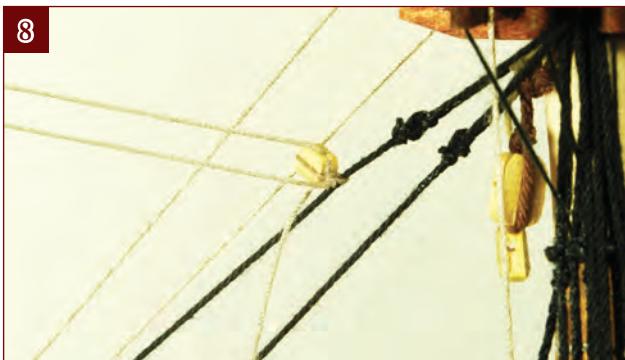
5. The braces (E) are shown on the photo on the final page of this stage. Tie a 4-mm single block to a 1.3-m length of thread, about 50 mm from one end.



6. Tie the block to the main topmast stay, just below the main mast crosstrees.



7. Feed the end of the thread through the block on the end of the fore topgallant yard and lead it back on itself.



8. Feed the thread through the block just fitted. Then repeat Steps 4-8 on the other side of the model.



9. Tie both threads to the inner pins on the cockpit pinrails, making sure the yard is straight. Secure the threads with just one half-hitch as there are more threads to be fastened to these pins.

### QUICK TIP

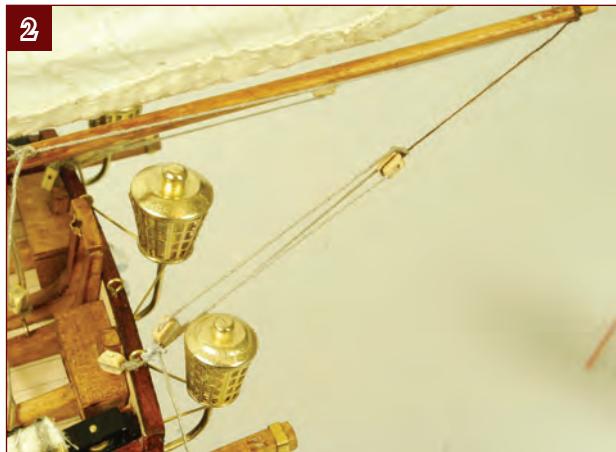
Do not overtighten these threads as they can pull the mast and cause the stays to slacken.

## Rigging the mizzen

The mizzen was rigged in Stage 103 but does not yet have all the lines that control the sail. Use 0.25-mm natural thread throughout. You can omit Steps 8-14 if you are making a bare spars model.



1. Tie 300-mm lengths of thread just above both blocks on the end of the driver boom.



2. Lace each of these threads to one of the single blocks on the outboard eyebolts on the taffrail. Feed the thread through the block on the taffrail, back through the block hanging from the boom, and finally secure the thread to the eyebolt itself.



3. Tie a 5-mm single block to some thread, leaving a 150-mm tail. Tie this to the gaff boom next to the double blocks, so that the block hangs down a little over 80 mm from the boom.



4. Tie a 550-mm length of thread to the block and thread it to the unused outer block mounted on the taffrail, in the same way as Step 2. Repeat Steps 3-4 on the other side of the sail.



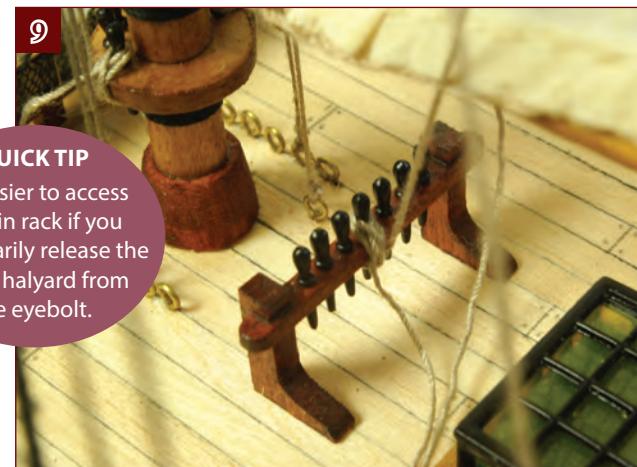
5. Tie a 650-mm length of thread to the end of the driver boom and lead it diagonally up the sail.



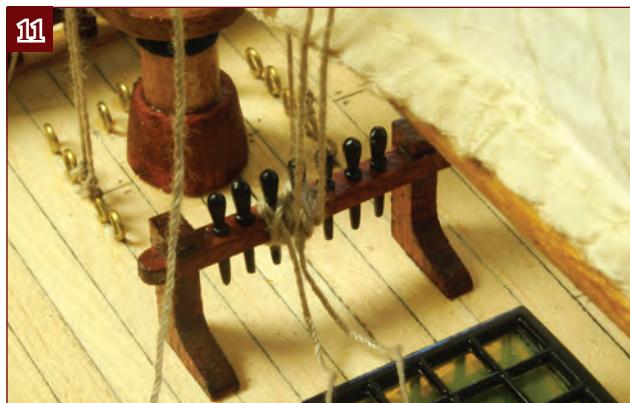
6. Thread it through the single block just below the mizzen mast cap.



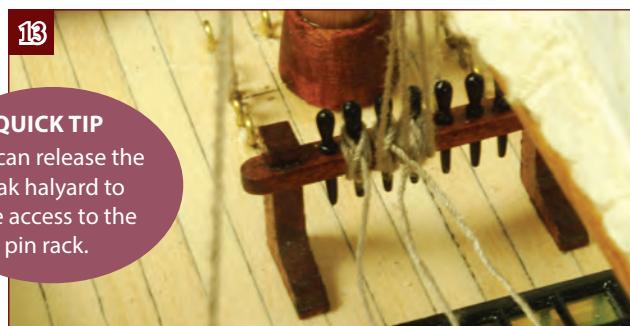
**7.** Feed the thread down the holes in the sides of the mizzen top, and secure the thread to the first belaying pin on the mizzen mast. Repeat Steps 5-7 on the other side of the model.



**9.** Make off the end of the thread to the centre belaying pin.



**11.** Tie this line off to the next belaying pin on the left (port).



**13.** Make this thread fast to the next belaying pin on the left.



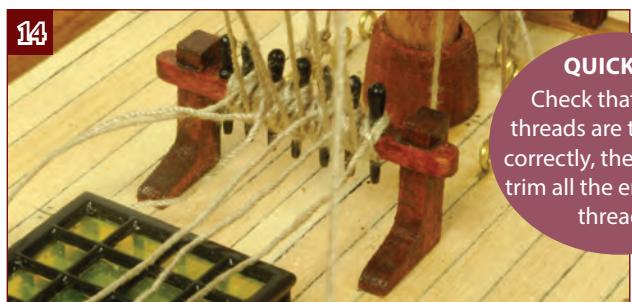
**8.** Cut six pieces of thread, 450 mm long. These form the brails. Tie the end of one to the rear edge of the sail, about 35 mm from the top. Take it diagonally up the sail, then through the double block, double block and treble block on the boom.



**10.** Take another thread and tie it to the rear edge of the sail, 80 mm from the top. Lead it through the double and treble blocks and down to the belaying pin rack.



**12.** Tie a third thread about 155 mm from the top of the sail. Take this one through the remaining hole in the treble block and down to the belaying pin rack.



**14.** Repeat Steps 8-14 on the other side of the sail, making the threads off on the starboard (right) three belaying pins.

**QUICK TIP**

The treble block (not visible in this photo) can be seen near the centre in Step 12.

**QUICK TIP**

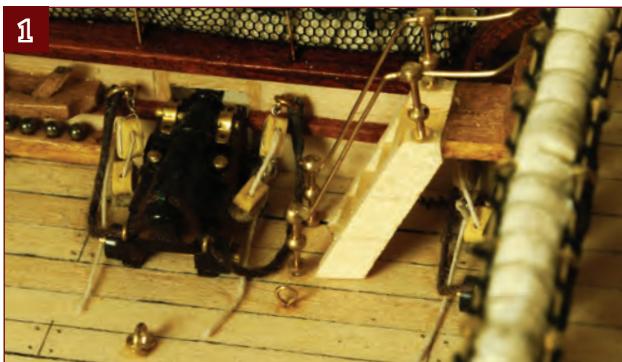
You can adjust the positions of the thread a little so that they are all parallel.

**QUICK TIP**

Check that all the threads are tensioned correctly, then seal and trim all the ends of the threads.

# Securing the staysails

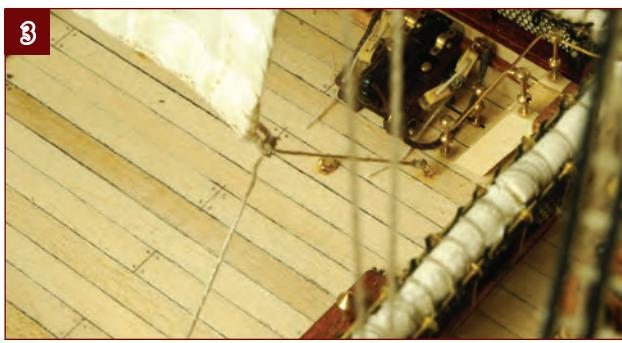
You can omit these lines if you are making a bare spars model, but you may wish to fit the eyebolts.



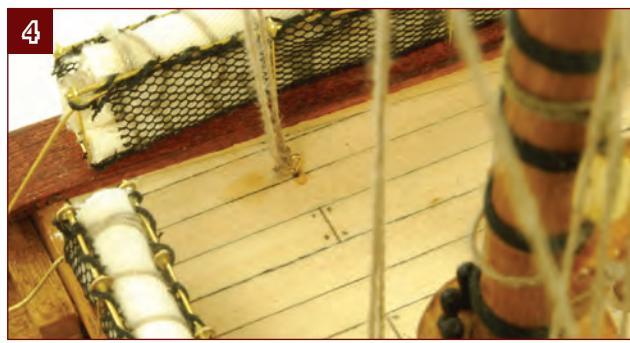
**1.** Carefully drill 0.7-mm holes just inboard of the ladders leading up to the poop deck on both sides of the model, and fit two eyebolts (supplied in Stage 105).



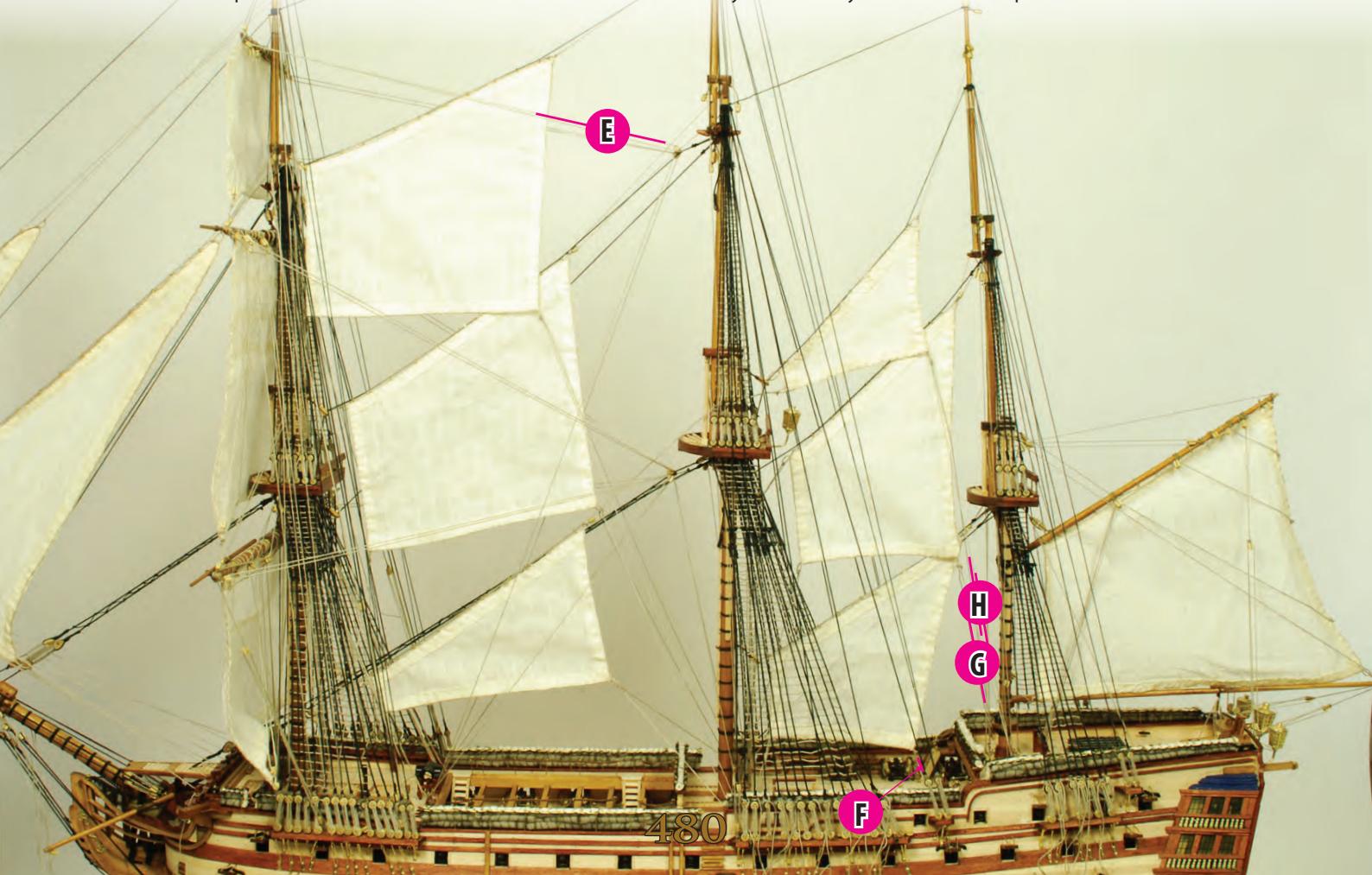
**2.** Carefully drill two more 0.7-mm holes and fit two more eyebolts about 6 mm from the poop deck bulwark, level with the second hammock crane.



**3.** Tie the clew lines (F) of the lowest staysail to the eyebolts fitted in Step 1.



**4.** Tie the clew lines (G and H) of the middle and upper staysails to the eyebolts fitted in Step 2.

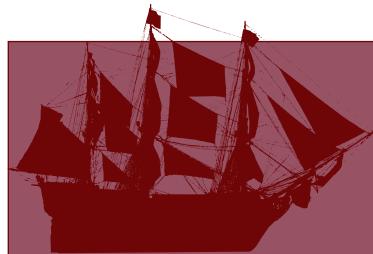
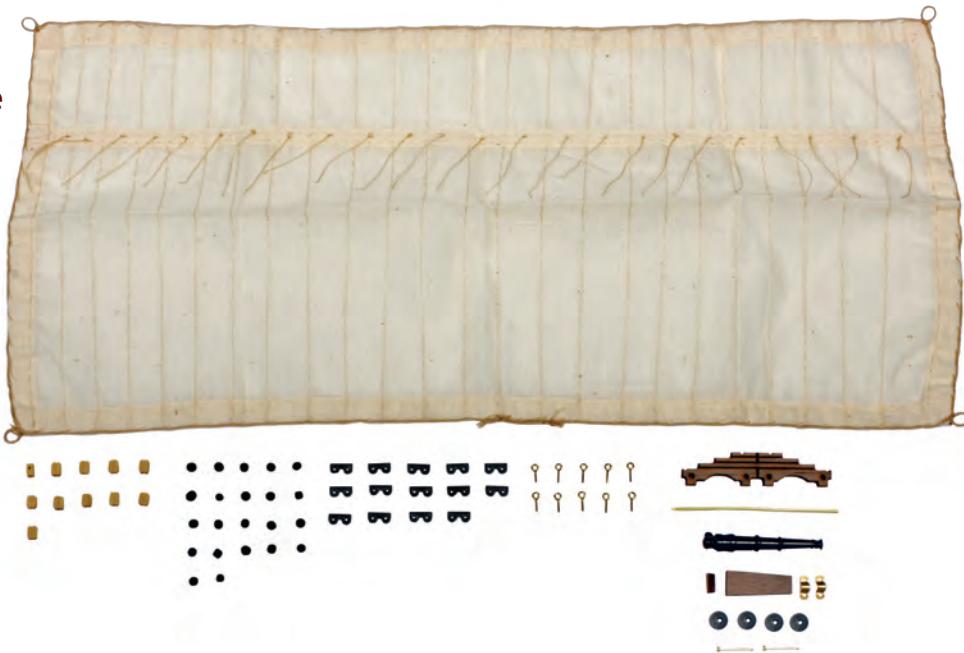


# Stage 108: Fitting the mainsail

The parts provided with this stage include the mainsail and rigging components.

## Fittings

**mainsail**  
single blocks 4 mm x 11  
glass beads x 22  
diecast parrel spacers x 14  
eyebolts 7 mm x 10  
12-pounder gun kit x 1



## Where the parts fit

This stage, you will attach the mainsail to the main yard then rig the sail and yard to the main mast. If you are building a bare spars model, you will complete the main yard before rigging it to the mast.

You will also assemble your model's two 12-pounder forecastle guns. One of these guns is supplied with this stage and the other was supplied earlier, with Stage 76.

## Fitting the mainsail

Use 0.25-mm thread except where otherwise stated. For the bare spars option, omit steps 2 and 3.



1. Use 0.25-mm natural thread to tie the footropes (horses) to the main yard.



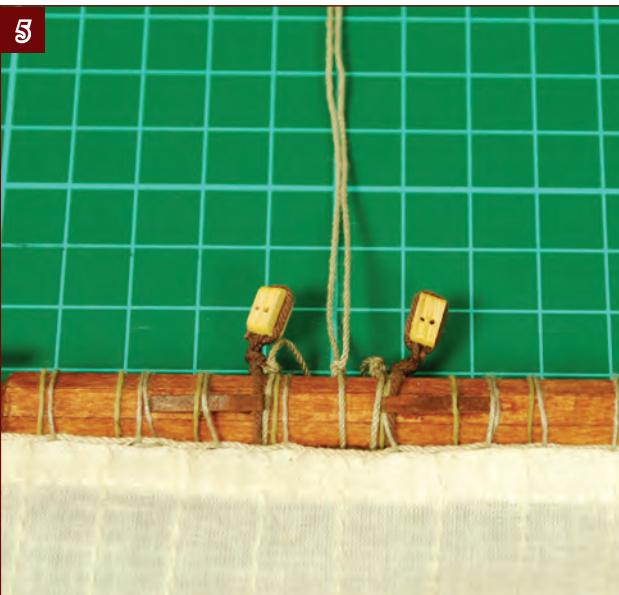
2. Tie three 4-mm single blocks to both bottom corners of the mainsail.



3. Sew the sail to the yard in the usual way. You will need a length of thread about four times the length of the sail.



4. Cut two 600-mm lengths of 0.5-mm natural thread and tie them to the yard just inboard of the large double blocks. These will make the jeer falls.



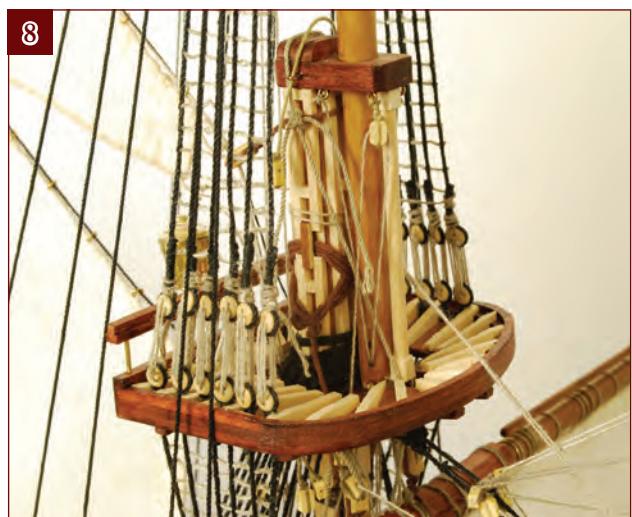
5. Cut a 400-mm length of 0.5-mm natural thread to make the yard sling. Tie it to the centre of the yard, leaving one tail about 250 mm long and the other about 350 mm long.



6. Carefully curl the sail and insert the yard between the mast and the rigging already fitted.



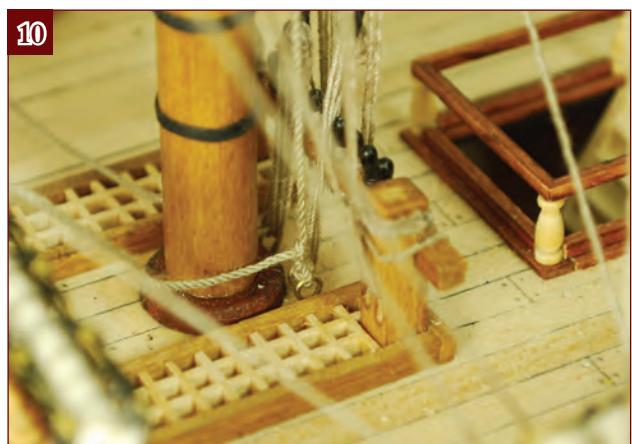
7. Lash the double blocks and triple blocks together using the jeer falls. Raise the yard so that the blocks are almost touching.



8. Tie the yard sling using the same method you used on the fore yard (see Stage 105).



9. Make up and fit a parrel using the same method you used for the fore yard (see Stage 105).



10. Tie the jeer falls off to the eyebolts either side of the main mast.

## Rigging the yard and sail

Use 0.25-mm thread throughout, and omit Steps 4-15 for the bare spars version. Note that the braces will be fitted to the yardarms later, as they make access to the mizzen difficult.



1. Make the yard tackle pendant (A) by fitting a double block (provided in Stage 96) to the end of the yard on a 60-mm tail.



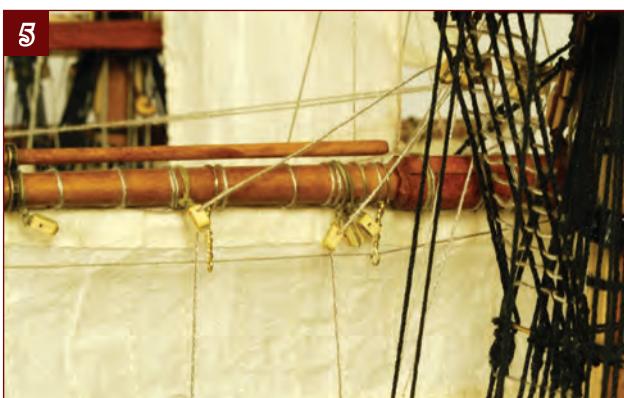
2. Make the inner tricing line (B) by tying a 900-mm length of thread to the eyebolt behind the fifth and sixth deadeyes. Release two or three deadeyes to ease access.



3. Lash the yard tackle pendant to the block behind the fifth and sixth deadeyes using the inner tricing line, and secure the free end underneath the sixth deadeye. Replace the deadeye lashings when you have finished this thread.



4. Cut two 800-mm lengths of thread to make the buntlines (C and D). Tie them to the yard close to the third and fourth blocks from the mast (also see Step 5).



5. Take the threads under the sail and through the blocks shown.



6. Feed the threads through the inner and middle blocks under the main top. (Use the middle and outer blocks when you rig the right – starboard – side of the ship.)



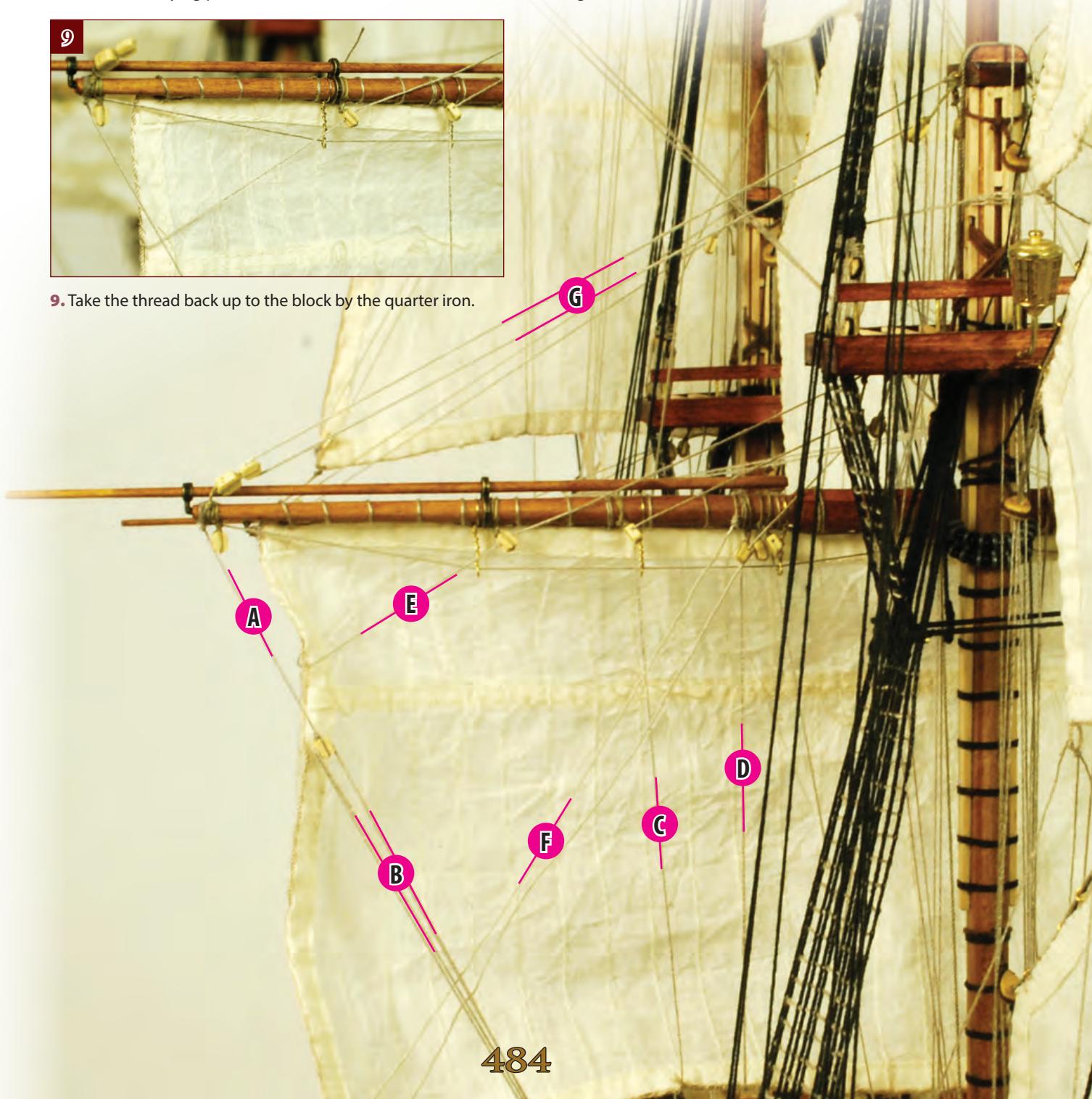
7. Take the threads down the mast, making sure that the threads are correctly tensioned before tying them off. Secure them to the belaying pin one in from the outboard end.



8. Cut an 800-mm length of thread to make the leech line (E). Tie this to the yard by the quarter iron, then thread it though the edge of the sail.



9. Take the thread back up to the block by the quarter iron.

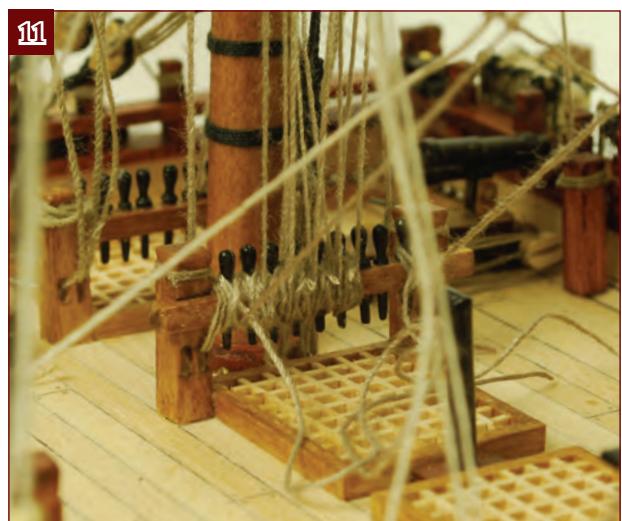


10



10. Now feed the thread through the inboard eye under the main top.

11



11. Finally, bring the thread forward to the belaying pin rack behind the main mast. Secure the thread using the outboard belaying pin.

12



12. Cut an 800-mm length of thread to make the clewline (F). Tie one end to the yard by the group of three blocks.

13



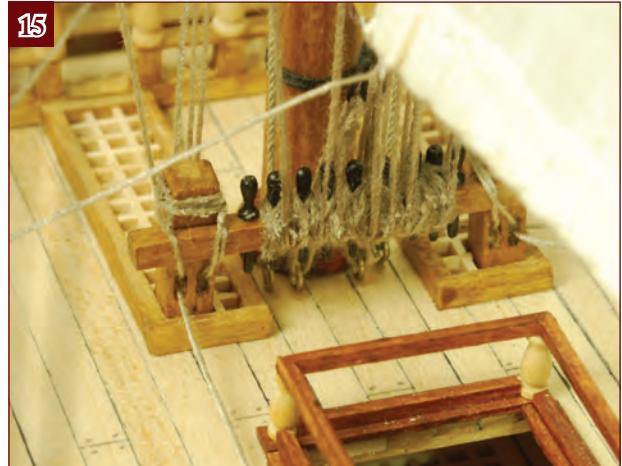
13. Take the other end down through one of the blocks on the bottom corner of the sail and double it back on itself.

14



14. Take it back up through the middle of the three blocks.

15



15. Feed the thread through the outboard slot in the pin rack post. Do not tie this thread yet as it will be adjusted after the sheets and tacks have been fitted. Now repeat Steps 1 to 15 on the other side of the model.



16. Cut an 850-mm length of thread to make the lift (G). Tie this to the eyebolt on the mast cap.



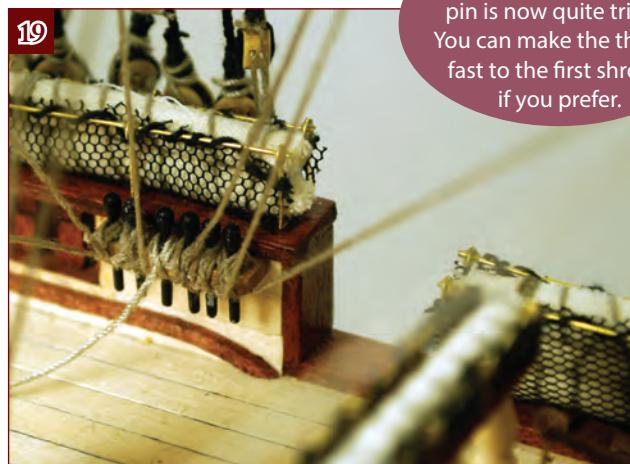
18. Take the thread back through the block on the mast cap. Repeat Steps 16 to 18 on the other side of the model.



17. Run the thread to the outer block on the end of the yard, passing it through whichever gap in the shrouds gives the thread a straight run, as you did on the fore mast.

**QUICK TIP**

Accessing the belaying pin is now quite tricky. You can make the thread fast to the first shroud if you prefer.



19. Take the threads down and secure them to the fourth belaying pins on each side of the model. Tension both threads at the same time so the mast cap blocks are pulled evenly.

## Adding the forecastle guns

As rigged for battle at Trafalgar, *Victory* carried two additional 12-pounders on her forward deck. The kit of parts for one of these is supplied with this stage, and the other was supplied with Stage 76.



1. Construct the two guns in the same way as the previous guns, following the instructions in Stage 14. However, it is not necessary to add any eyebolts or rigging to their carriages.



2. Glue the guns to the forward deck using superglue. The rear wheels of the carriages should be in line with the front edge of the rear grating and the guns should be halfway between the grating and the bulwark.

# Stage 109: Making the 18-foot cutter

This stage includes parts for the 18-foot cutter and the figurehead.

## Wooden strips

2 wooden strips 3 x 1 mm, 300 mm long  
5 wooden strips 3 x 0.6 mm, 250 mm long

## Shaped wooden parts

Laser-cut frames for 18-foot cutter

## Fittings

Left and right cherub castings

Figurehead shield casting

Figurehead crown casting

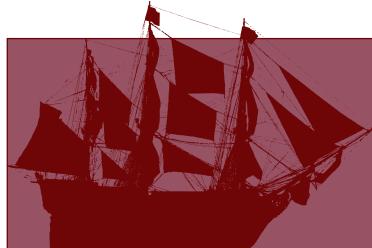
Metal motto strip

Brass wire 0.5 x 50 mm

Etched brass grating

Brass strip 0.3 x 1 x 100 mm

0.25-mm natural thread x 60 m



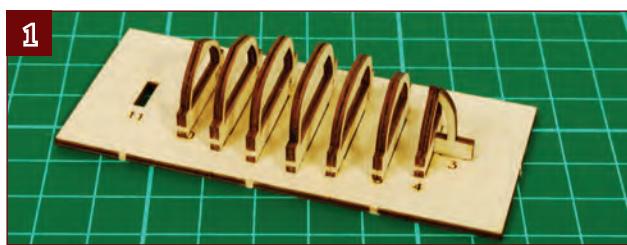
## Where the parts fit

The cutter parts supplied are used to make the main hull in this stage. You will complete the detailed fitting out in a later stage. You will also add the figurehead to the stem using the

castings provided, after which you can finish off the bowsprit rigging and add the first of the spritsails prepared in Stage 104 (or just the spritsail yard if you are making a bare spars model).

## Making the 18-foot cutter

Refer to Stages 6 and 7 for general guidance on planking the model. You can use superglue to construct the cutter, but use it sparingly to avoid gluing your fingers to the planks.

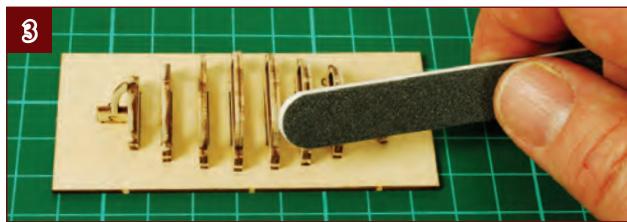


1. Carefully remove the base and frames 3 to 10 from the ply sheet. Glue frames 4 to 10 to the base, ensuring that they are all upright and in line. Then glue frame 3 in position.

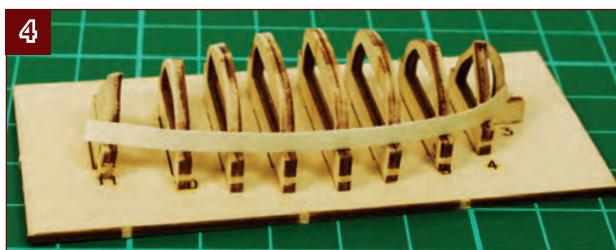


2. Remove the keel and transom (11) from the sheet. Slot the transom in place and ensure it is in line with the other frames, trimming the sides of the tab if necessary. Lay the keel in place and angle the transom so its tip meets the end of the keel. Glue the transom in place with the etched line facing out.

**QUICK TIP**  
Chamfer the edge of slot 11 so the transom can lean forward.



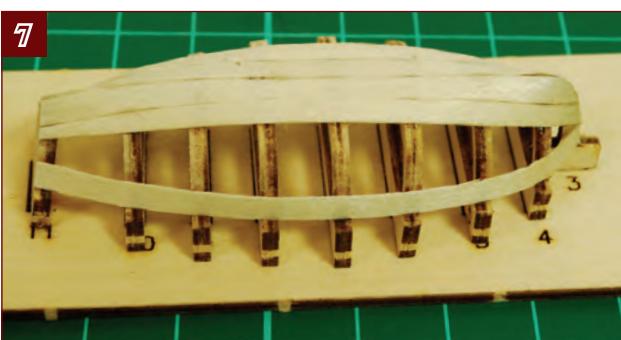
3. Use a small sanding block or a nail file to fair the edges of the frames to follow the curve of the hull. Taper the bow frame (part 3) on both sides so it comes to a point.



4. Bend a length of 0.6 x 3-mm plank and glue it so that the lower edge sits on the steps in the frames.



5. Trim the front end of the plank so that it ends on the centre of the bow. Repeat Steps 4-5 on the other side of the model.



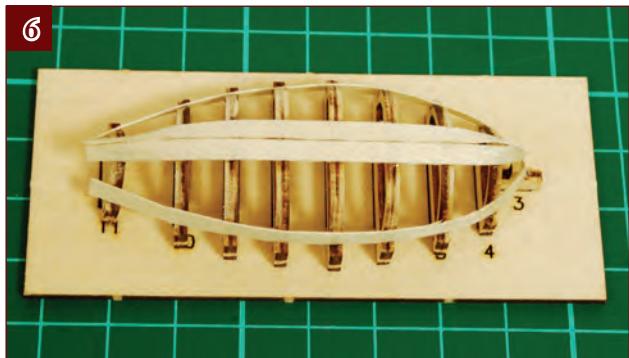
7. Add another plank next to the garboard plank. This plank should be tapered so that it fits neatly (refer to Stage 7 for tapering instructions). Trim the planks at the stern so they are flush with the transom.



9. Carefully sand a flat on the bow until the pointed edge of frame 3 just starts to show.



11. Sand the tops of the frames until they are flush with the gunwale. Sand the transom down to the etched line.



6. Glue garboard planks on either side of the keel. Again, trim the front ends to meet at the bow.



8. Continue to plank the rest of the hull, working from keel to gunwale. When the planking is complete, carefully scrape off any glue or pencil marks. Give the model a coat of sanding sealer and then gently sand it with fine sandpaper. Be careful not to sand right through the planks, as they are very thin.



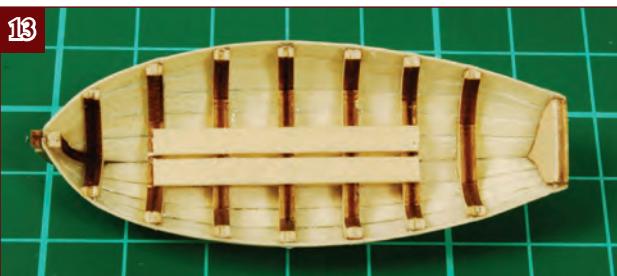
10. Use a razor saw just below the planking to cut the frames free from the base. Be careful not to damage the gunwale.



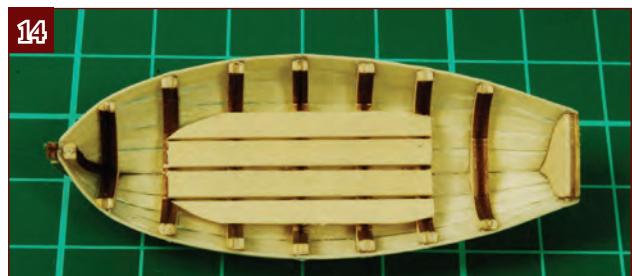
12. Glue the keel in place. The easiest way to do this is to hold it in place with masking tape, then run a little superglue all along the join using a cocktail stick.

**QUICK TIP**

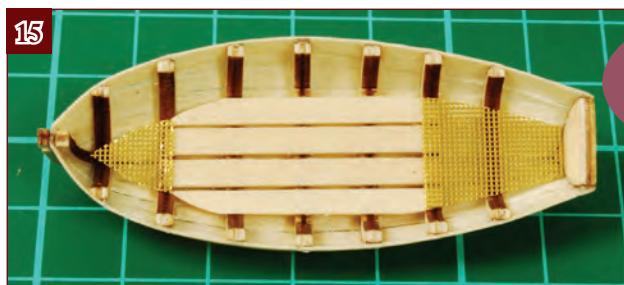
Capillary action will draw the glue into the join, where it will fill any small gaps.



13. Glue two 43-mm-long strips of 1 x 3-mm wood to the bottom of the boat, leaving a small gap between them.



14. Fit another two strips of 1 x 3-mm wood after tapering them at the front and back to fit.



**QUICK TIP**  
Cut card templates to test the fit of the grids, instead of trimming the brass mesh directly.



15. The bow and stern grids are supplied slightly oversized and need trimming to fit your model. Cut them with scissors and glue them to the ends of the planks just fitted. The rest of the hull will be fitted out later, so store the boat carefully until then.

## Adding the figurehead

In addition to the metal castings supplied this time, you will need the figurehead support bracket that was supplied with Stage 86. Use a fine brush for the painted details.

**EXPERT TIPS:  
PREPARATION FOR PAINTING**



Glue the shield assembly to a scrap of plank, using a drop of superglue to provide a handle that will make it easier to hold while painting.



The cherubs and crown are made in two parts. You can fill any visible joint lines using a two-part epoxy modelling putty.



1. Start by attaching the crown to the top of the shield. File a flat surface on the top of the scroll above the shield and glue the crown in place with superglue.



2. Spray the whole of the shield and the crown using a white metal primer (automotive primer is ideal). Then paint the areas shown red.



3. Paint the bottom left quadrant and the surround in French blue.



4. Paint the top right quadrant gold, then pick out the fine details with gold, white and blue paint using this photo as a reference.

**QUICK TIP**

Red makes a good undercoat for the gold paint, but you will need two or three thin coats of gold to get an even finish.



5. The jewels around the crown are red at the front, blue at the sides, and green on the diagonals. Remove the stick when painting is finished.



6. Paint the back of the shield black, except an area at the base where it will be glued to the stem post in Step 11.



7. Spray the cherubs with white primer, then paint them white.



8. Paint the gowns with a light blue grey for the starboard cherub and red for the port cherub.



9. Spray the support bracket (supplied with Stage 86) with primer and then paint it gold.



10. Release the bowsprit shrouds and bobstays. Hold the top of the shield in line with the top of the stem post, with the crown just below the bowsprit. Mark the bottom of the shield on the stem post.



11. Cut away the wood on the stem post with a razor saw, then glue the shield in place using superglue, making sure it is central and upright.



12. Bend the aluminium motto strip around the base of the shield. Trim the ends to length with scissors.



13. Prime the strip, paint it blue and pick out the lettering in gold. Hold the strip in position and glue the support bracket in place, ensuring you don't cover the bobstay hole. Then fix the ends of the strip with tiny spots of superglue.



14. Glue the first cherub to the back of the shield. Position the cherub so that the raised hand is resting on the crown.

**QUICK TIP**  
Chamfer the top of the stem if it stops a cherub from touching the crown.



15. Glue the second cherub on the other side of the model in a similar way.



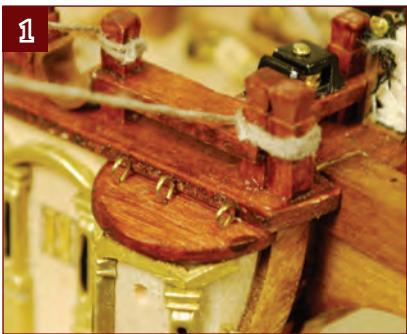
16. Re-fix the bowsprit rigging, then seal and trim the lashings.

# Rigging the spritsail

The buntlines, clewlines and lifts have a very similar arrangement to those of the previous sails. Omit Steps 12 to 16 if you are making the bare spars option.

## EXPERT TIP

Make sure you get the yard facing the right way. The blocks go at the back.



1. Drill three equally spaced 0.7-mm holes on the top of both roundhouses. Glue an eyebolt (supplied with Stage 108) in each hole.



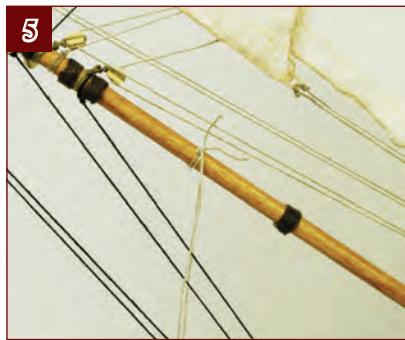
2. Take the spritsail and yard (or just the yard for the bare spars option), and tie 9.8 inches of 0.5-mm thread about 5 mm to the port of centre. This is the sling.



3. Hold the yard centrally under the bees and loop the thread over the end of the bees from left to right.



4. Tie the other end of the sling to the other side of the yard, so the yard hangs a couple of millimetres below the bowsprit. Seal and trim the knots.



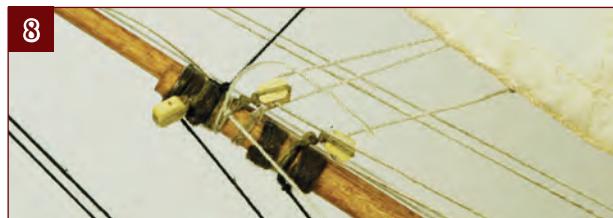
5. To make the travelling guys (A), tie two 500-mm lengths of 0.25-mm thread to the bowsprit, halfway between the middle and upper bindings. Lead one out to port, and one to starboard.



6. Tie both guys to the spritsail yard near to the outer footrope supports. Rig both sides at the same time to make sure that the yard is straight and true. Pass the thread over the yard, and under the yard from the back, then tie the knot and lead the spare thread aft. Use a simple overhand knot, which is easy to adjust.

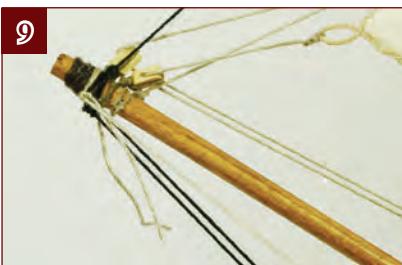


7. Tie both threads to the inboard eyebolts, making sure that the yard is still straight and true.



8. The guy pendants (B) are rigged much like the travelling guys. Tie two 550-mm lengths of 0.25-mm thread close to the end of the bowsprit, and knot them around the yard (as in Step 6) about 5 mm further out from the travelling guy, so that they end up as shown in Step 10. Tie them off to the middle eyebolts, as shown in Step 11.

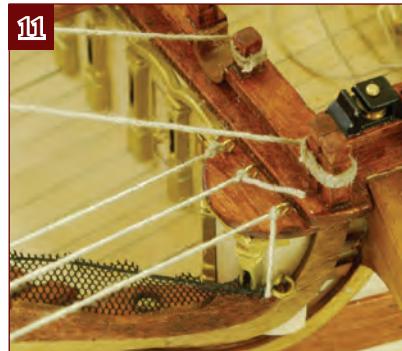




**9.** The flying jibboom guys (C) follow a similar route to the others. Tie 600-mm lengths of thread to the end of the flying jibboom and lead them back on each side of the bowsprit.



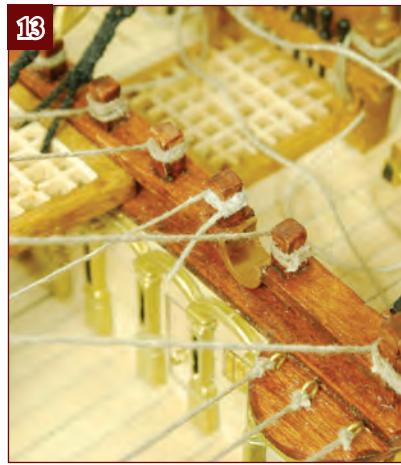
**10.** Knot the guys around the yard about 5 mm further out from the guy pendants.



**11.** Tie the threads off to the outermost eyebolts on top of the roundhouses.



**12.** For each buntline (D), tie 600 mm of thread to the yard by the outer block. Take the thread down the front of the sail, underneath it, then up through the block and back to the bulkhead.



**13.** Tie the end of the buntline off to the timberhead just inboard of the U-channel on top of the bulkhead.



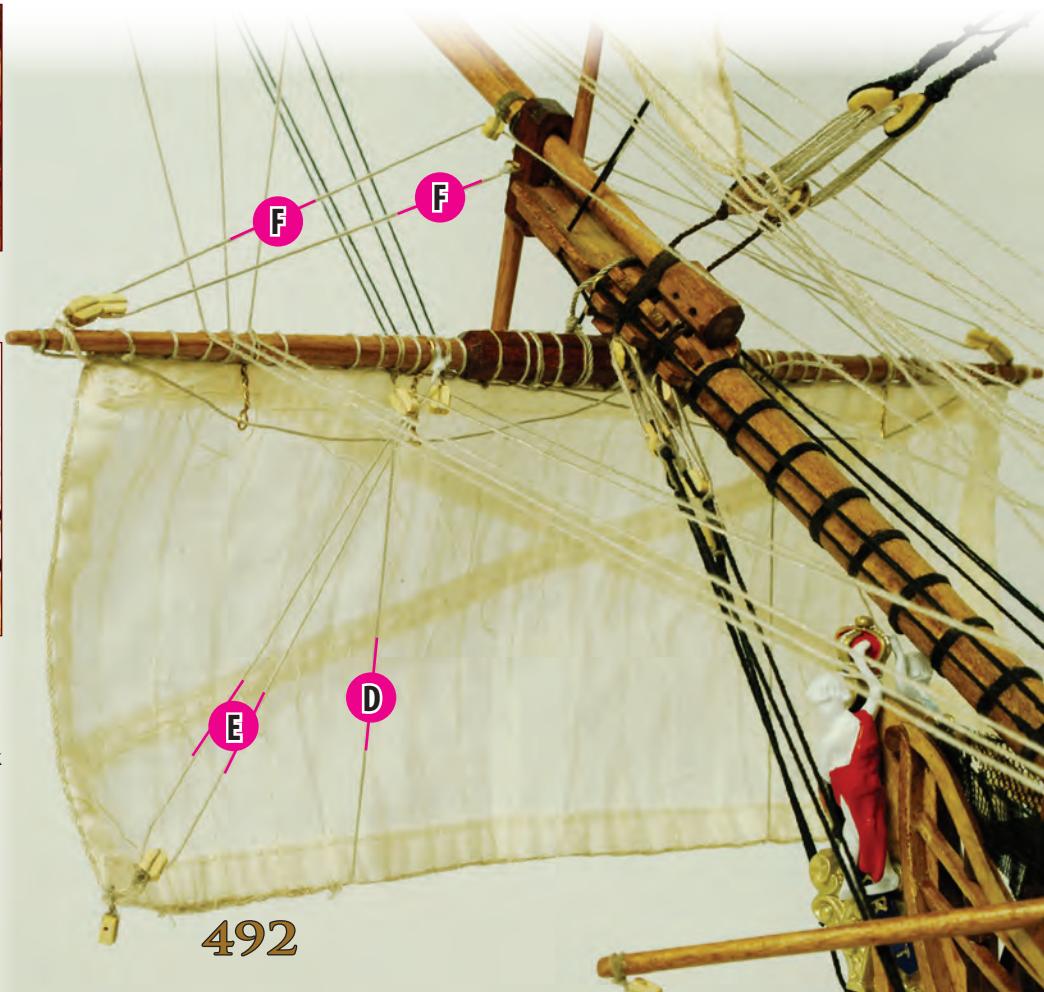
**14.** To make each clew line (E), tie a 700-mm length of thread to the yard by the inner block. Take this thread down to a block on the corner of the sail, and up through the block on the yard.



**15.** Tie this thread to the timberhead just outboard of the U-channel.



**16.** To rig the lift (F), tie 600 mm of 0.25-mm thread to the eyebolt on the bowsprit cap, run it down to the block on the end of the yard, back to the block just forward of the cap, and tie off to the same timberhead as the buntline. Now repeat Steps 12-16 on the other side.

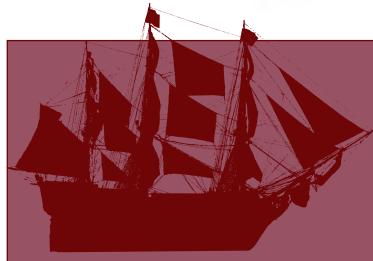


# Stage 110: Fit and rig the main topsail

This stage includes the main topsail, rigging parts and dummy guns.

## Fittings

main topsail  
single blocks 4 mm x 4  
dummy 12-pounder guns x 6  
diecast parrel spacers x 6  
glass beads x 12  
eyebolts 7 mm x 20



## Where the parts fit

The main topsail and rigging parts supplied are used in this stage, together with the main topsail yard, which you rigged in Stage 72. You will also be rigging the spritsail topsail yard

(together with its sail if you chose this option), which was prepared in Stage 104. Keep the dummy guns for now, as they will be fitted to the open gun ports a little later on in the build.

## Fitting the main topsail and yard

The topsail yard was prepared in Stage 72. If you are building a bare spars model, you will not need to attach the sail, so omit Steps 3 and 4.



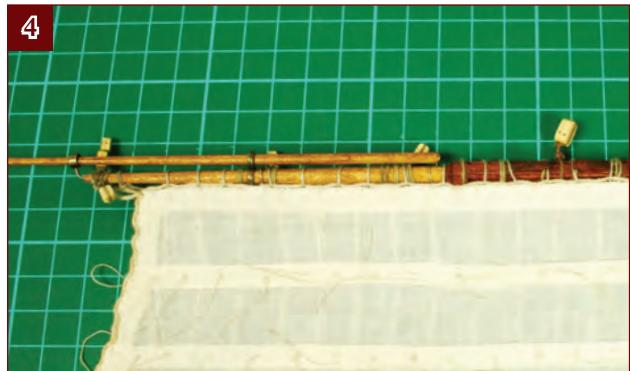
1. Drill a 0.7-mm hole and fit an eyebolt just aft of the openings in the bulwark on each side of the ship, roughly in line with the mast. The eyebolt should be fitted about 2 mm inboard.



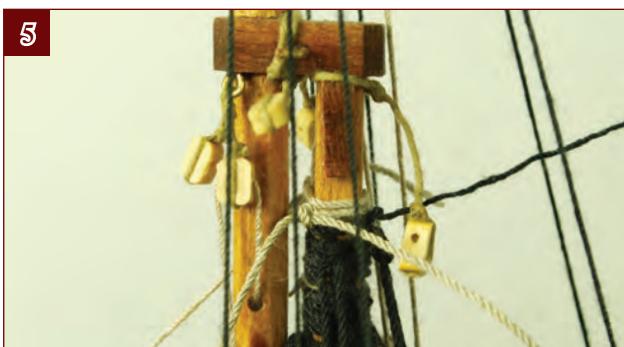
2. Add the footropes (horses) to the yard using the same technique as before.



3. Prepare the sail by adding the sheets as 550-mm lengths of 0.5-mm natural thread, sewn directly to the corners of the sail. Add a single block to the earings on the top corners.



4. Sew the head of the sail to the yard in the usual way. You will need a length of thread approximately four times the width of the yard.



5. Cut two 700-mm lengths of 0.5-mm thread to make the ties. Tie these to the topmast above the shrouds, with one tie on each side of the mast.



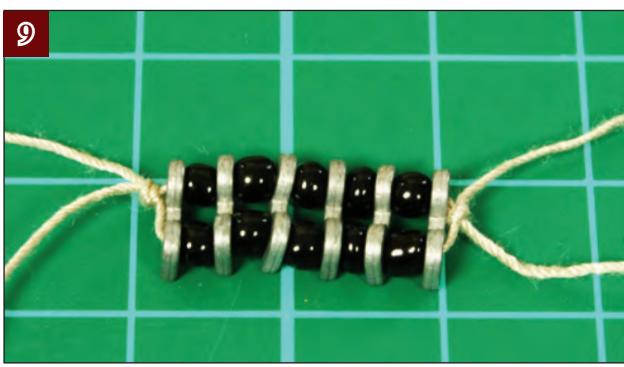
6. Thread the two ties through the double block on the yard, running one tie through each hole, from front to back.



7. Now feed the two ties through the holes on the larger double block on the mast.



8. Feed the threads down through the main top to the eyebolts by the main mast. Pull the yard up as high as it will comfortably go. Tie the threads off, seal and trim the knots.



9. Prepare the parrel using the method that was explained in Stage 106.



10. Attach the parrel to the yard and rig it around the mast in the same way as you did before.

# Rigging the main topsail

Use 0.25-mm thread throughout. Omit Steps 1 to 8 if you are building a bare spars model.



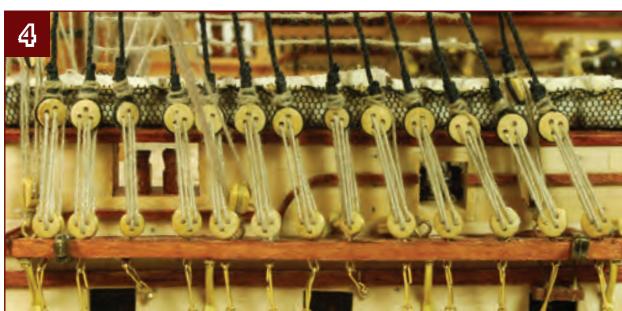
1. Feed both sheets (A) through the blocks on the end of the main yard.



2. Run them through the innermost blocks near the centre of the yard.



3. Tie the sheets to the eyebolts fitted in Step 1 on the first page of this stage. Tension both sides of the model at the same time to ensure the sail is central against the main yard.



4. All of the main mast shrouds can now be finally secured and trimmed.



5. Cut a 950-mm length of 0.25-mm thread for the buntline (B). Tie it to the front of the spar by the block inboard of the quarter iron. Take the thread under the sail and through the block.



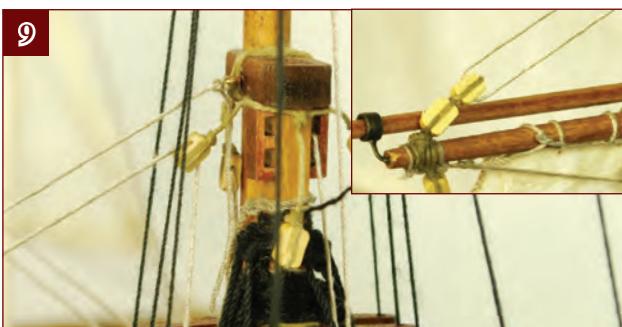
6. Tie the thread off to the third shroud.



7. Cut a 1-m length of 0.25-mm thread to make the clew line (C). Tie an end to the yard close to the middle of the group of three blocks. Feed it through the block on the corner of the sail and then back up to the block on the yard.



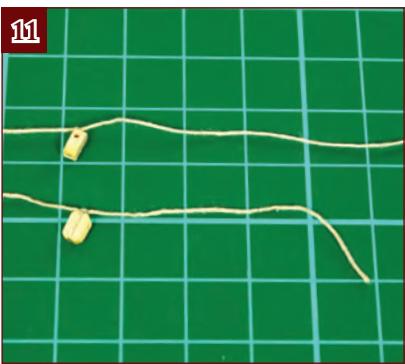
8. Take the thread down and tie it to the fourth shroud.



9. Cut 900 mm of 0.25-mm thread to make the lift (D). Tie it to the eye on the mainmast cap, feed it through the block on the end of the yard and back through the block on the mast cap.



10. Tie this thread to the fifth shroud. Repeat steps 5 to 10 on the other side of the model.



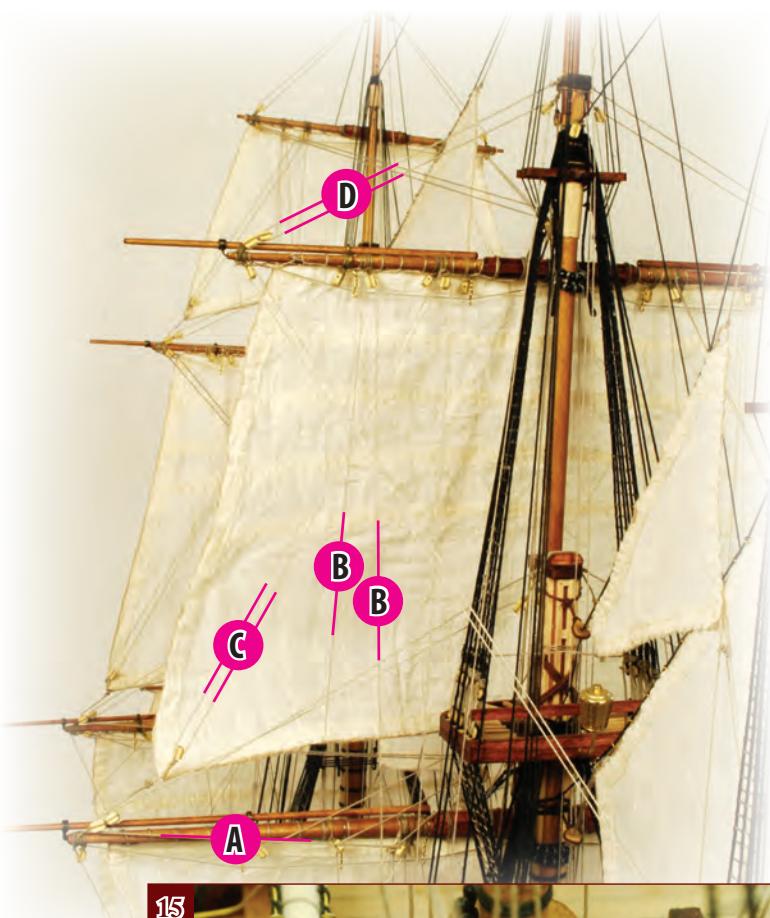
**11.** Cut two 1-m lengths of 0.25-mm thread to make the braces (E). Tie a single block about 50 mm from one end.



**12.** Tie the blocks to the stay just below the mizzen top.



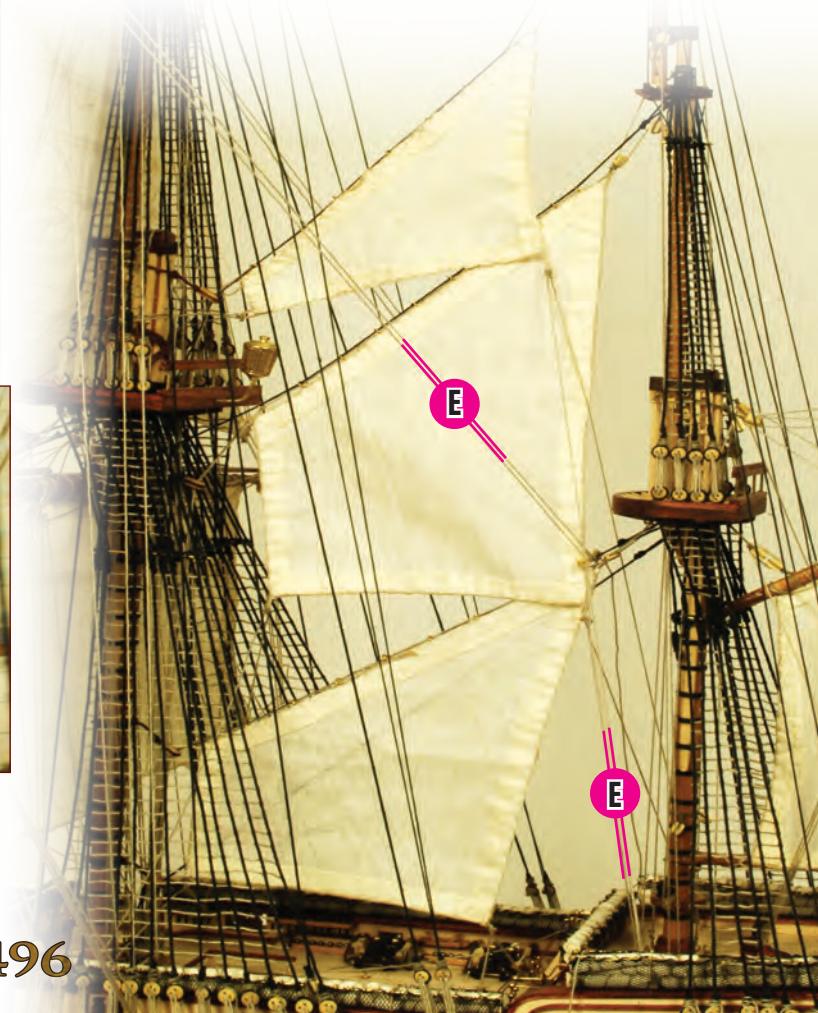
**13.** Take the long tails up to the blocks on the ends of the yard.



**15.** Tie the threads off to the front outboard eyes by the mizzen mast. Tension both sides together to make sure the yard stays square.

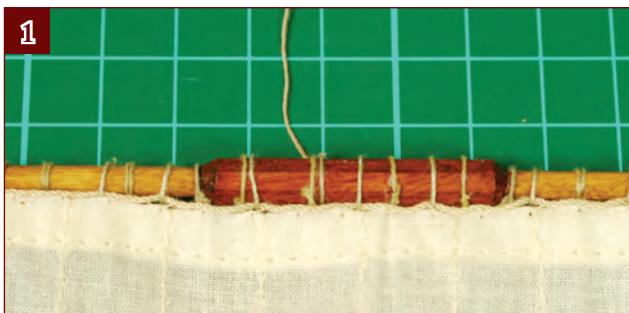


**14.** Double the threads back on themselves and take them back to the blocks just fitted.



# Fitting the spritsail topsail yard and sail

Use 0.25-mm thread throughout. Omit steps 2, 4, 5, 6, 10 and 11 if you are making a bare spars model.



1. Take the topsail yard and tie a 250-mm length of thread about 5 mm to one side of the centre to make the parrel rope.



2. Prepare the sail by tying 500-mm lengths of thread directly to the bottom corners.



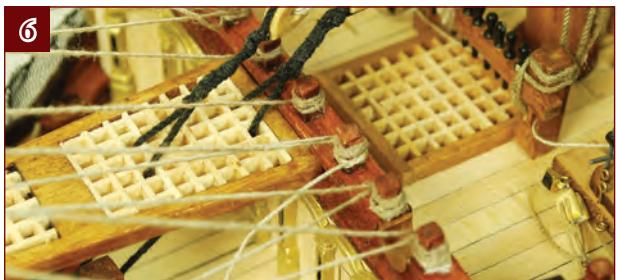
3. Secure the yard to the jibboom with the parrel rope, in the same way as the spritsail yard in Stage 109. Position the yard so that the sail has a slight bag when the corners are pulled to the spritsail yard. The parrel may be in front of or behind the travelling guys, but should be close to them.



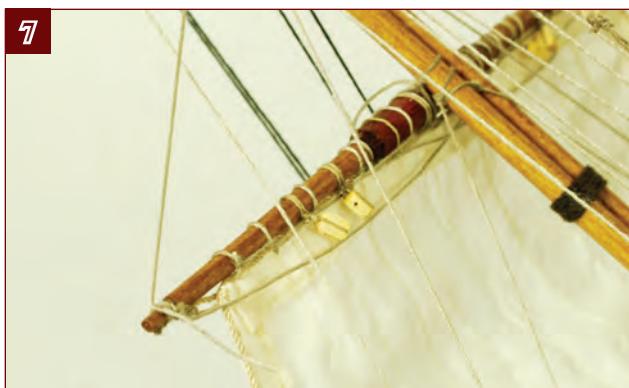
4. Feed the sheets (F) through the blocks on the ends of the yard and run them inboard toward the bees.



5. Feed the sheets through the brass eyebolts on the bowsprit.



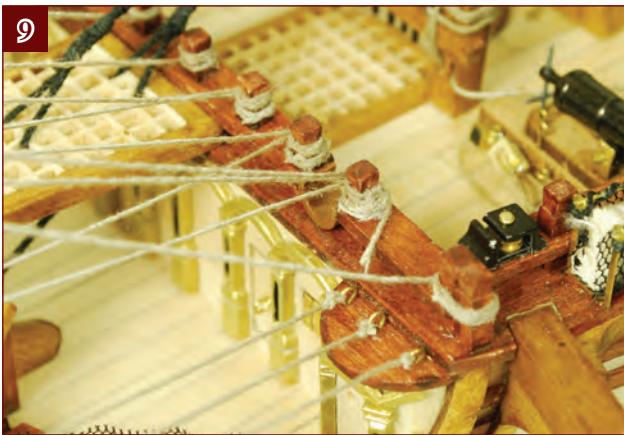
6. Tie the threads off to the second timberhead from the centre. Tension both sheets at the same time and make sure the yard is square.



7. Cut two 600-mm lengths of thread to form the lifts (G). Tie them to the ends of the yard.



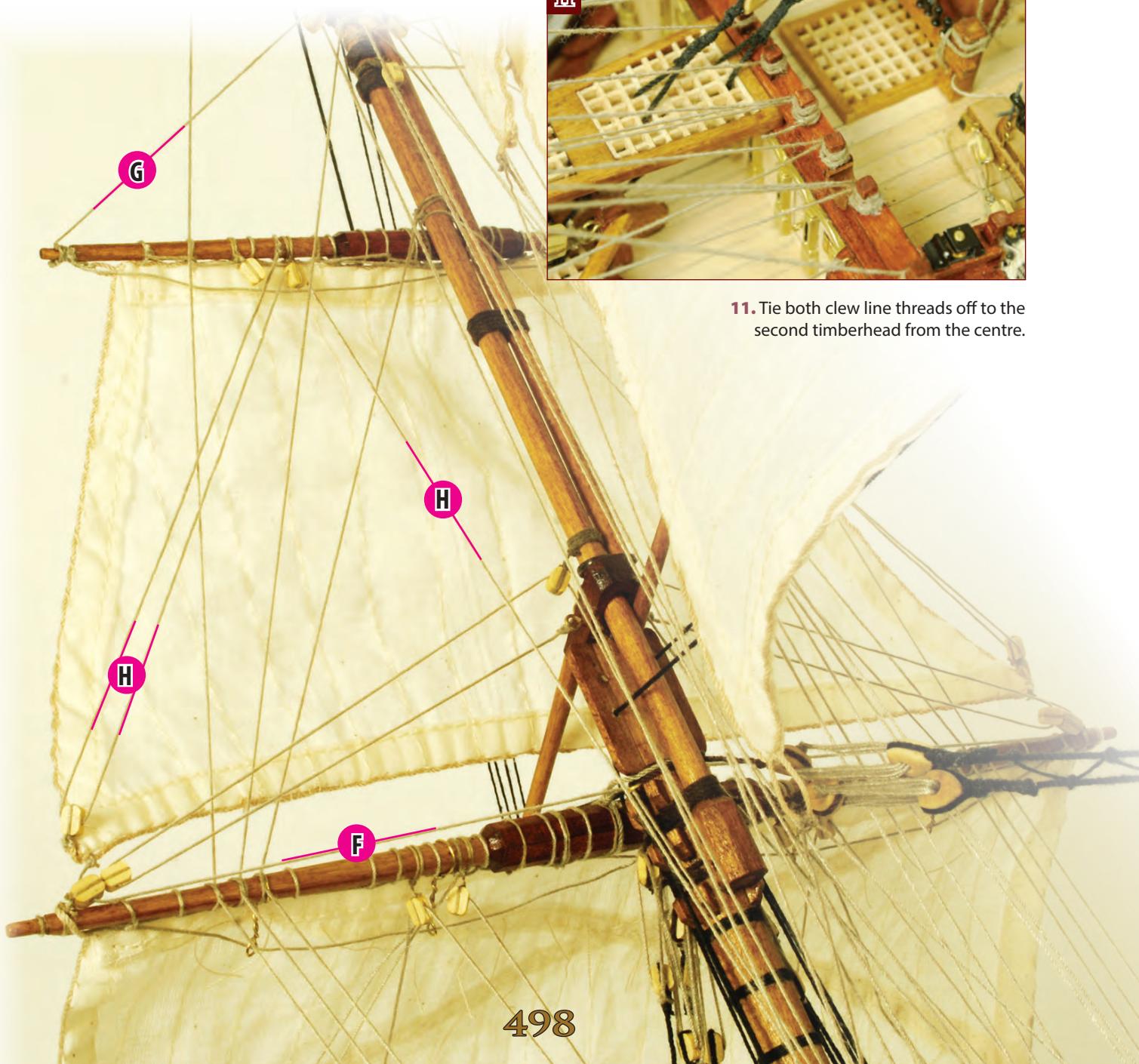
8. Take them through the blocks on the end of the jibboom.



9. Tie them off to the timberhead just outboard of the U-channel. Tension both sides at the same time, and make sure the yard is square.



10. Cut two 800-mm lengths of thread to make the clew lines (H). Tie each to the yard close to the inboard block. As with other clew lines, feed them down to the block in the corner and back through the block on the yard.



11. Tie both clew line threads off to the second timberhead from the centre.

# BUILD LORD NELSON'S HMS VICTORY

## Coming in Pack 12

Stages 111-120 finish the cutter, pinnace and barge, then add the flags to complete your model of HMS *Victory*.



**The cutter, pinnace and barge**



**Complete your model**



**Add the flags**

