BUILD LORD NELSON'S HMS VICTORY

Pack 3

Stages 21-30

DeAGOSTINI MODEL SPACE™

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Contents

DeAGOSTINI MODEL SPACE™

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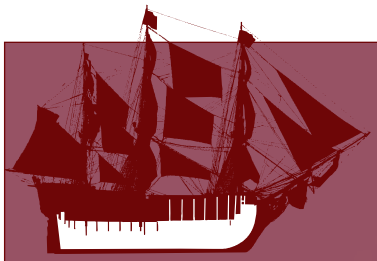
Editorial and design by Continuo Creative, 39-41 North Road, London N7 9DP.
Published in the UK by De Agostini UK Ltd, Battersea Studios 2, 82 Silverthorne Road, London SW8 3HE.
Published in the USA by De Agostini Publishing USA, Inc., 915 Broadway, Suite 609, New York, NY 10010.

Stage 21: Beginning to plank the hull

The components provided with this stage include more strips of wood for planking *Victory*'s hull.

Wooden strips

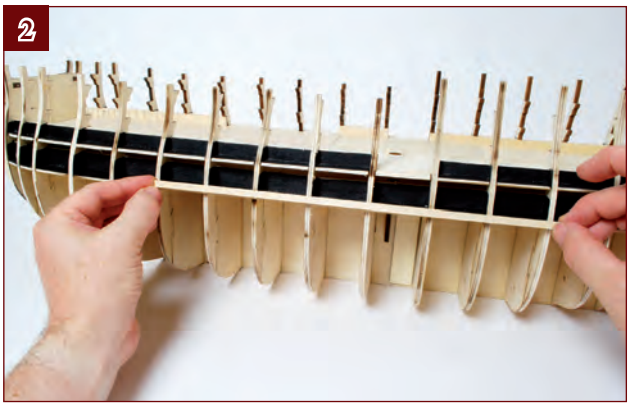
20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins



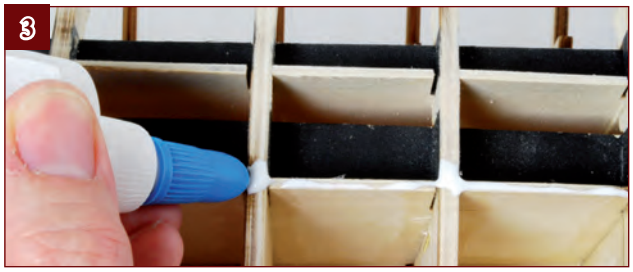
Where the parts fit

In this stage, we are going to start by fixing the first three rows of planking. **IMPORTANT NOTE: The steps only show one side of the model. You must always plank the model evenly, left and right.** That means when you have fixed one plank on the left, you should then place the equivalent plank on the right of the model. This will prevent the hull from being twisted by uneven forces from the planks. Also note that if you have opted to construct a cutaway, you need to leave out the planks that cross this area, as shown in the yellow panels inserted at the appropriate points in the steps.

1. Start by trimming the ends of the planking you fixed to the gallery supports. Use a plank to get the correct line, in the same way as fairing the hull, and sand off the overhang. You need to ensure that the planks will run in a smooth line from the frames onto the gallery supports, as shown in Step 5.



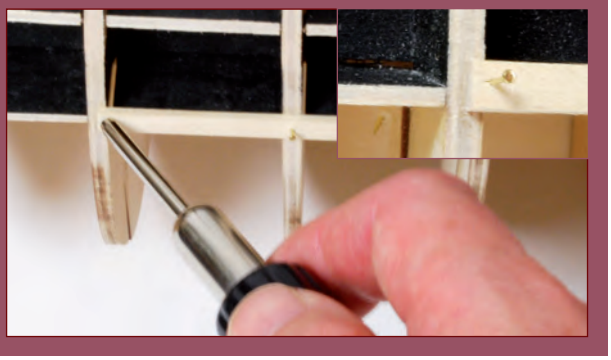
2. Take the first plank and place it against the hull on the left-hand (port) side, between frames 24 and 17. Line up the bottom flush with the bottom of the lower gun deck. Mark, then cut it to length so that each end will finish in line with the middle of the frame (as in the Quick Tip below Step 3).



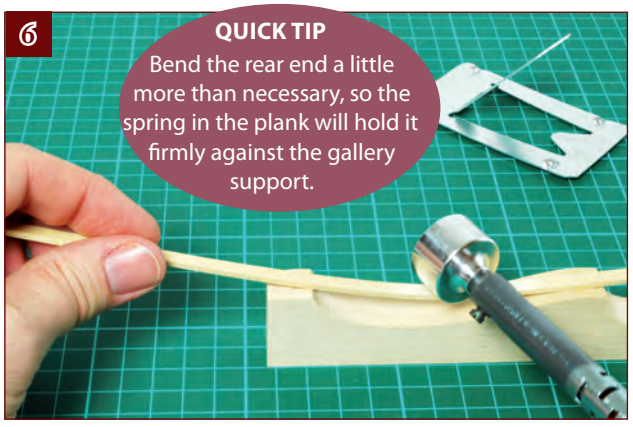
3. Apply a thin line of glue along the edge of the deck between frames 17 and 24, with an extra blob where the plank will fit over the frames.

QUICK TIP

The pins closest to the ends of the planks should be placed away from the end of the plank and inserted at an angle to prevent the wood from splitting.



5. Take another plank and hold it to the rear of the first plank you placed, flush with the bottom of the lower gun deck. Ensure that the two ends are touching, then mark a length that will just overhang the gallery support.



QUICK TIP

Bend the rear end a little more than necessary, so the spring in the plank will hold it firmly against the gallery support.

6. Bend this plank to follow the curve of the hull, before cutting it to length. You can use either an electric plank bender, as shown here, or a pliers-type plank bender/cutter.

QUICK TIP

A scrap of plank cut at an angle makes an effective glue scraper. If it gets clogged, simply cut a new end.

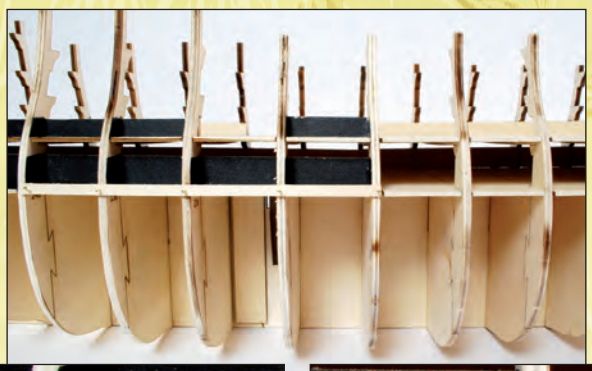
4. Pin the plank in place, and remove any excess glue promptly, as it will stop adjacent planks from butting up tightly to the first one. Repeat Steps 2 to 4 to fix a matching plank on the right-hand (starboard) side – unless you have chosen to add a cutaway; in which case, see the yellow panel below.

The Cutaway

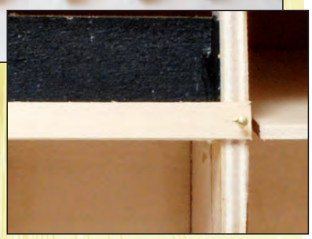
If you are building the optional cutaway, you need to omit the planking between frames 17 and 20 on the right-hand (starboard) side of the lower and middle gun deck.

Fix the first plank on the port side of the ship exactly as described in Steps 2 to 4. Then fix a matching plank on the starboard side, but this time at Step 2 – instead of cutting it to fit from frame 24 to 17 – cut it so that it only runs from frame 24 to frame 20.

Note that the end of the plank that is fixed to frame 24 should line up with the middle of the frame, as normal. The other end should finish flush with the side of frame 20, which forms the beginning of the cutaway.



The end of the plank that finishes at frame 24 should line up with the middle of the frame (the same as it does on the opposite side of the hull).

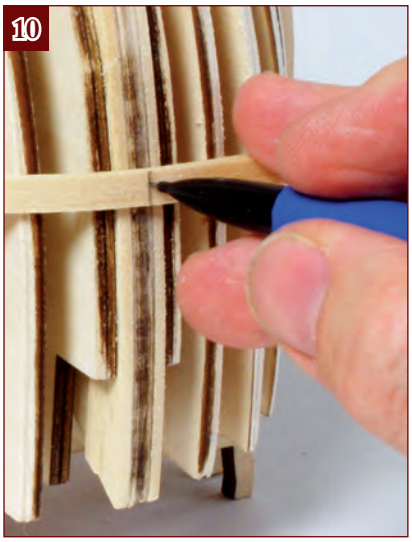


The end of the plank that finishes at frame 20 should line up with edge of the frame, so that the planking will form a clean edge to the cutaway.

7. Glue and pin this plank in position, and don't forget to apply glue where the plank touches the ends of the gallery support planks. Once again, repeat Steps 5 to 7 to fix a rear plank on the right-hand (starboard) side of the model.

8. The next plank to fix is the one that will curve around the bow. Hold it in position and with one end touching the first plank you fixed, and then mark where the hull framework starts to curve toward the bow.

9. Bend this plank in a similar way to Step 6, but bear in mind that the curve is much tighter. Start the bend at the point you marked, and keep checking against the model to make sure you get the shape right, following a natural curve around the bow.

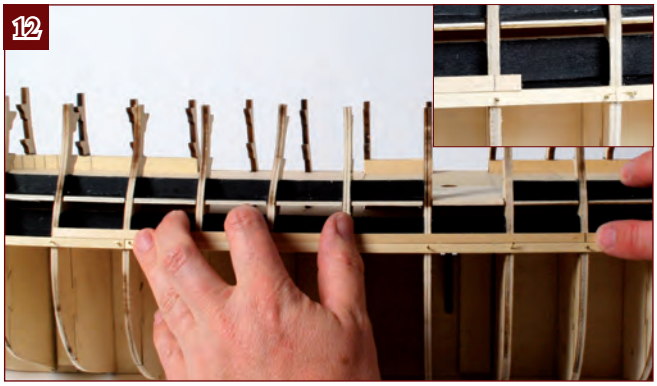


10. When you are happy that the plank will fit the curve of the bow properly, hold it in position and mark a section that is slightly longer than needed, so the plank will overhang the false keel after cutting.

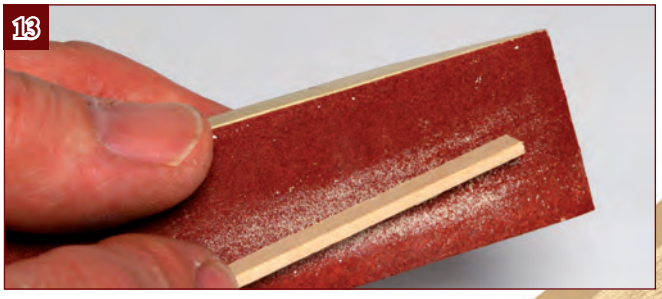
11. Glue and nail the plank in position, then trim the end of it in line with the false keel. Now, unless you are leaving a cutaway (see right), repeat Steps 8 to 11 to fix a bow plank on the starboard side. After trimming this, there will be a 4-mm gap between the planks. At a later stage, you will trim this to leave a wider groove into which to fit the external keel.

The Cutaway

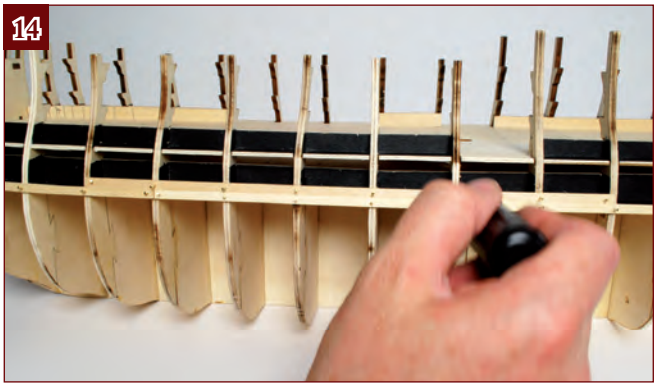
Repeat the main steps to add the bow plank on the right-hand side, but start the plank at the edge of frame 17, leaving the open cutaway section unplanked.



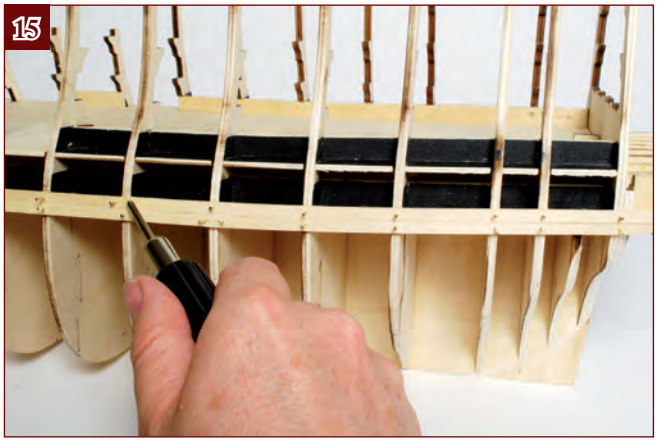
12. Now start to fix the next layer of planks, above the ones you have already laid. Planking is a bit like brickwork – you need to place the vertical joints so that they don't line up – so start this layer one frame further over. Place the first plank against the hull from the middle of frame 16 to the middle of frame 23, then mark and cut it to length.



13. The hull frames curve inward slightly (this curvature is known as "tumblehome"), so if you try to fit two square-edged planks together, they will gape slightly, leaving a crack. To solve this, the inside edge of the second layer of planks needs to be chamfered slightly using a sanding block, so that it sits tightly against the lower planks. The shaded area on the photo (right) indicates where to sand.

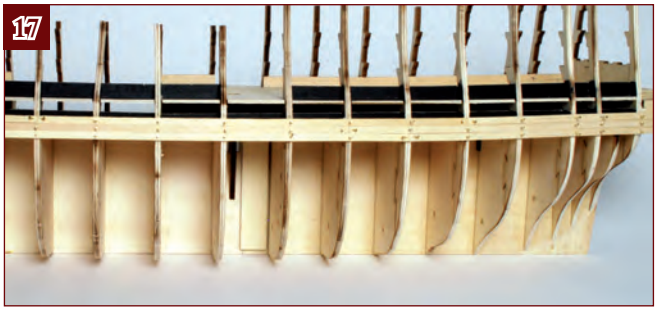


14. Apply glue both to the frames and to the lower edge of the plank, then pin this plank in position. As before, place a matching plank on the right-hand side of the model, but leave a gap if you are making a cutaway.

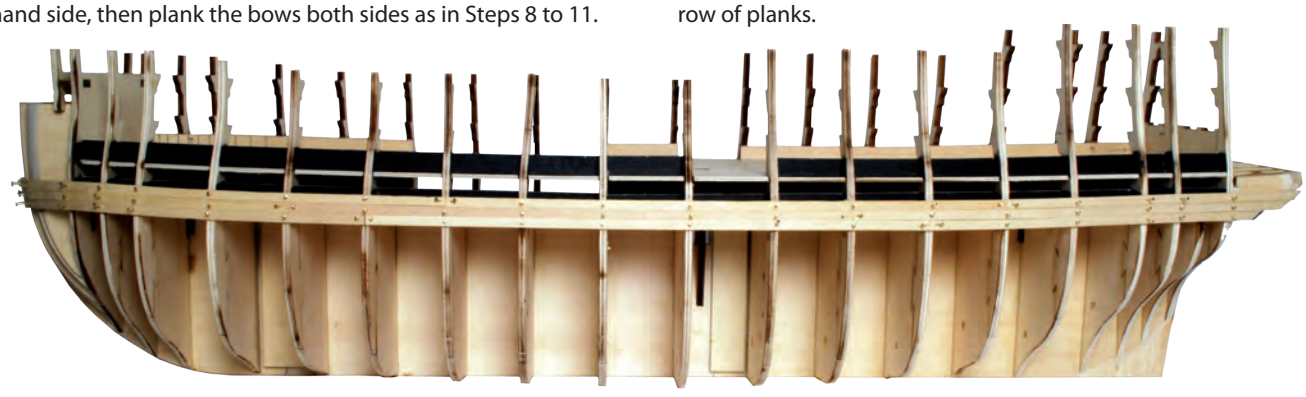


15. Measure, bend and cut a stern plank as you did in Steps 5 to 7, then chamfer the edge, and glue and pin it in place.

16. The natural spring of the wood should hold the rear of the plank in place, but you can also secure it with masking tape while the glue dries. As before, place a matching plank on the right-hand side, then plank the bows both sides as in Steps 8 to 11.



17. The third row of planks is offset two frames to the stern from the second layer. Cut the first plank to fit between frames 18 and 25, then repeat the previous steps to complete the third row of planks.

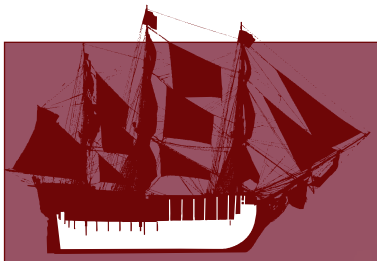


Stage 22: Planking the hull continued

The components provided with this stage include more strips of wood for planking *Victory*'s hull.

Wooden strips

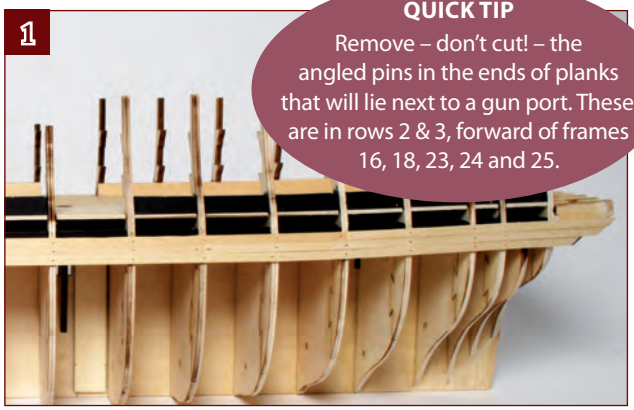
20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins



Where the parts fit

In this stage, we are going to continue planking the hull above the three layers fixed last time. **IMPORTANT NOTE: The steps show only one side of the model. You must always plank the model evenly, left and right.** When you have fixed one plank on the left, place the equivalent plank on the right of the model. This will stop the hull from being twisted by uneven forces from the planks. Also note that if you have opted to construct a cutaway, you need to leave out the planks that cross this area, as shown in the yellow panels that appear at the appropriate points in the steps.

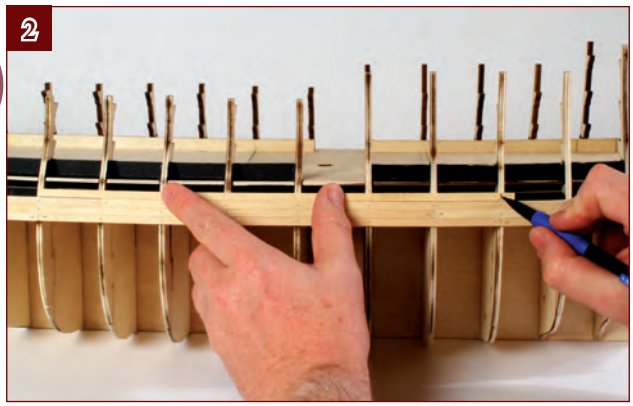
1



QUICK TIP

Remove – don't cut! – the angled pins in the ends of planks that will lie next to a gun port. These are in rows 2 & 3, forward of frames 16, 18, 23, 24 and 25.

2



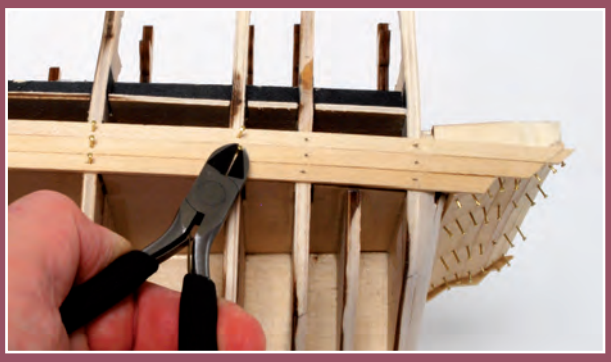
1. Once the glue on the planks you have laid so far is thoroughly dry, you can pull out or cut off all the pins used to hold the planking temporarily (see the Expert tip on the next page for the pros and cons of each option). It will be easier to work on the hull without the projecting pins.

2. Now place the first plank for the fourth layer of planks between frames 17 and 24. (This is between the same frames as the very first plank you fixed in place in Steps 2-4 of Stage 21.) As before, mark a length that comes to the mid-points of the frames at each end.

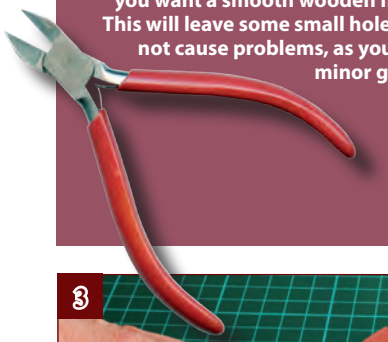
Expert tip: Pinning options

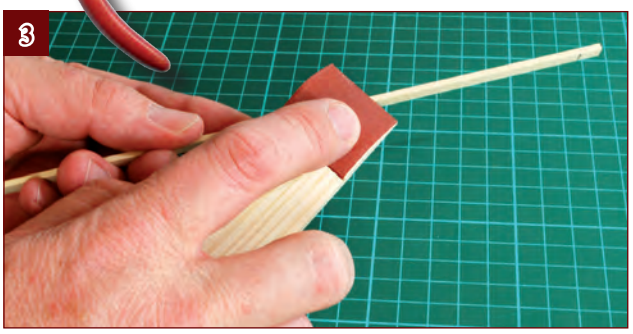
Before going any further, take a few moments to consider what you want to do about the pins used to hold the planking in place. Once the adhesive has dried, the pins have served their purpose, as the glue is more than strong enough to hold the structure together without further assistance. You now need to deal with the projecting pinheads – and you have two choices of what to do, depending on the kind of finish you prefer.

Option 1: Remove the pins. If you intend to paint the hull, or you want a smooth wooden finish, you can pull the pins out. This will leave some small holes in the planking but these will not cause problems, as you will be filling and sanding any minor gaps at a later stage. Use a small pair of pliers or pincers to pull the pins out, taking care not to bend or snap them. Avoid levering the pliers on the planks as this may cause dents or even crack the wood.

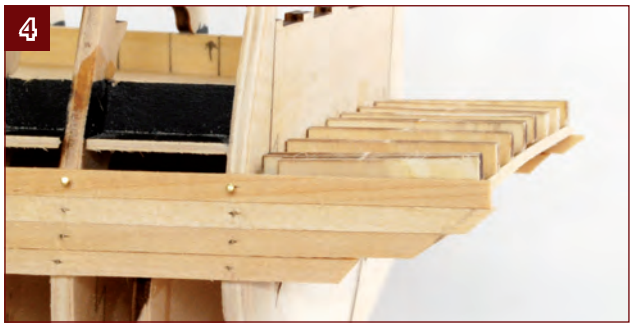


Option 2: Cut the pins. Modellers who opt for a natural finish often prefer to leave the shanks of the pins in place. They appear as rows of small metal dots that reveal the construction method and create an attractive appearance. Use a small pair of side cutters or end cutters to snip the pinheads off as close as possible to the surface of the planking. Then use a sanding block with high-quality abrasive paper, such as aluminium oxide or "wet and dry" paper, to rub down the projecting points until they're flush with the surrounding wood. Take care not to injure your fingers, as the points can be quite sharp until they've been sanded down.





3. Chamfer the bottom edge of this plank as you have done previously (Step 13 in Stage 21). Apply glue to the frames and the bottom edge of the plank, then pin it in place as you have done previously. Then plank the opposite side of the ship.



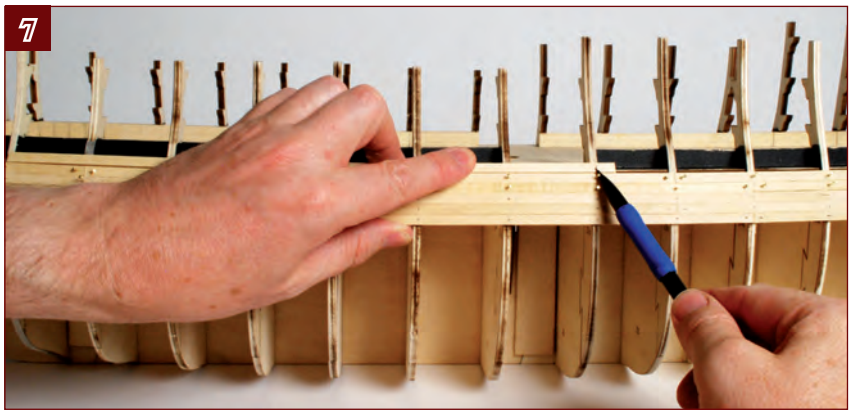
4. Complete the fourth layer of planks using the same method as before, remembering to glue the edges of the planks as well as the frames. Note that the rearmost plank overhangs the gallery supports a little.

The Cutaway

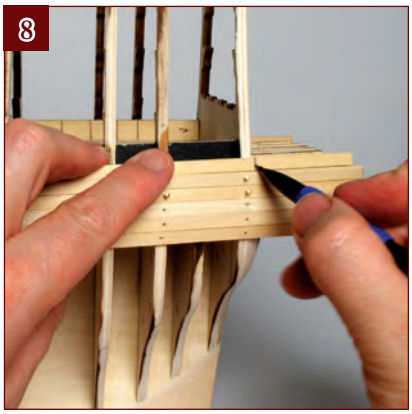
If you have chosen the cutaway option, continue to omit the planks on the starboard side between frames 17 and 20 as shown below and as described in detail in the Cutaway boxes in Stage 21.

5. Start the fifth layer of planks with a plank fitted between frames 16 and 23.

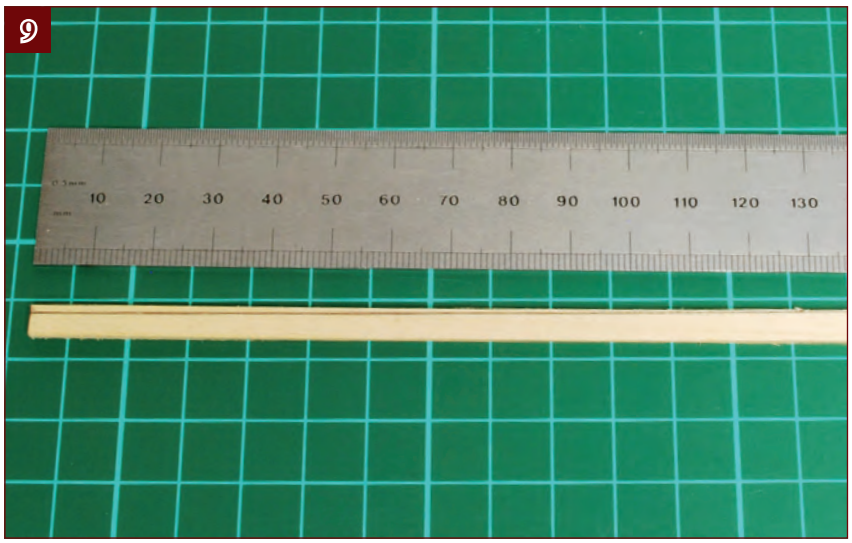
6. Complete this layer of planks. Note that the fifth plank overhangs the end of the gallery supports, and that the top of the plank sits above the level of the supports. It will be sanded down later, but leave it for now.



7. Start the sixth layer with a plank fitted between frames 15 and 22. Note that you will have to make a bigger chamfer on the bottom edge of these planks to prevent a gap from opening up, as the curvature (tumblehome) of the hull is getting tighter.

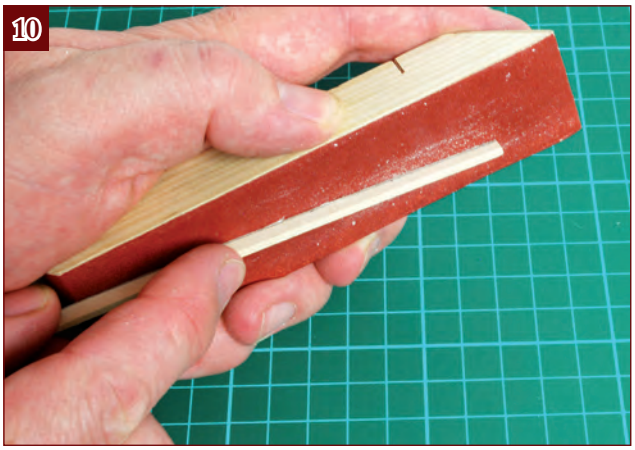


8. Cut the rear plank so that it overhangs the last frame by 1 or 2 mm.



9. You will not need to bend this plank with a plank bender because the curve is now very shallow. However, you will need to reduce the width of the plank by about 1.5 mm over the last 130 mm. Draw a tapering guideline as shown.

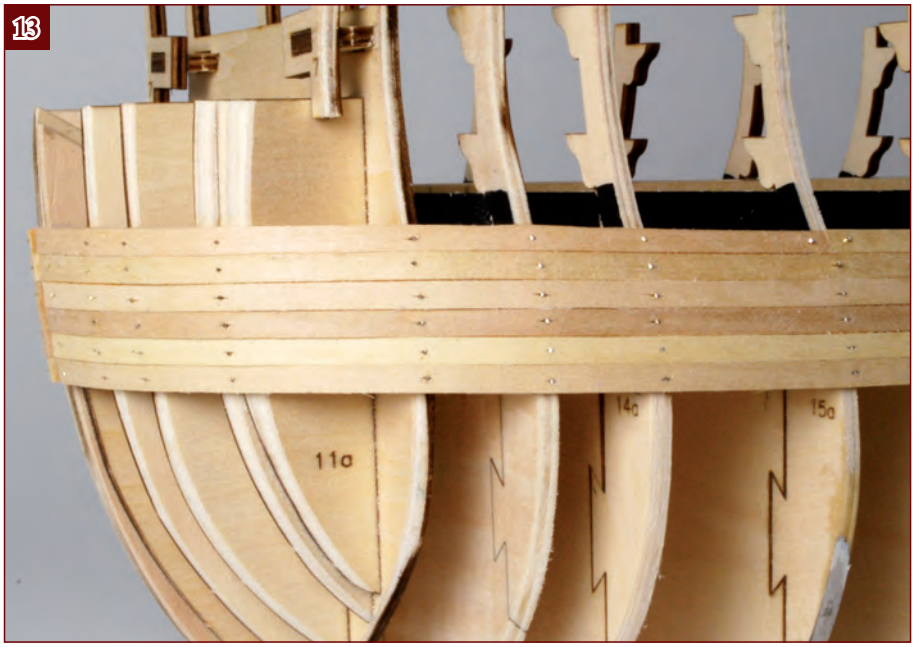
QUICK TIP
When drawing a line on a plank, support the other edge of the ruler with a scrap of plank so it sits flat.



10. Sand the edge of the plank to remove the wood as marked. Check it frequently against the hull to get a good fit. Note that while the line drawn is straight, the taper needs to follow a very gentle curve so that the tapered section blends into the straight section without a sharp corner. Sand a chamfer on the edge, after the taper has been completed.

11. Fix the tapered plank with glue and pins in the same way as the previous planks.

12. Fit the forward plank in the same manner as previous planks. It does not need to be tapered.



13. Allow the glue to dry overnight and then cut off or remove all the pins.

Stage 23: Cutting the gun ports

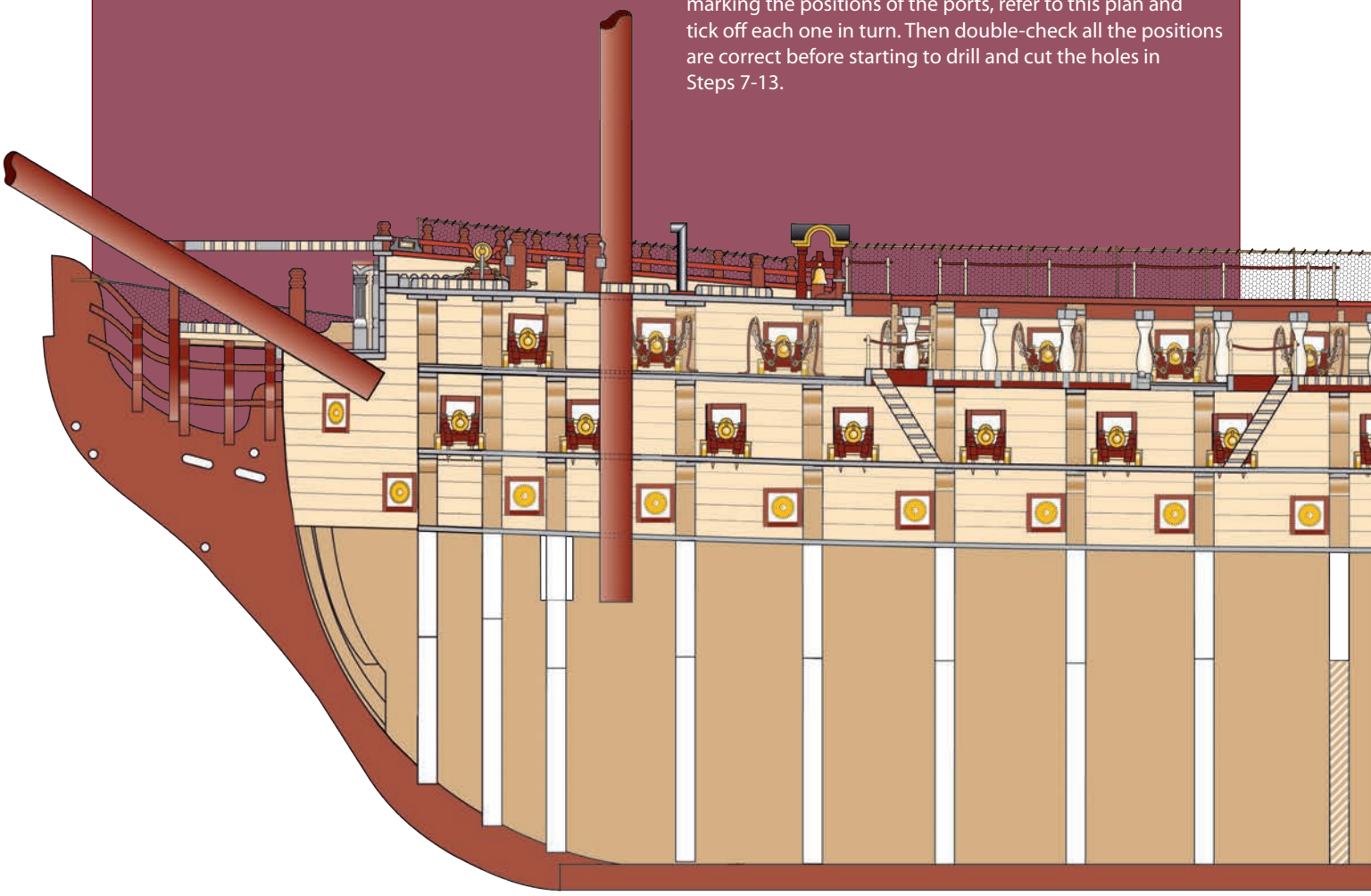
The components provided with this stage include more strips of wood for planking *Victory*'s hull.

Wooden strips

20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins

Positioning the gun ports

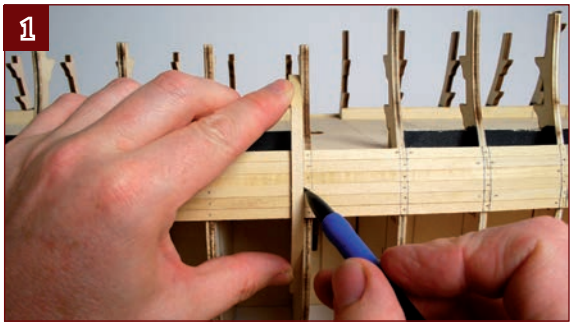
The plan below (continued on next page) shows the positions of all the gun ports, which have to be cut through the planking of the solid hull. Although we only show one side in the steps, both sides of the ship have identical features and need gun ports to be cut in the same positions. The only exception to this is if you are including a cutaway on the starboard side, where you can simply ignore the gun ports that would otherwise be cut through the planks in this area. For this stage, start with the gun ports on the lower gun deck. As you can see on the plan, there are 16 gun ports on each side. All of them are positioned just forward of the adjacent frame so that one side of the gun port is flush with the frame – except in the case of the port closest to the stern, which comes midway between frames 29 and 30, and the second of the two closest to the bows. The latter is midway between frames 13 and 14. When marking the positions of the ports, refer to this plan and tick off each one in turn. Then double-check all the positions are correct before starting to drill and cut the holes in Steps 7-13.



Cutting the gun ports

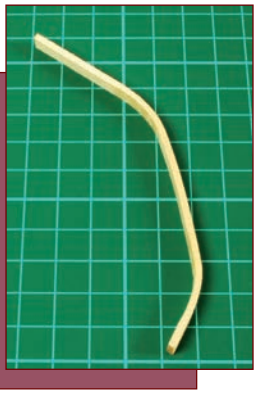
Before continuing with the planking, cut the gun ports in the planks you have laid so far. It is much easier to do this before the hull is complete, while you can see the framework clearly. It also splits a time-consuming operation into three phases.

1



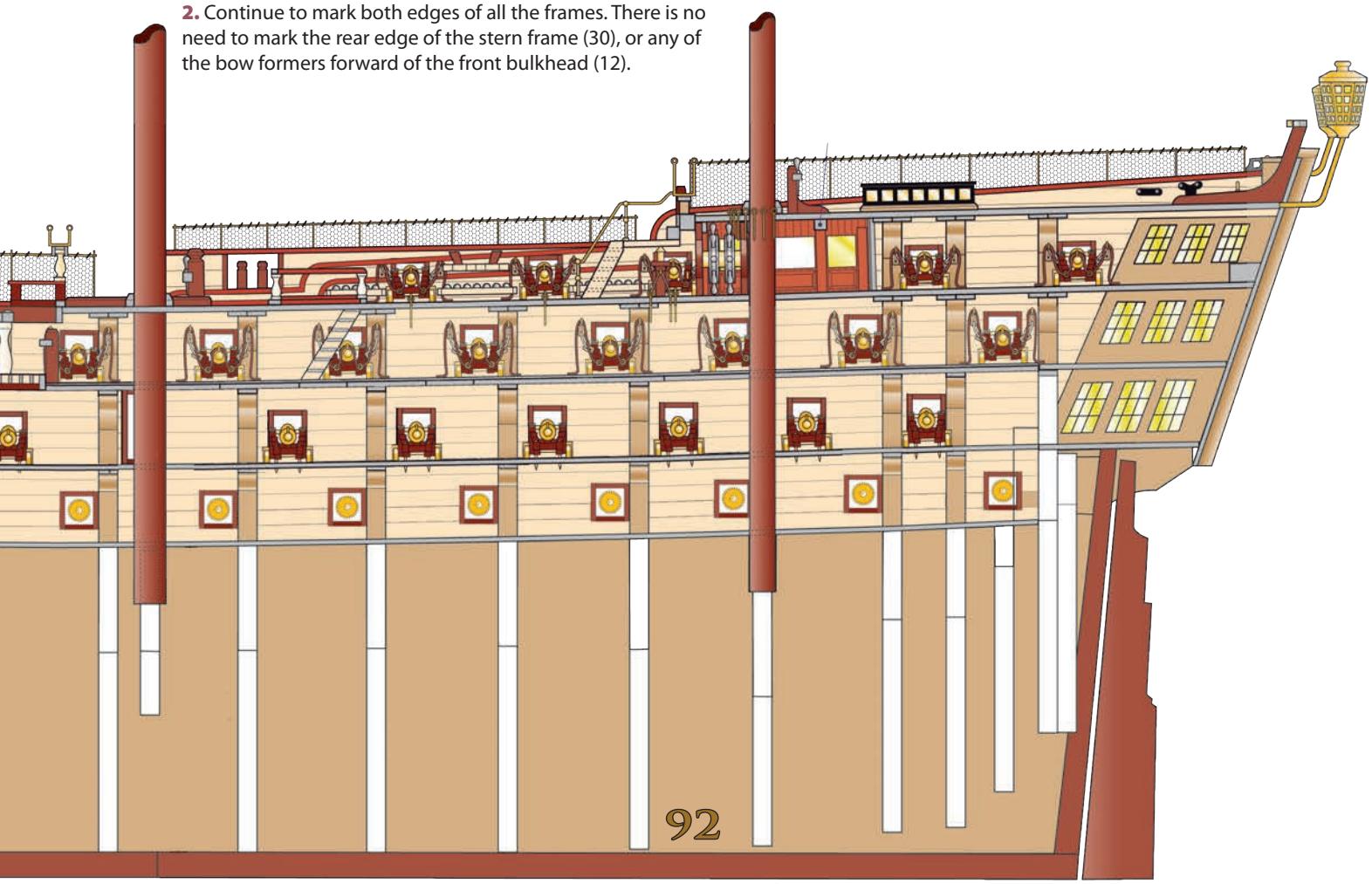
1. Mark the positions of the frames on the planks that you have fitted so far. This can be done by lining up a strip of wood in line with the edge of the frame and drawing a line on the planks.

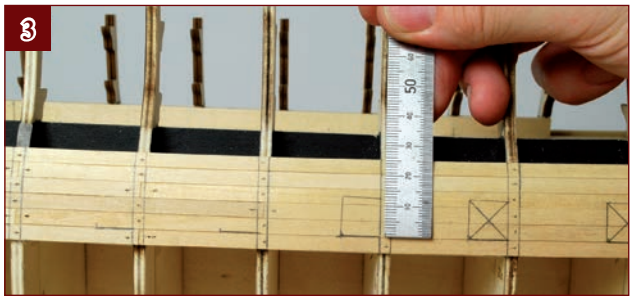
QUICK TIP
Marking can be made easier by bending an offcut of plank to the approximate shape shown. Make the centre section the same length as the six planks you have laid. It will then stay in place better in step 1.



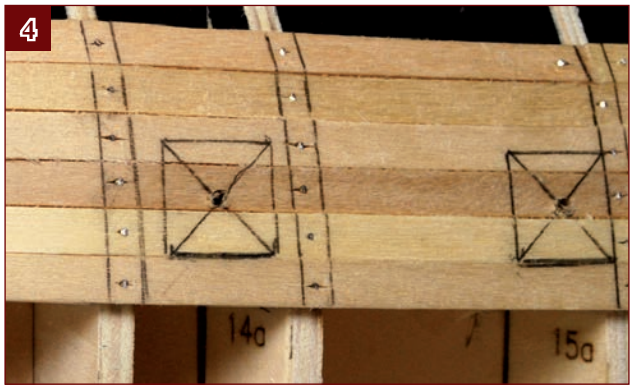
2

2. Continue to mark both edges of all the frames. There is no need to mark the rear edge of the stern frame (30), or any of the bow formers forward of the front bulkhead (12).





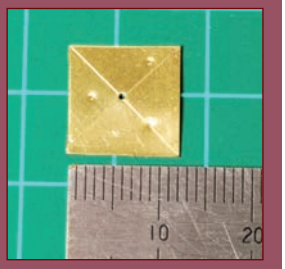
3. All of the gun ports are 12-mm square holes with the lower edge in line with the first plank. The 13 in the centre of the hull have their sternmost side in line with the edge of the rib frames. Double-check all positions against the plan and carefully pencil-in the squares using a ruler or a home-made jig (see Quick Tip). Draw diagonals across each square to locate the centre of the gunport.

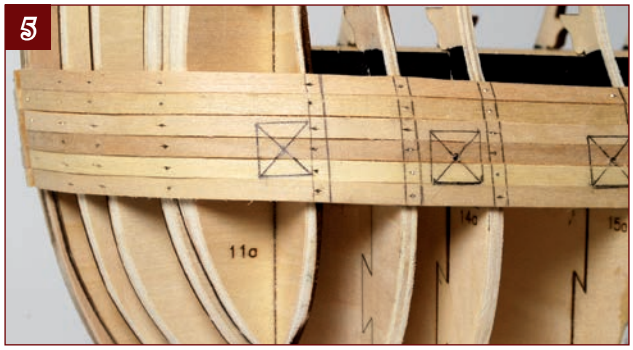


4. The gun port that comes between frames 13 and 14 is positioned midway between the frames, not touching either of them. (Note that these frames are also closer together than the others.)

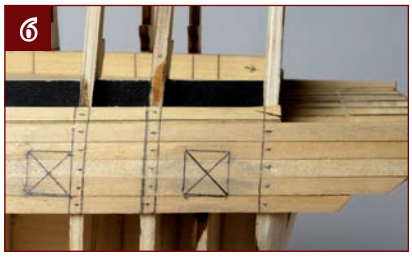
QUICK TIP

A simple jig will make the task of marking the gun ports much easier and quicker. Use a piece of thin sheet metal, such as the aluminium top of a soda can. We have used a piece of thin brass sheet. Using a sharp pair of scissors, cut a 12-mm square. Mark the diagonals with a scriber, the point of a compass or a sharp nail. Make a small hole in the centre by punching through with a sharp nail, and file off the burr from the other side. Lightly punch 3 or 4 dents with a sharp nail, as these will help to stop the jig from slipping. You can now hold the jig in place, draw round it, and use the hole to make a mark in the centre of the gun ports.

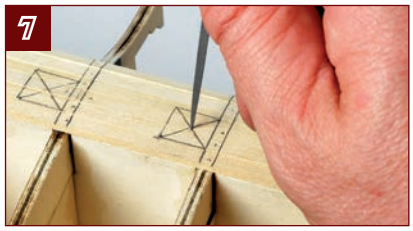




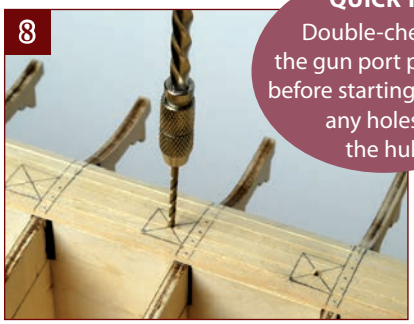
5. The gun ports are positioned parallel to the waterline. This means that those close to the bow and stern, where the planks slope upward, will not be exactly square to the line of the planks. As you can see, the port ahead of the forward bulkhead (12) should be positioned with its bottom corner just touching the joint between the planks.



6. The gun port closest to the stern comes midway between frames 29 and 30. Make sure that you keep its sides parallel to the frames.



7. Use a sharp point to make a small hole in the centre of each gun port to help locate the drill accurately. The point of a needle file works well, as does a sharp nail.



QUICK TIP

Double-check all the gun port positions before starting to make any holes in the hull.

8. Drill a 2-mm hole through the centre of the gun port. It's best to use an Archimedean drill or pin vice for this, as the hand tool allows greater control and accuracy than a mini power drill. The wood is soft enough to be drilled with very little effort.

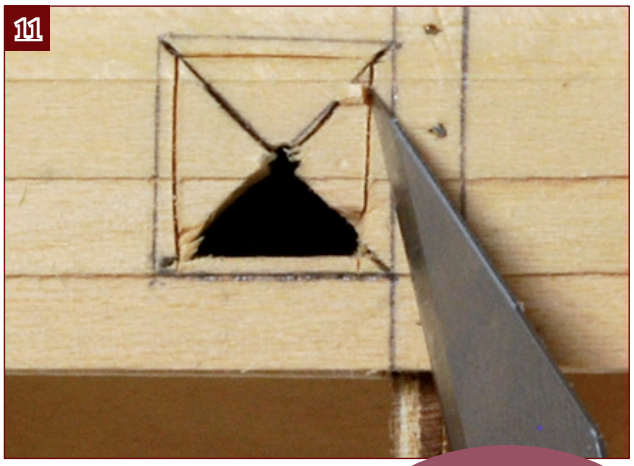
QUICK TIP

Keep the drill square so you drill the support beam in line with the middle of the port. This is the best way to ensure the gun barrels will be in the right position.

9. Once you have drilled through the plank, make sure the drill is parallel to the gun deck and square to the planking and continue to drill through into the support beam behind. This hole will be used to locate the cannon barrels that are fitted inside the gun ports at a later stage of construction.

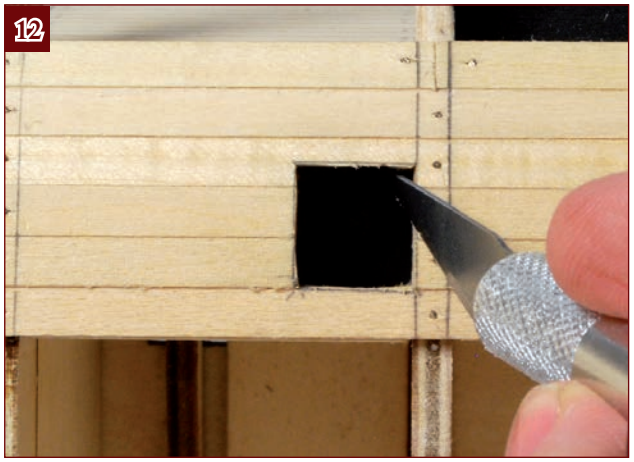
QUICK TIP
Use a new blade, and change it as soon as it becomes blunt. You can expect to go through several blades cutting all the ports.

10. Cut the diagonal lines. Use several light strokes of the craft knife and be very careful going into the corners, as it is easy to overshoot.



11. Cut just inside the four edges to remove a square of planking slightly smaller than the marked gun port. Once again, use short, gentle strokes – although there is less risk of overshooting, as the diagonal cuts will tend to trap the blade.

QUICK TIP
Splinters, dust and pieces of wood will fall inside the hull. It's simplest to ignore them until later, then apply a vacuum cleaner nozzle to each gun port.



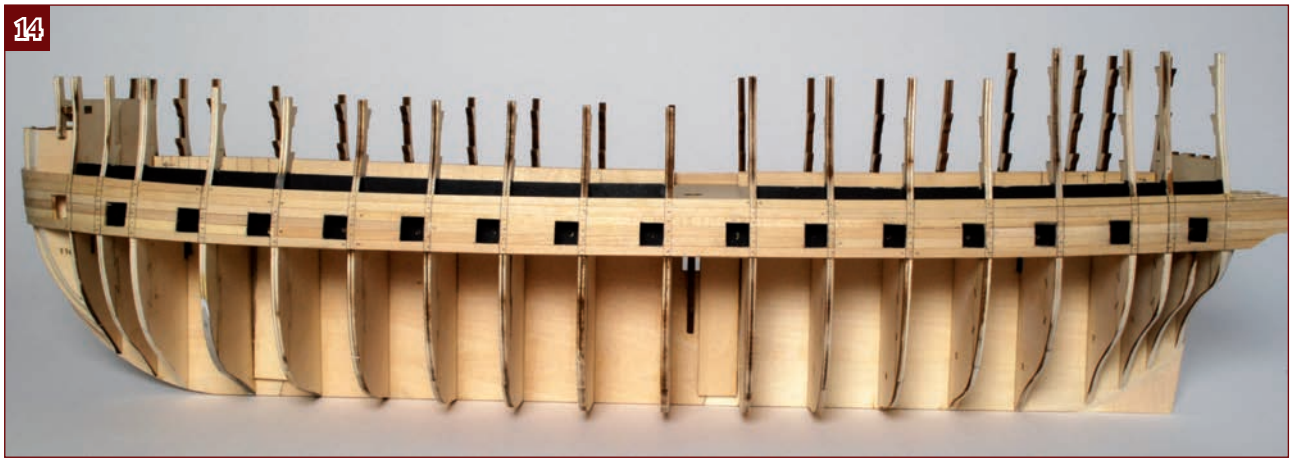
12. Gently pare away the edges to enlarge the gunport to its finished size, leaving a small allowance for sanding the edges smooth.

13. An emery board (nail file) is the ideal tool for finishing the edges of the ports, as it provides suitable abrasive paper on a narrow, stiff backing.

14. The completed row of gun ports will look like this. Repeat the process on the other side of the hull. That completes the lower gun deck and you are ready to continue planking.

The Cutaway

Repeat the main steps to cut the gun ports on the opposite (port) side of the hull. Simply ignore the gun ports that would otherwise fall in the area that you have left unplanked.



Stage 24: Assembling the building stand

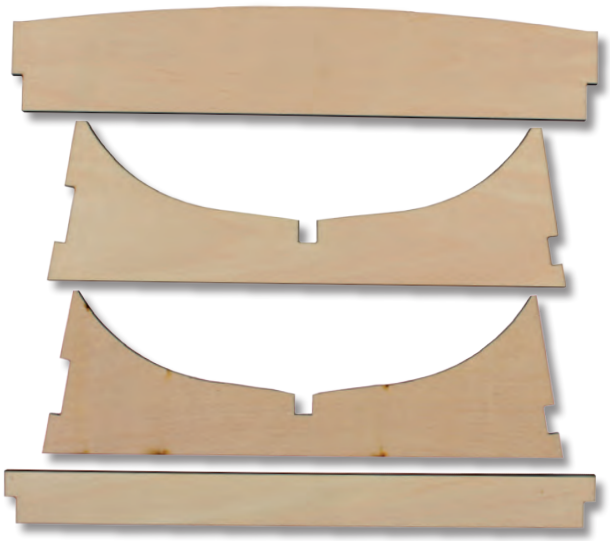
The components with this stage include four plywood parts to make a building stand to support *Victory*'s hull, plus a complete set of parts for another of her 12-pounder guns.

Cannon parts

Ensure that you have all the components pictured in this checklist.

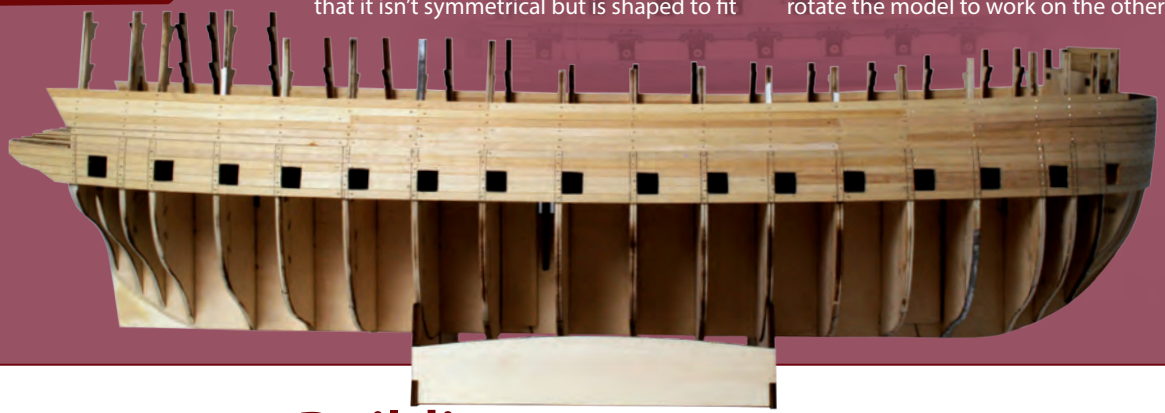
Building stand parts

Front , left side, right side and back.

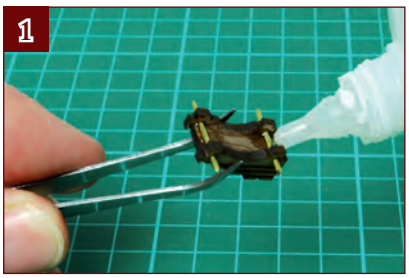


Where the parts fit

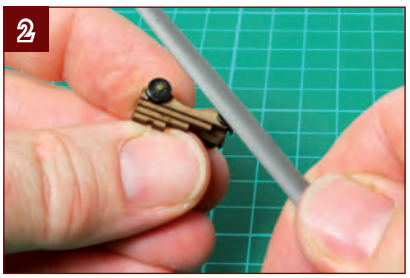
The building stand supplied with this stage provides a sturdy support as you continue modelling *Victory*'s hull, followed by work on her deck fittings, mast and rigging. Note that it isn't symmetrical but is shaped to fit the frames exactly at the point where it provides optimum support. The stand has a curved panel so you can always identify the "front," although you can just as easily rotate the model to work on the other side.



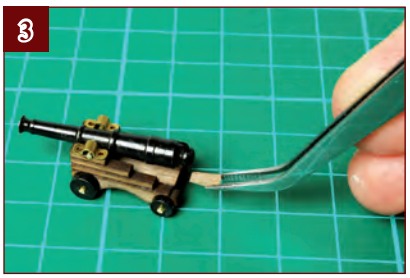
Building your cannon



1. For more detailed instructions, refer back to Stage 1 (Pack 1). As before, separate the two sides of the carriage, join them to the base and insert the axles.



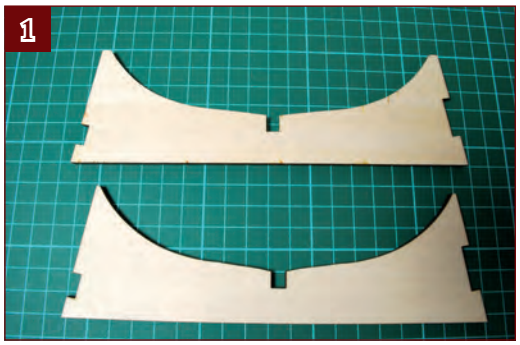
2. Glue the wheels in place, ensuring that the larger pair are fitted at the front. Finish off by filing the projecting ends of the axles flush.



3. Add the gun barrel, ensuring that the rear ring, known as the thimble, is uppermost. Finally, cut the small wedge, or "quoin," and insert it under the barrel.

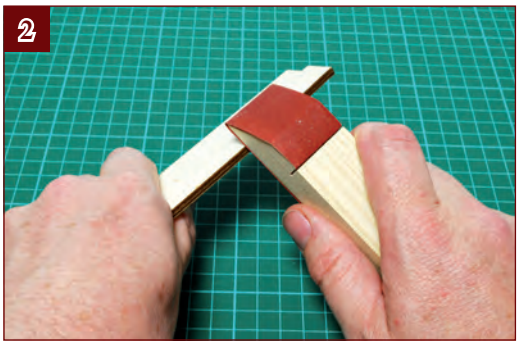
Assembling the building stand

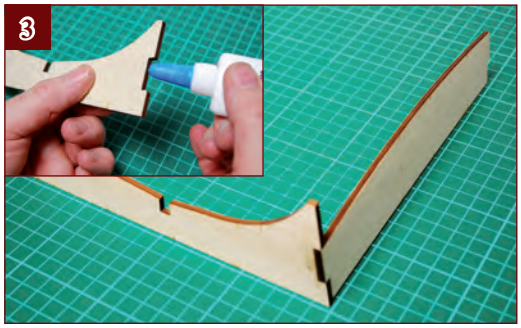
The stand has a larger, curved front panel and two differently shaped supports, so you can decide whether you want the ship to face left or right for display during construction.



1. Check the difference between the two frames. One fits under frame 23 and the other under frame 18. The one with the pointed top ends fits under frame 18, toward the bows of the model.

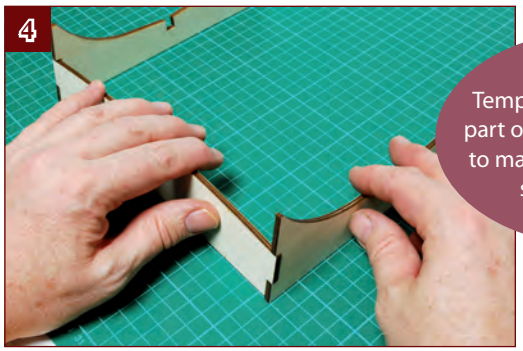
2. Sand any rough edges smooth.





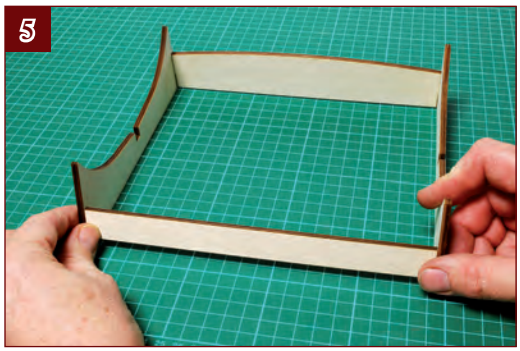
3. Glue the side of the stand to the front, ensuring that the two parts are square to each other. You can use a CD case or other common household object to check that the parts are square. Let the glue dry thoroughly before continuing.

EXPERT TIP
You can make a very effective square bracket using toy building bricks. Clamp the parts with clothes pegs to hold them while the glue dries.

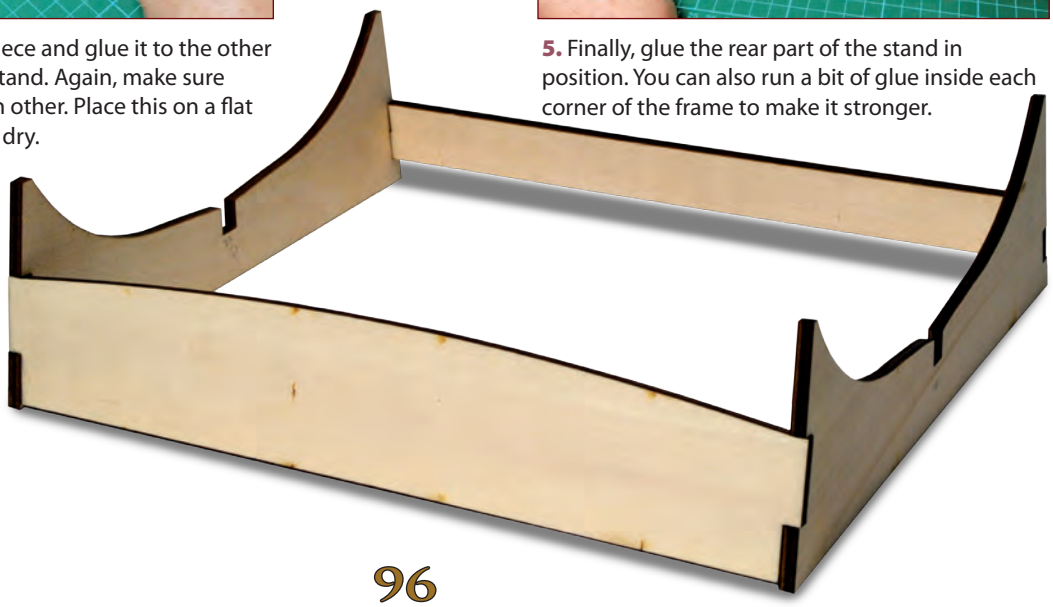


QUICK TIP
Temporarily place the rear part of the stand in position to make sure the sides stay square while the glue dries.

4. Take the other side piece and glue it to the other end of the front of the stand. Again, make sure these are square to each other. Place this on a flat surface and let the glue dry.



5. Finally, glue the rear part of the stand in position. You can also run a bit of glue inside each corner of the frame to make it stronger.

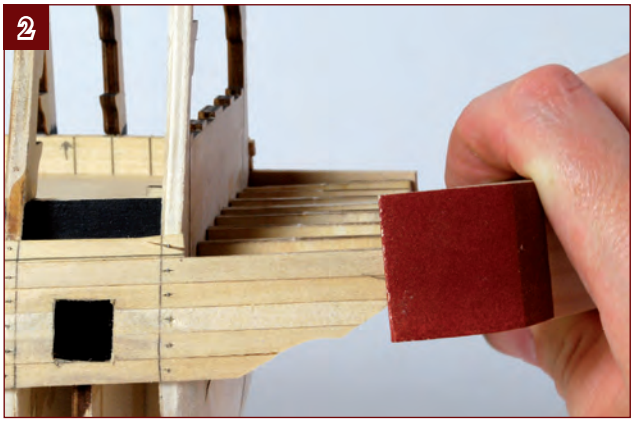


The completed frame will look like this.

Trimming the stern planks

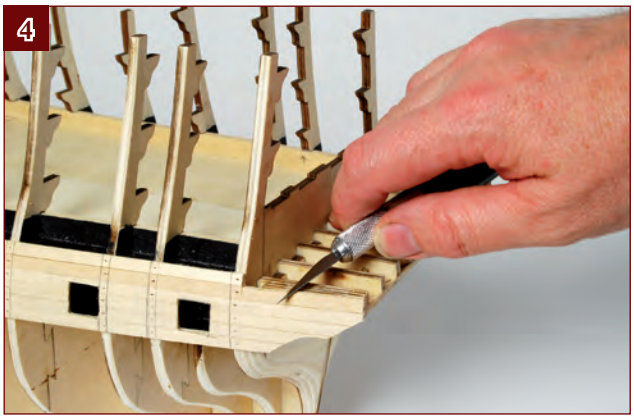
Before continuing upward with the planking, you need to trim the stern planks. This is so that you can use a simple card template as a guide to laying the planks that will later go inside the stern gallery.

1. Carefully trim the overhanging ends of the planks with a sharp knife. They should finish flush with the gallery supports.



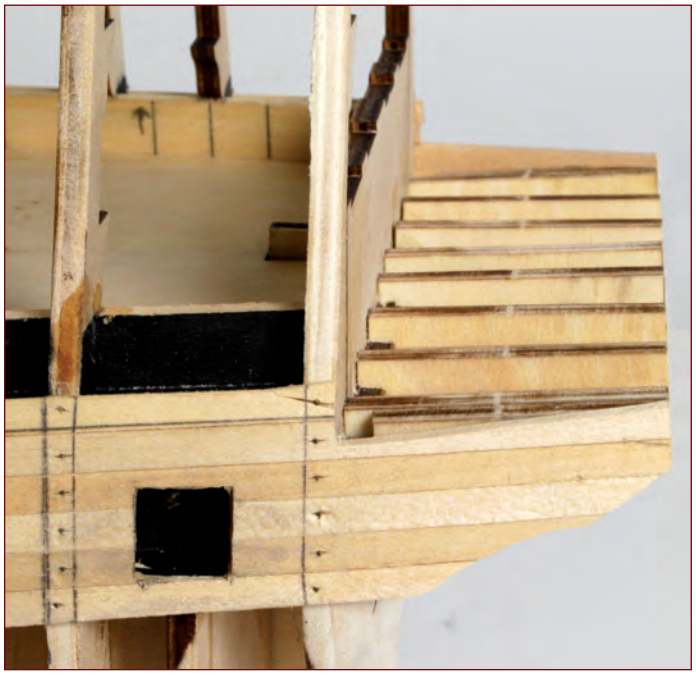
2. Sand the overhanging ends flush with the ends of the gallery supports.

3. Carefully cut the planks flush with frame 30, using a razor saw. Be sure to stop when the saw gets to the tops of the gallery supports.



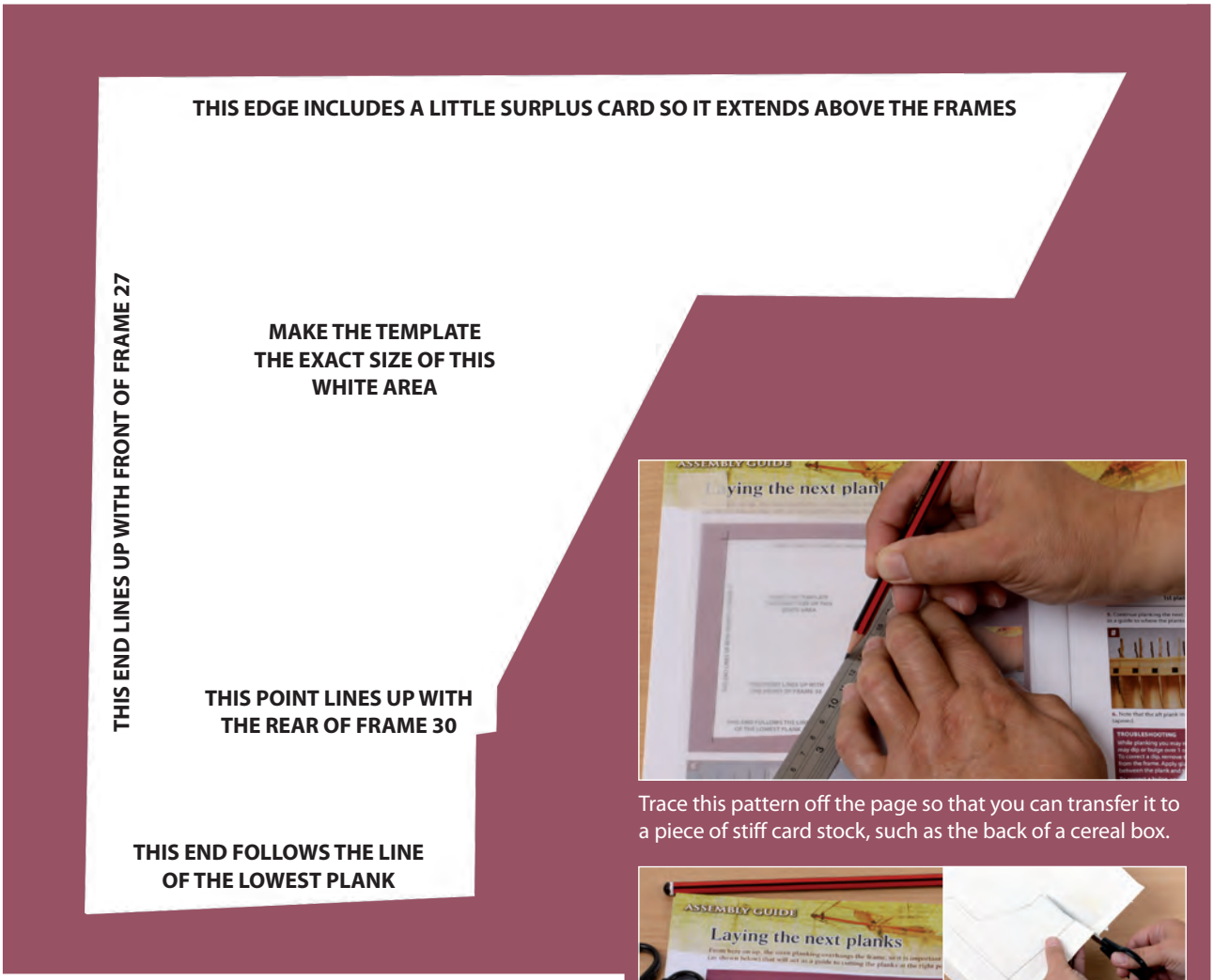
4. Use a craft knife to pare off most of the excess planking, flush with the top of the gallery supports.

5. Finally, use sandpaper to bring the plank flush with the top of the gallery support. When you have finished, the planks should be flush with the gallery support at the top, bottom and end, as shown on the right.



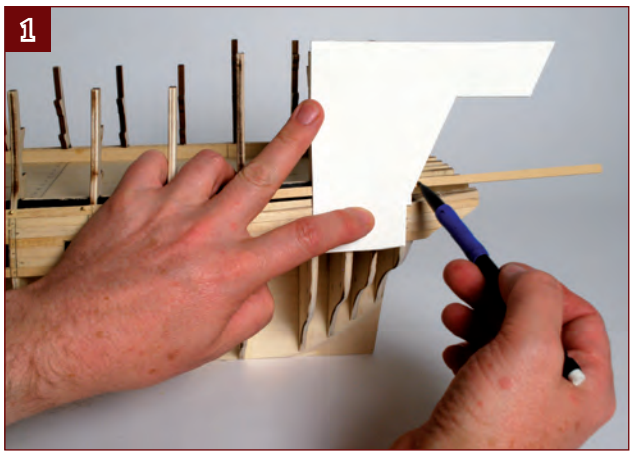
Laying the next planks

From here on up, the stern planking overhangs the framework, so it is important to make a template (as shown below) that will act as a guide to cutting the planks at the right point.

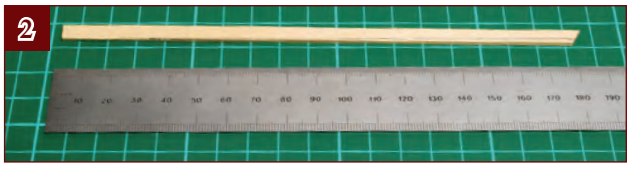


Trace this pattern off the page so that you can transfer it to a piece of stiff card stock, such as the back of a cereal box.

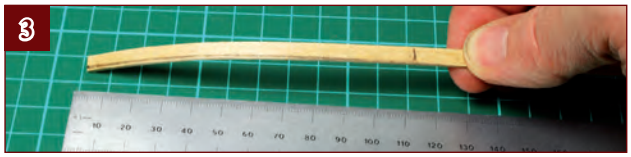
Cut out the pattern and lay it on the page to check that it matches exactly. You can then use it as shown in Step 1.



1. Fit the first plank in layer 7 in the same way as before, between frames 24 and 17. Then fit the aft plank. Hold this in position, and then put the template against the hull. Make sure it lines up with the bottom plank and the front of frame 27. Mark the end of the plank as shown, then cut to length.



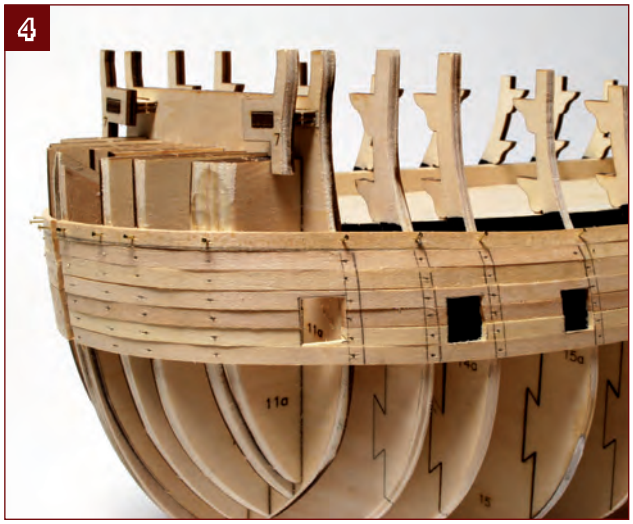
2. This plank needs to be tapered by about 1 mm along its whole length. This is to keep the line of the planks parallel to the deck line, rather than rising toward the stern of the vessel. Sand the taper, then glue and pin the plank in position.



3. To prevent the planking from rising too far around frames 12 to 14 , the forward plank needs to be tapered from about frame 13 toward the bow by about 1 mm. You will need to bend the plank, then draw the guide line for the taper by hand.

TROUBLESHOOTING

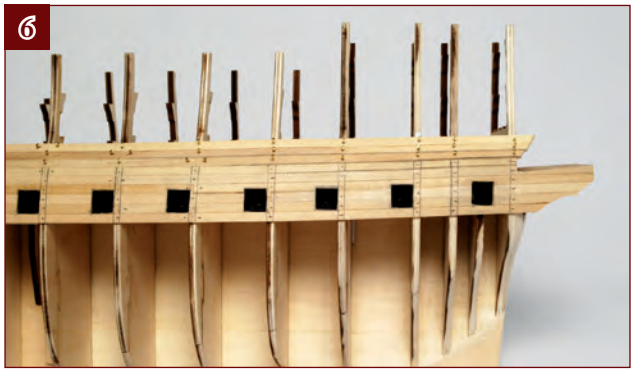
If you haven't faired the frames enough, you may find that the planking will dip or bulge over a frame or two. To correct a dip, remove the pin and ease the plank away from the frame. Apply glue to a thin strip of card, insert it between the plank and the frame, and re-pin. To correct a bulge, unpin and remove the plank. Wipe away any glue, shave a little off the frame and refix the plank.



4. Sand the taper on the plank and then glue and pin it in position. Note that the end pin should be inserted at an angle.

Layer 9	**1st plank from frame 15 to 22**
Layer 8	**1st plank from frame 16 to 23**

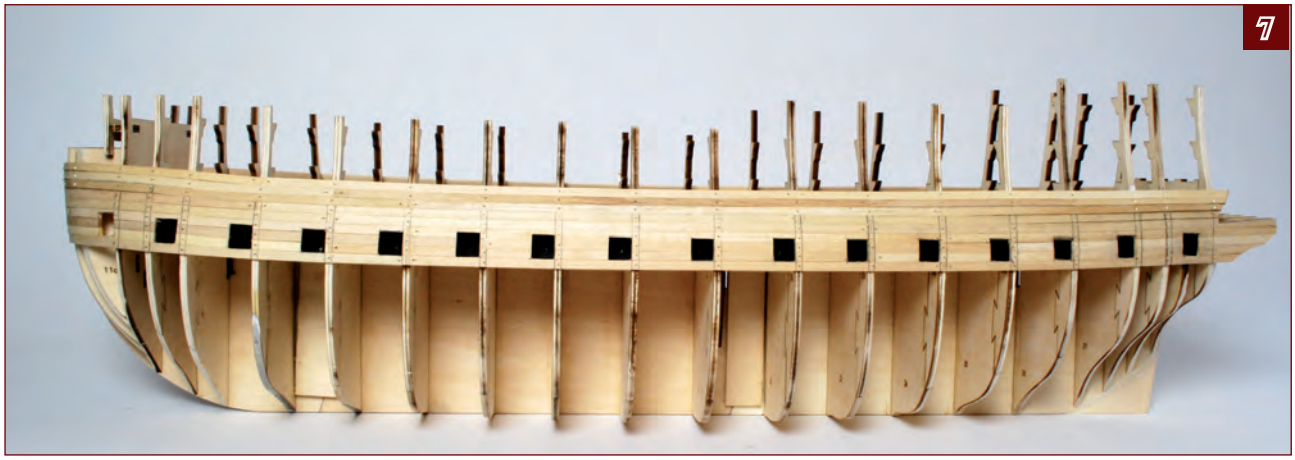
5. Continue planking the next two layers using the checklist above as a guide to where the first planks should be fitted.



6. At the stern, continue using the card pattern to check the overhang. Note that the stern plank in layer 9 does not need to be tapered.

The Cutaway

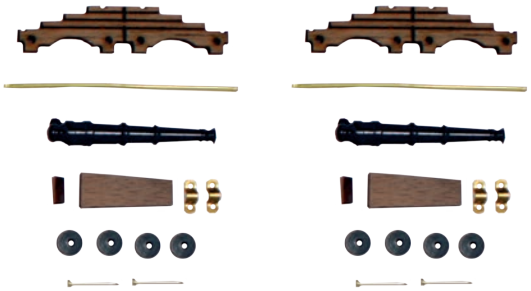
As before, omit planks where the cutaway will be if you are choosing this option.



7. When you have completed the ninth row of planking, remove or trim the pins.

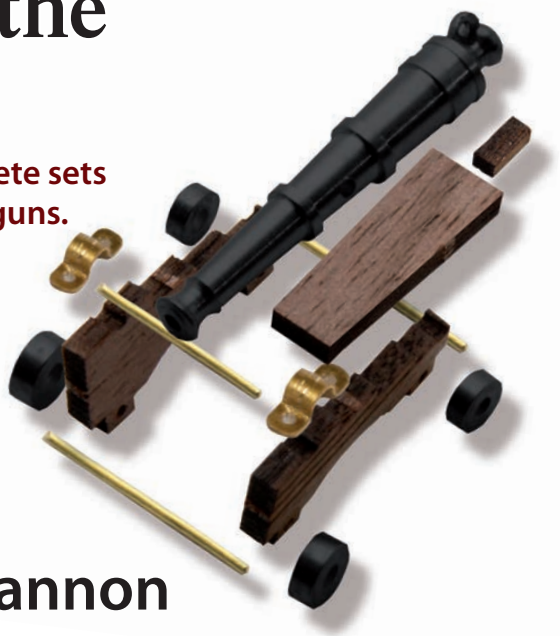
Stage 25: Planking the forward bulkhead

The components with this stage include two complete sets of parts to make two more of *Victory*'s 12-pounder guns.

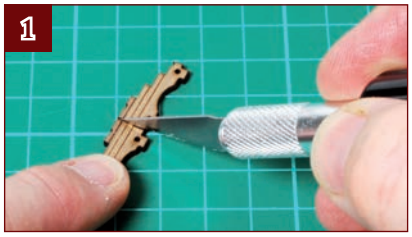


Cannon parts

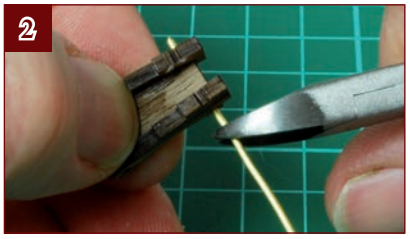
Ensure that you have all the components pictured in this checklist



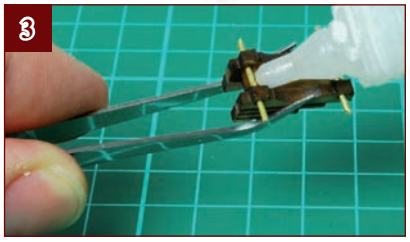
Building your cannon



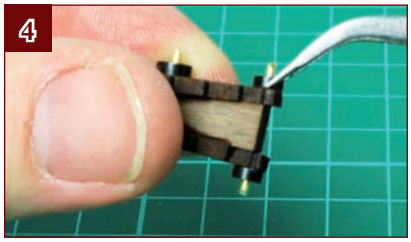
1. Separate the carriage sides. Then place them on either side of the base, with the ridges on the outside and the narrow end of the taper to the front.



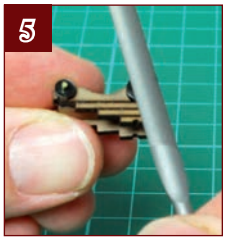
2. Push the brass wire through one pair of axle holes and cut off with about 3 mm protruding on each side. Repeat this with the second axle.



3. Hold the carriage together with the axles centred and the base pushed down against them. Apply a drop of superglue to glue the parts together.

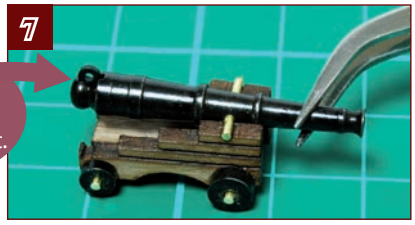


4. Apply a drop of superglue to the front axle and place one of the larger wheels onto it. Glue a smaller wheel to the rear axle. Repeat on the other side.



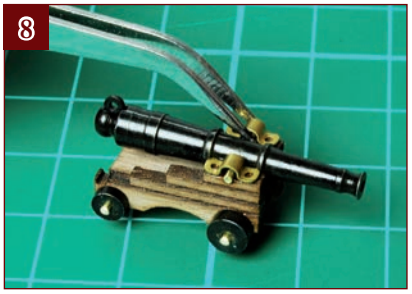
5. File the ends of the axles flat, leaving about 0.5 mm protruding from each wheel.

6. Place the remaining brass wire across the top of the carriage and cut it to length, flush with the sides of the carriage.



Ensure this eye is uppermost.

7. File the ends of the wire flat. Place the wire through the hole in the barrel, then lay the barrel in the carriage. There is no need to glue it yet.

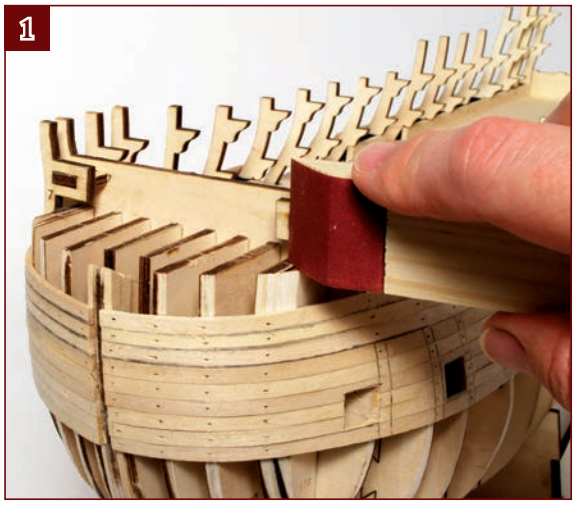


8. Apply a small amount of superglue to the ends of the wire and the top of the carriage. Use a toothpick to avoid getting excess glue on the model. Then use tweezers to glue the brass cap squares over the ends of the wire.

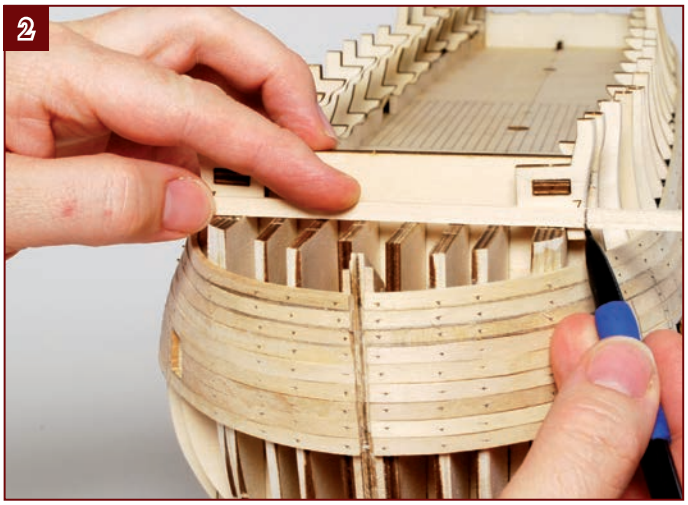
9. Take the remaining piece of wood and cut it into a taper to make the wedge (quoin) that is used to elevate the barrel. Apply a drop of superglue to the taper and glue it under the rear of the barrel.

Planking the forward bulkhead

The front face of what will become *Victory*'s forecastle needs to be finished off with strips of planking fixed across the face of the two small formers (parts 7).



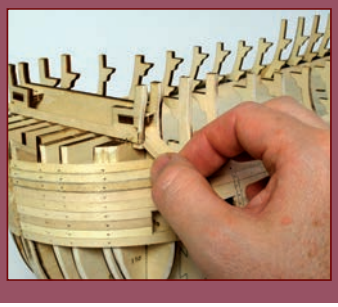
1. If the tabs of parts 7a are protruding through the bow formers 7, sand the front of the bow formers flush.

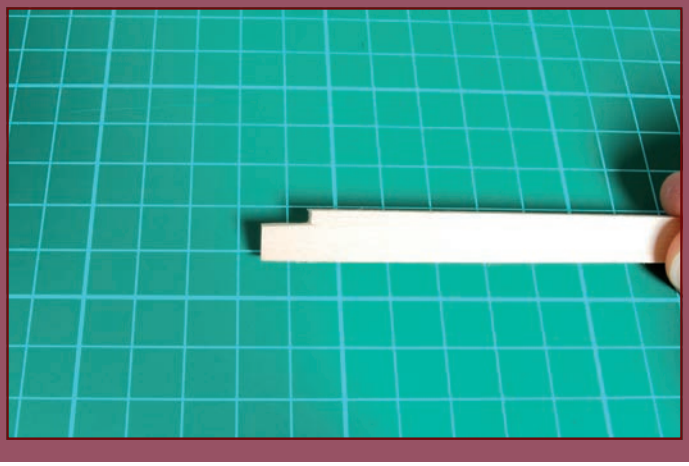


2. Mark a length of plank against the bottom of the bow formers 7, allowing a small overlap of 1 to 2 mm.

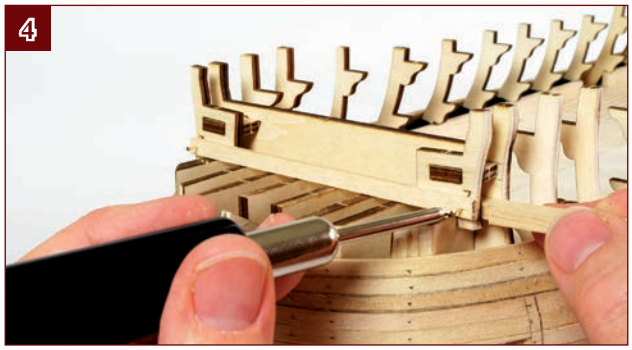
EXPERT TIP

You need to support the two bow formers from behind to prevent them from breaking off when you push the nails in at Step 4. Take a small scrap of wood and carve the end down as shown on the right, so that it just slides in the gap between the bulkhead 12 and the bow former 7. Make the end of the wood just tight enough so that it stays in place without you having to hold it (left).





3. Apply glue where the plank contacts the bow formers 7.



4. Now pin the plank in place, holding the support directly behind the nail. Do not push the pin home, as this will also nail the support in place.

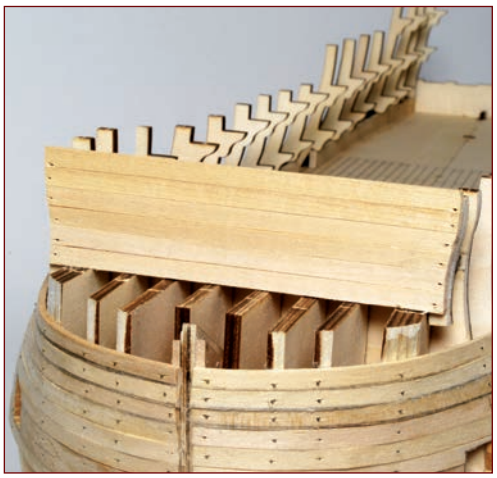
5. Cut a second plank to fit across the formers above the first one, and apply glue to the bottom edge as well as the points where it touches the bow formers.

6. Continue planking to the top of the bow formers. Note that the last plank extends above the frames. Let the glue dry thoroughly, preferably overnight.

7. Remove all the pins, as this area will be covered by detail parts later on.

8. Carefully trim the ends of the planks close to parts 7. Do not trim the top of the last plank. Leave it for now as you will cut it to height later on.

9. Finally, sand the ends of the planks flush with parts 7, and following the curve of the bow.



Cutting the stern gun ports

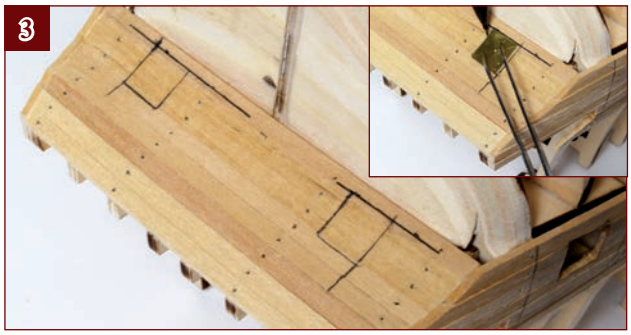
There are two gun ports to be cut underneath the gallery support. The process is similar to cutting the gun ports in the sides of the hull, except that part of the holes have frames behind them.

1. Draw two short lines parallel to the planking, 4 mm from the face of frame 34.

QUICK TIP

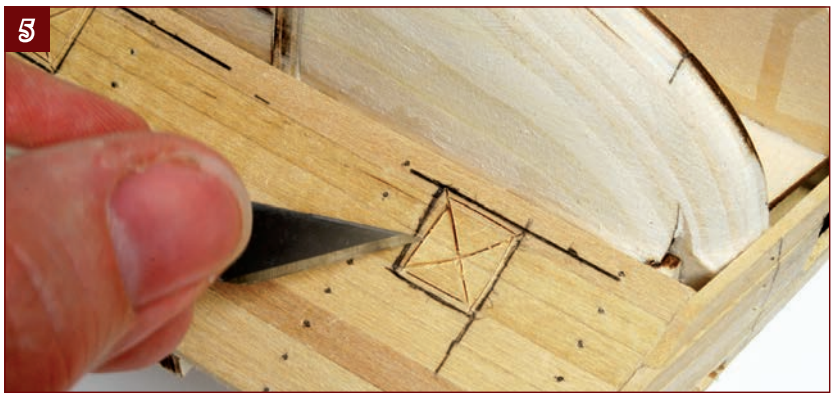
If you made a template for cutting the gun ports (see Stage 23), you will find it comes in handy again when marking out these ports.

2. Draw two lines at right angles to the first two, positioning them 24 mm from the edge of the gallery support at the point where you drew the first lines.



3. Now use a ruler (or your template, if you made one to cut the earlier ports) to measure two 12-mm squares starting at these corners. This completes the outline of the gun ports.

4. Cut diagonal crosses from corner to corner. Note that you will not be able to cut right through the planking at the points where the gallery support brackets 32 are behind it.



5. Cut a square just within the edge of the gun port. Again, the gallery support 32 will resist the knife blade at a couple of points. However, you should try to cut all the way through the planks. It does not matter if you cut into the former a little.

6. Remove the inboard triangle first – this should be free of the gallery support.

7. Next remove the top and bottom triangles, which are partially retained by the gallery support brackets. Use a pair of long-nose pliers to break the planks away from the bracket once you have cut through the planks completely.

8. You may need to use a narrow chisel to remove the last triangle of wood.

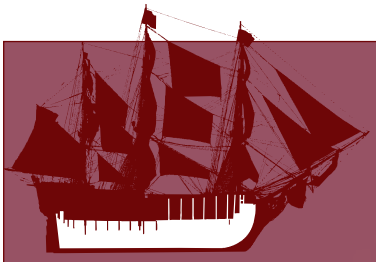
9. Carefully pare away the wood to the final size. The bracket will make it a little tricky to sand all of the sides, but you should be able to end up with a good finish through careful use of a craft knife.

Stage 26: Planking the bow

The components provided with this stage include more strips of wood for planking *Victory*'s hull.

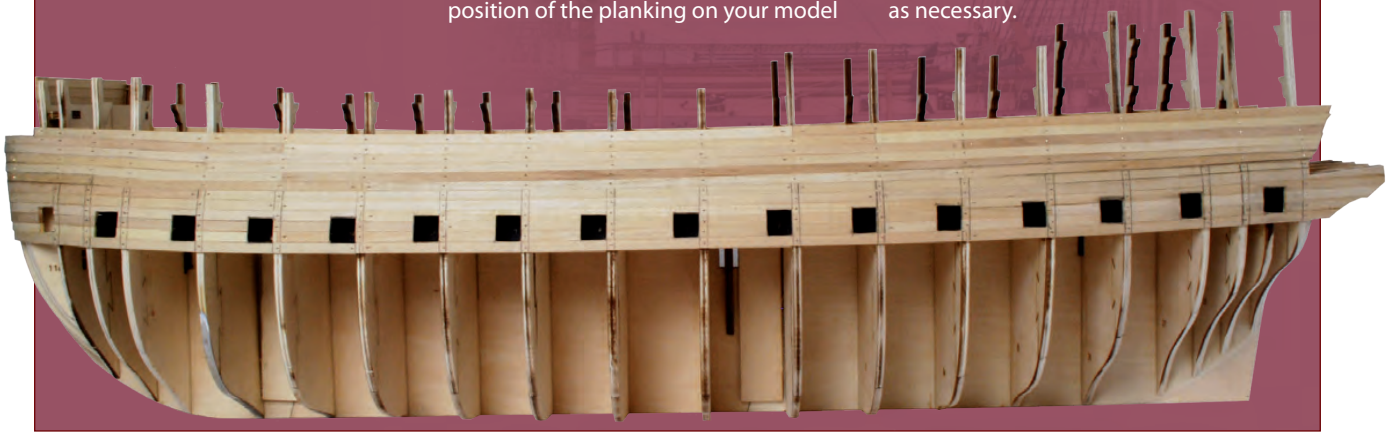
Wooden strips

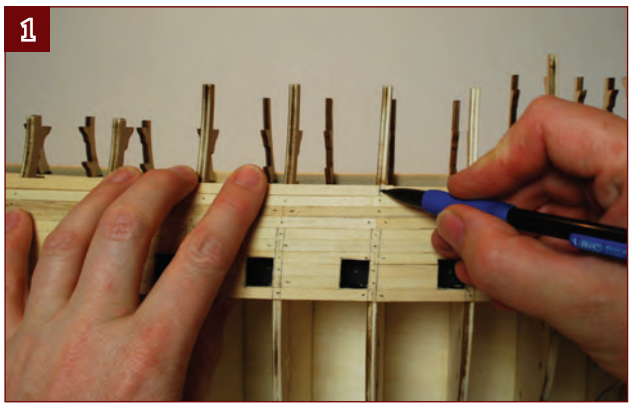
20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins



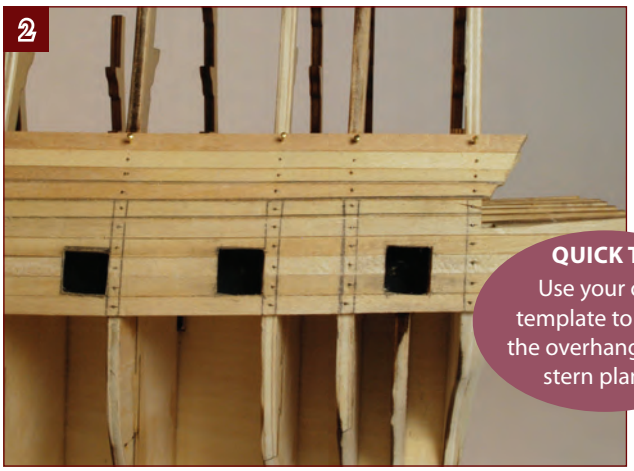
Where the parts fit

This stage continues the planking up to Layer 12. As before, the pictures in the steps show only one side of the ship, but you should plank evenly on both sides of the model, repeating each step on the opposite side before moving on to the next one. Note that as you get higher up the hull, you can expect the position of the planking on your model to vary slightly from that shown. This is due to numerous small variations that will gradually add up. (These variations may include slightly different fairing of the hull, different tapers on the planks, etc.) The steps give as much guidance as possible, but you should try each plank on your own model and adjust it to fit as necessary.



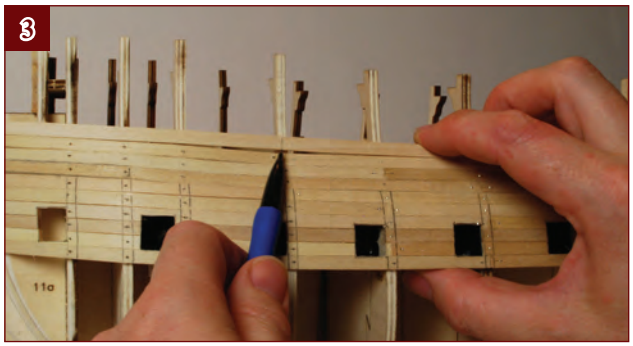


1. Fit the first plank of Layer 10 between frames 17 and 24. As before, chamfer its edge to get a good fit. As the side of the hull is not so curved, less chamfering will be needed. But even if no chamfer is needed, sand the bottom edge of the plank lightly, as this will give you a closer join between the planks.

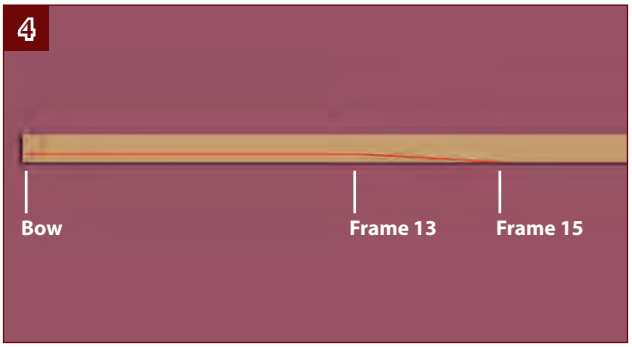


QUICK TIP
Use your card template to check the overhang of the stern planks.

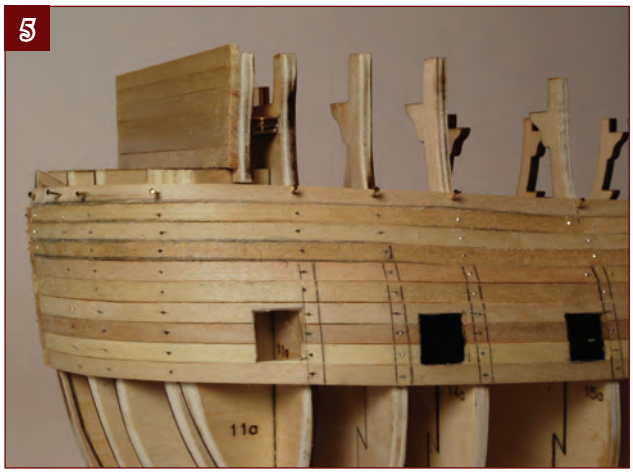
2. The stern planks should not need tapering. Just check that they run parallel to the line of the deck. Use the card template (see Stage 24) to check the overhang at the stern.



3. When you try the bow plank in position, it will probably leave a gap in the middle. However, the size and position of the gap will depend on how much you have tapered the bow planks, which will vary from model to model. Make a mark at the widest part of the gap (in this case, around frame 15) and also where it starts to open up (here it's around frame 13).



4. This diagram shows how to trim the plank. Make the bow section narrower than the rest of the plank by the width of the gap. Then form a short taper over the length of the gap (in this case, it runs from frame 13 to frame 15). As the gap on your model may be different, adapt this plan to your model. Trim the plank gradually and keep trying it against the hull.



5. A well-fitted plank should give a perfect join, with no gaps between the planks as they curve around the bows.

6. On the next row (Layer 11), fit the first plank from frames 16-23, and fit the aft plank from frame 23 to the stern overhang.

EXPERT TIP

Before fixing the bow planks in Layer 11, try them in place against the bow formers as shown below. Your next step depends on the level of the planks, which can vary from model to model:

- If the planks are level with or above the formers, see **Step 7A**.
- If the tops of the formers project above the planks, see **Step 7B**.

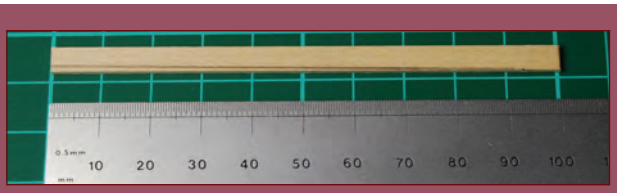
7A (see Expert Tip). If the bow plank in Layer 11 ends up flush with the top of the bow formers (or just above them), you can fix it in the usual way. This will be the last layer of planks that extends right to the bow. Don't try to trim the top edge of the bow planking, as you will do this at a later stage.

7B (see Expert Tip). If the bow plank in Layer 11 ends up below the tops of the bow formers, you will need to add bow planks in Layer 12. To ensure that there is enough support for them, taper the ends of the planks in Layer 11, starting back at frame 13 and reducing their width to around 3 mm at the end.

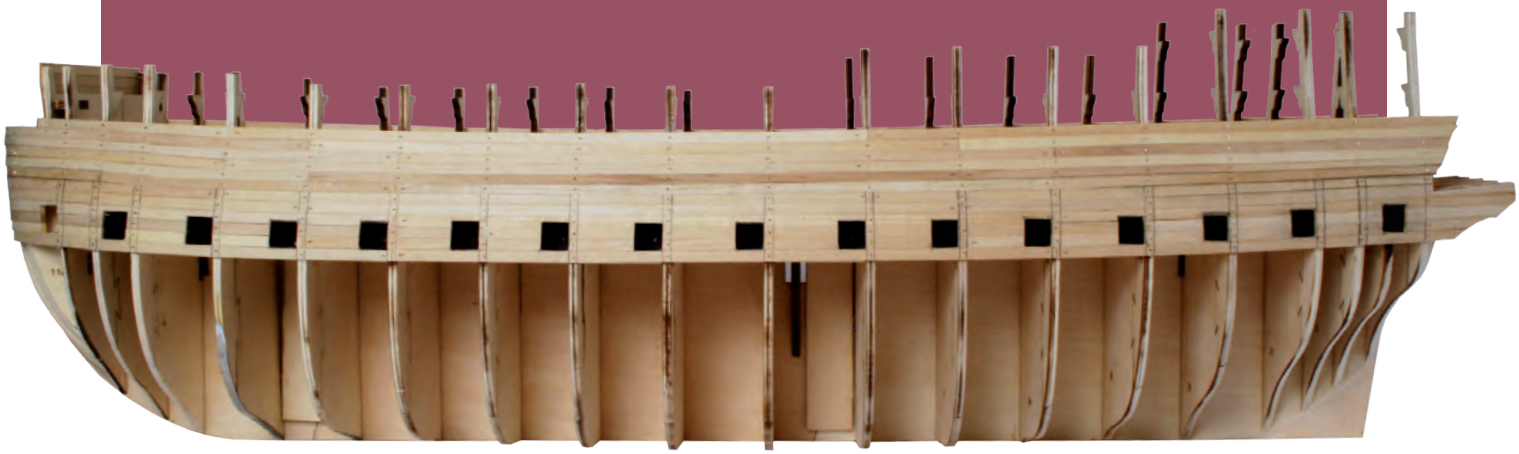
EXPERT TIP

Continue the planking with Layer 12. Start by fixing the first plank between frames 15 and 22, then add the stern planks, checking the overhang with your card template as before. What you then do at the bows depends on whether you followed **Step 7A** or **Step 7B**.

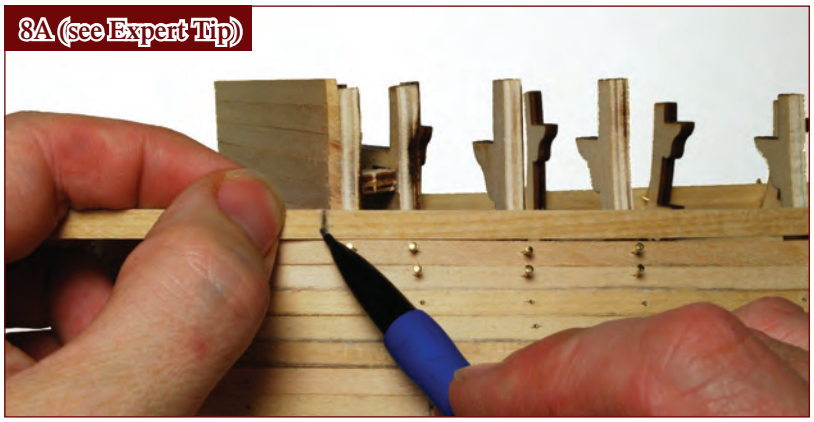
- If you followed **Step 7A**, the foremost plank stops at the forward bulkhead, as shown in **Step 8A**.
- If you followed **Step 7B**, the foremost plank needs to be curved around the bow, as shown in **Step 8B**.



Gently taper the bow planks in Layer 12. If they stop at the bulkhead, taper them from the full width at frame 15 by about 1 mm at the bulkhead. If they continue to the bows, increase the taper to about 2 mm by the end of the plank.



8A (see Expert Tip)



8A (see Expert Tip). If you followed Step 7A, the bow planking was completed by the last planks of Layer 11, so Layer 12 needs to stop at the forward bulkhead. Mark and cut the foremost plank so it extends just past the bulkhead, leaving a few millimetres overlap that will be trimmed back later. Taper the plank by about 1 mm toward the bows, then glue and pin it in place.

Ensure the pin goes into the plywood, not the planking.

8B (see Expert Tip)

Fix the bow planking to the projecting tops of the formers.

8B (see Expert Tip). If you followed Step 7B, the bow planking will not have been completed in Layer 11, so Layer 12 needs to continue beyond the forward bulkhead. Taper the end of the bow plank by about 2 mm, then bend it and fix it as you have done with the planks in the lower layers. It will extend above the projecting ends of the bow formers but do not try to trim the upper edge at this stage, as you will be doing so at a later point of the assembly.

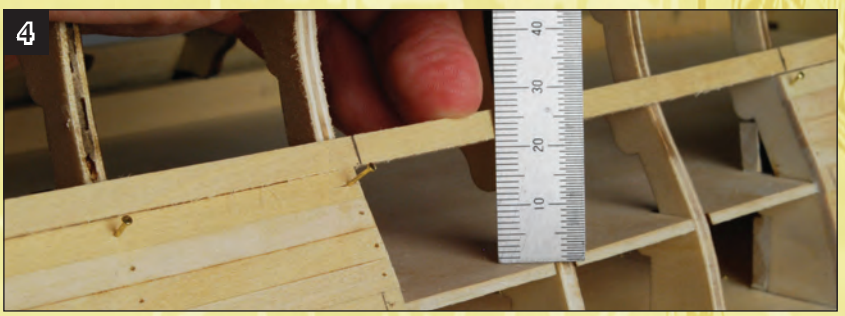
The Cutaway

Layers 10, 11 and 12 complete the top of the cutaway. From here onward, the planking will be identical to the plain hull.

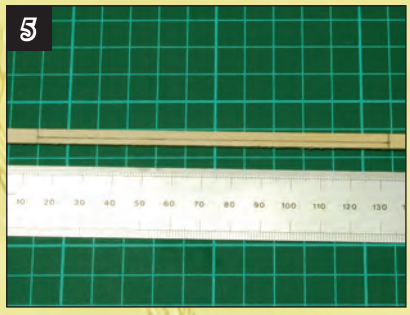
1. Fit the first row of planks (Layer 10), leaving the cutaway area open as you have done on the lower layers.

2. As before, sand the edges of the cutaway, so that the planks finish flush with the frames. An emery board (nail file) is ideal for this.

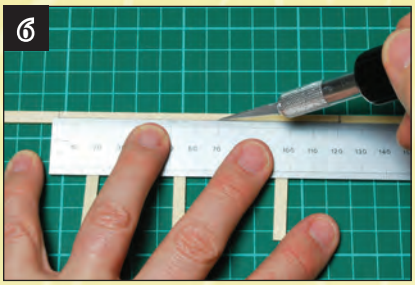
3. The first plank of Layer 11 fits between frame 16 and 23. Mark it to length and also mark the positions of the edges of the cutaway.



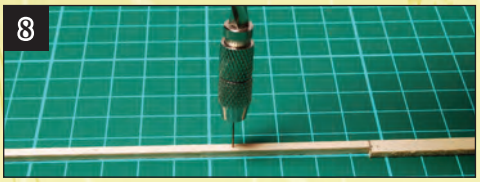
4. Measure the distance from the deck to the bottom of the plank. Make sure you measure the vertical height, rather than following the angle of the planking. This example is 21 mm. As the height of the cutaway needs to be 23 mm, we need to cut away 2 mm from the plank. Your measurements may be slightly different.



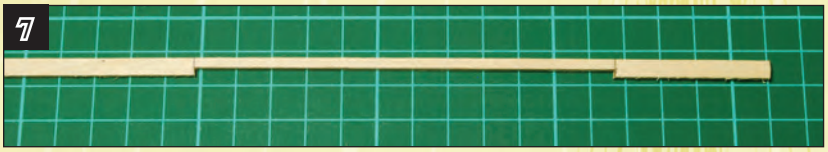
5. Mark the plank to indicate the area to be cut out. This example is 2 mm but yours may be slightly larger or smaller depending on your measurements.



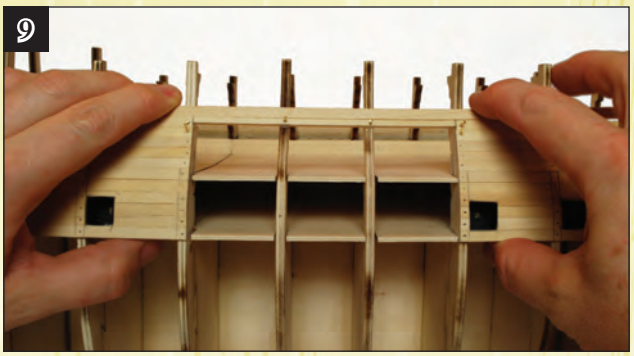
6. Use some scraps of wood to hold the ruler level, then cut out the marked recess. Use a series of light cuts and cut just inside the lines, to leave an allowance for sanding the recess after the plank has been glued in position.



8. Mark and drill pilot holes for the nails where they will be fixed to frames 17 to 20 to prevent splitting the narrow plank.



7. The plank should look similar to this after it's cut.



9. Glue and pin the plank in position. Hold a spare plank above the cutaway to make sure the plank at the top of the cutaway remains straight when you insert the pins.

10. Complete the Layer 12 of planking above the cutaway, in the same way as in the main instructions.

Stage 27: Cutting more gun ports

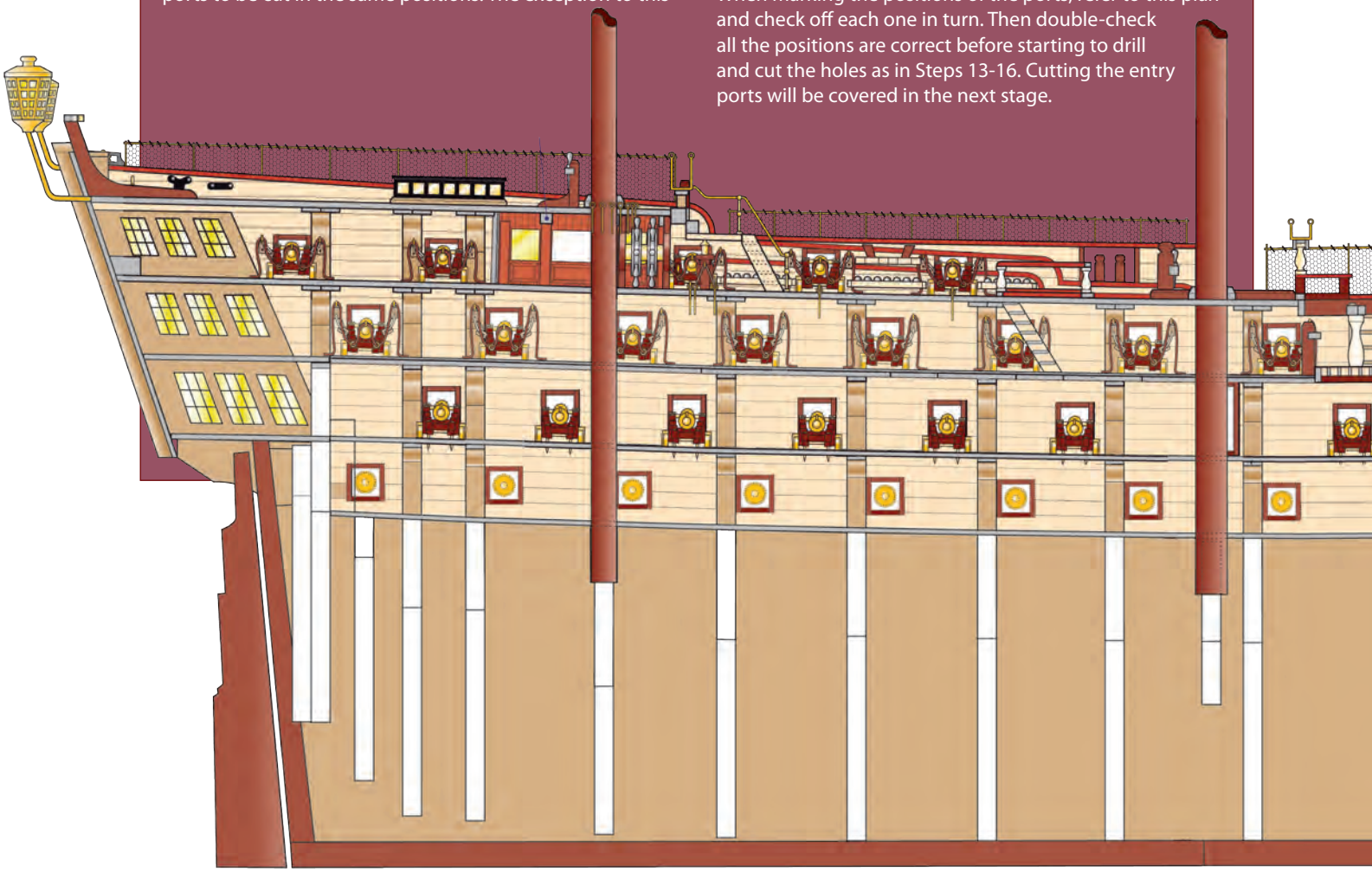
The components with this stage include more planking for *Victory*'s hull, plus wood for the cannon support bars.

Wooden strips

20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins
2 wooden strips 6 x 4 mm, 300 mm long, for making cannon supports

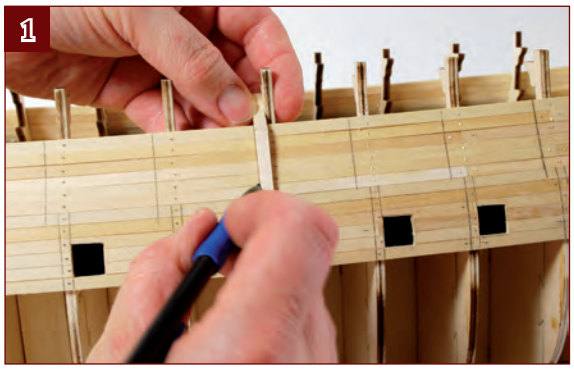
Positioning the gun ports

The plan below (continued on next page) shows the positions of the gun ports to be cut through the hull planking. Although we only show one side in the steps, both sides of the ship have identical features and need gun ports to be cut in the same positions. The exception to this is if you are including a cutaway on the starboard side, where you can simply ignore the gun ports that would otherwise be cut in this area. This stage covers the gun ports on the middle gun deck. As you can see on the plan, there are 15 gun ports on each side, plus the larger entry ports in line with the main mast. The ports are positioned between the hull frames – except in the case of the ports closest to the bows, which are in line with some of the bow formers. When marking the positions of the ports, refer to this plan and check off each one in turn. Then double-check all the positions are correct before starting to drill and cut the holes as in Steps 13-16. Cutting the entry ports will be covered in the next stage.



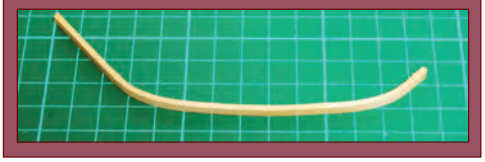
Cutting the gun ports

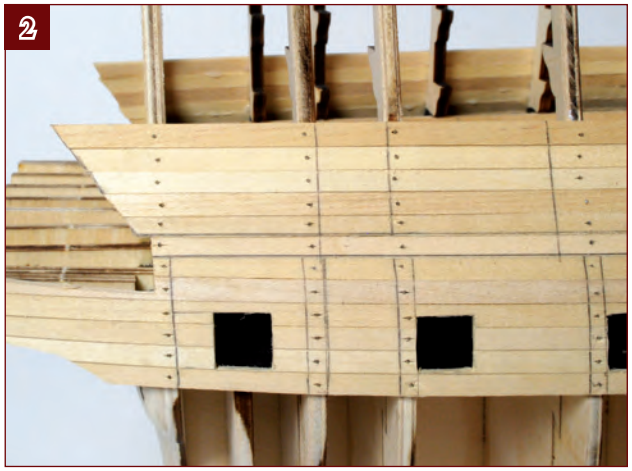
With the planking complete, you can mark and cut out the middle gun ports. A couple of easily made marking gauges will help to position them evenly.



1. Use a strip of wood (see Quick Tip) as a marking gauge to draw a line 4.5 mm aft of the frames. Do this for all the frames except for those mentioned in Steps 2 and 3.

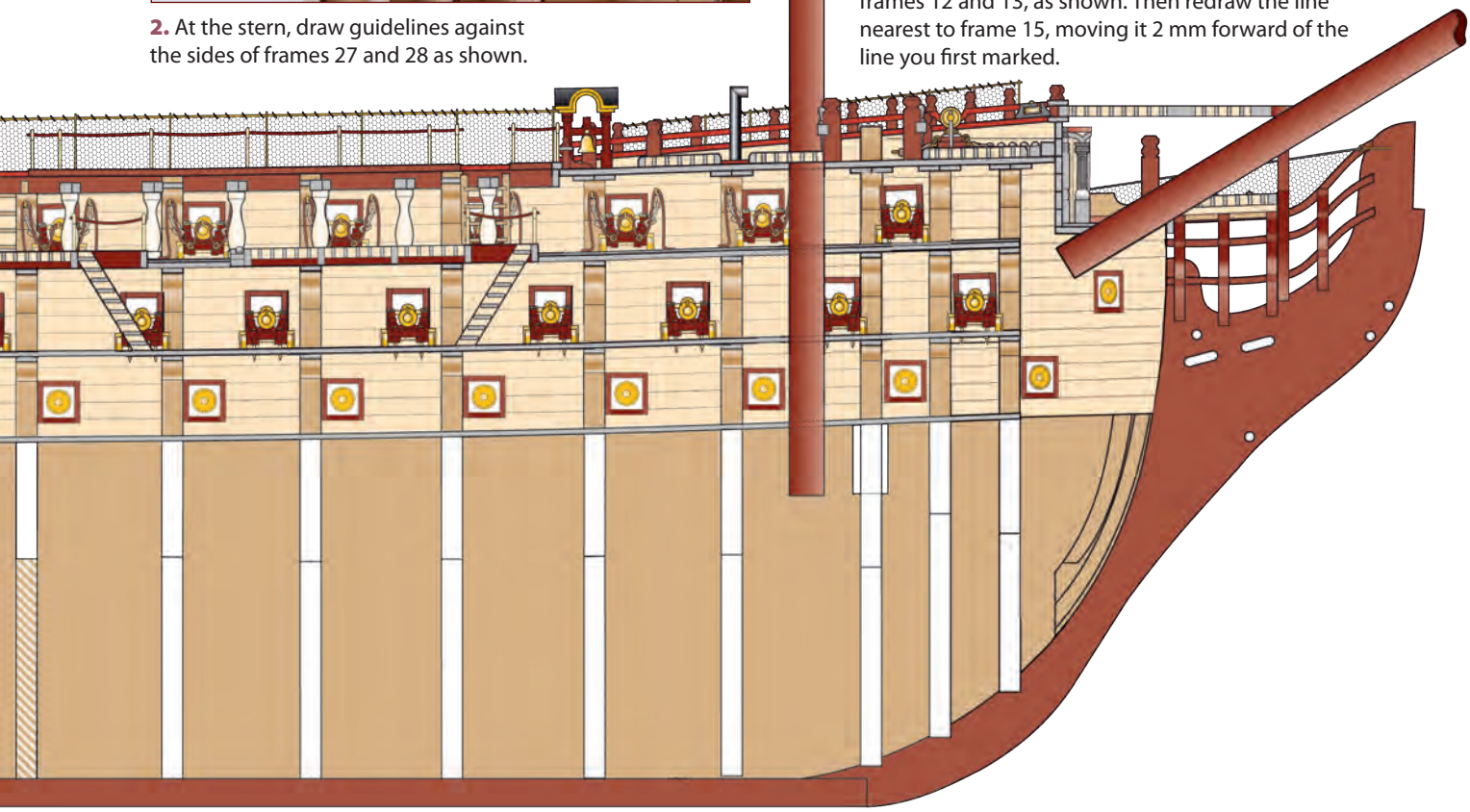
QUICK TIP
Make a marking gauge from a piece of plank about 150 mm long. Slice off 0.5 mm to make the plank 4.5 mm wide, then bend it to a curve to fit the side of the hull, similar to the jig you made to mark the lower gun ports.





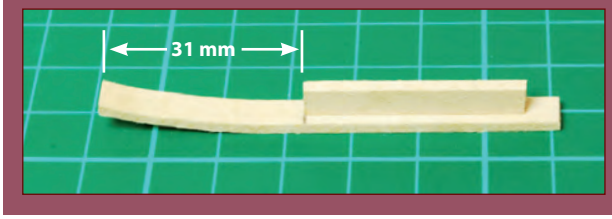
2. At the stern, draw guidelines against the sides of frames 27 and 28 as shown.

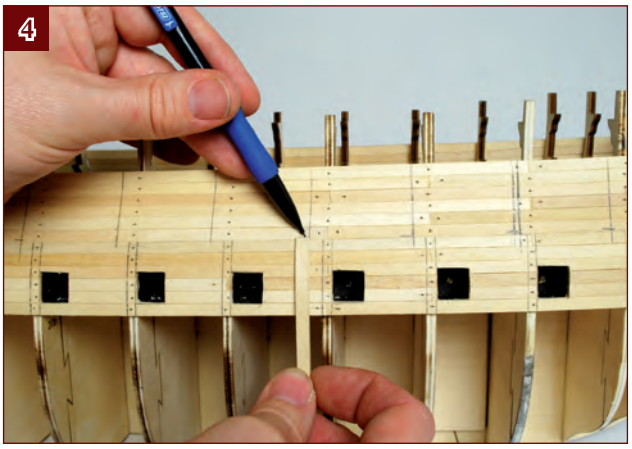
3. At the bows, draw lines directly against the sides of frames 12 and 13, as shown. Then redraw the line nearest to frame 15, moving it 2 mm forward of the line you first marked.



QUICK TIP

Make a gauge to mark the height of the gun ports, which are 31 mm above the bottom edge of the lowest plank. Take a piece of planking about 70 mm long. Bend the top 25 mm in a gentle curve and draw a line across it, 31 mm from the end. Then take a second scrap of plank about 35 mm long. Glue it edge-on, with one end against the pencil mark, to form a stop. You can use a ruler to check that the distance between the stop and the end of the jig is exactly 31 mm, and adjust it with sandpaper if necessary.



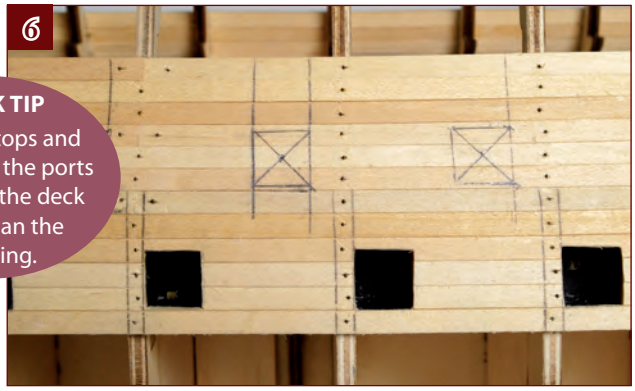


4. Hold the jig against the bottom plank and draw a line across the top of the jig to mark the bottom of the gun port. Repeat this at every port position, including the entry port.

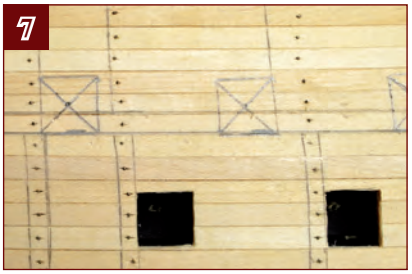
QUICK TIP

Mark the tops and bottoms of the ports parallel to the deck rather than the planking.

5. Using the 12-mm square jig you made for marking the lower gun ports (Stage 23), or a ruler, mark the gun ports according to the photos and diagram. Don't forget to mark the port against the forward line at frame 15.

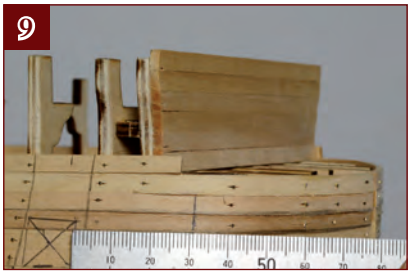


6. Extend the vertical lines both up and down to mark out the entry port between frame 21 and 22. You can leave marking the top and bottom of the entry port until later.



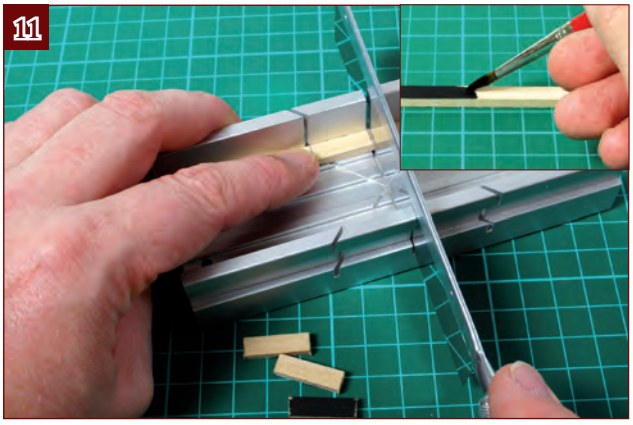
7. The gun port between frames 27 and 28 should be flush with the edge of frame 28.

8. The gun port by frame 25 should be drawn approximately 1 mm closer toward the bows than the marked line.

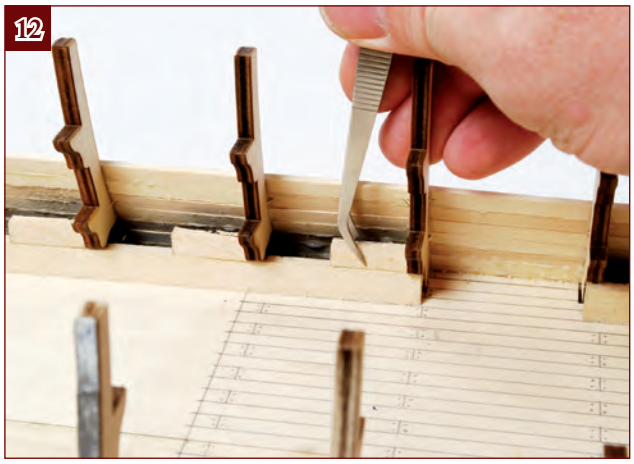


9. There is one further gun port to cut at the bow. Draw a line 31 mm forward of the front of the gun port next to frame 12.

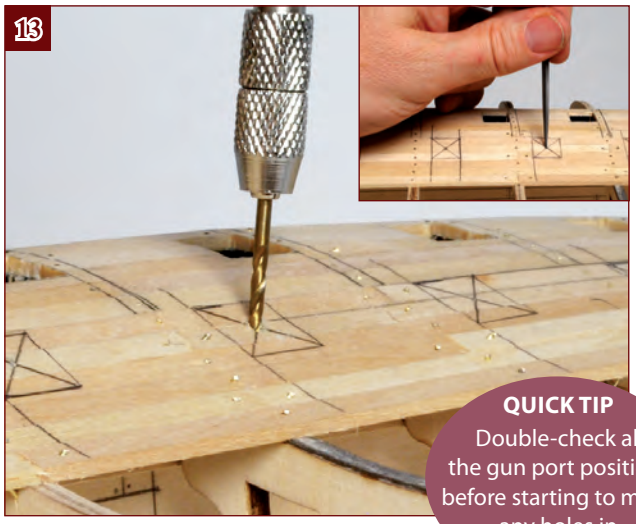
10. Use the jig you made earlier to mark the height of the port, and then mark out the square for the gun port.



11. Take both strips provided for the cannon supports and paint one side black, taking care not to get paint on the edges. Mark out and cut 24 pieces 20 mm long, and 4 pieces 15 mm long. A razor saw and mitre block are the easiest tools for doing this neatly.



12. Glue the cannon supports on top of the support beams, with the black-painted side facing the planking. Line up the supports behind the gun ports that you have marked, to ensure that they will provide good support for the cannons. Note that the shorter strips are for the bow and stern. Let the glue dry overnight before continuing.



QUICK TIP
Double-check all the gun port positions before starting to make any holes in the hull.

13. Use any sharp-pointed tool to mark a small hole in the centre of each gun port to help position the drill accurately. Drill a hole through the centre of each gun port using a 2-mm drill bit.

QUICK TIPS
Ignore any splinters, dust and pieces of wood that fall inside the hull. You can use a vacuum cleaner to remove this debris later.

14. Continue drilling to make a hole in the support behind each gun port. Hold a ruler against the underside of the deck to help you keep the drill upright and parallel to the deck.

15. Cut diagonal lines from the corners of the gun ports to the hole in the centre. Then cut away the triangles of wood, leaving about 1 mm around the edge of each gun port.

QUICK TIP
You will need to use a small chisel to remove the wood from the gun port in the bow.

16. Carefully pare away the wood at the edges of the gun ports, leaving just a little to sand out to the final size.

17. Sand the edges of the ports. An emery board (nail file) is ideal for this.

The Cutaway

Repeat the main steps to cut the gun ports on the opposite (port) side of the hull. Simply ignore the gun ports that would otherwise fall in the area which you have left unplanked.

Stage 28: Cutting the entry ports

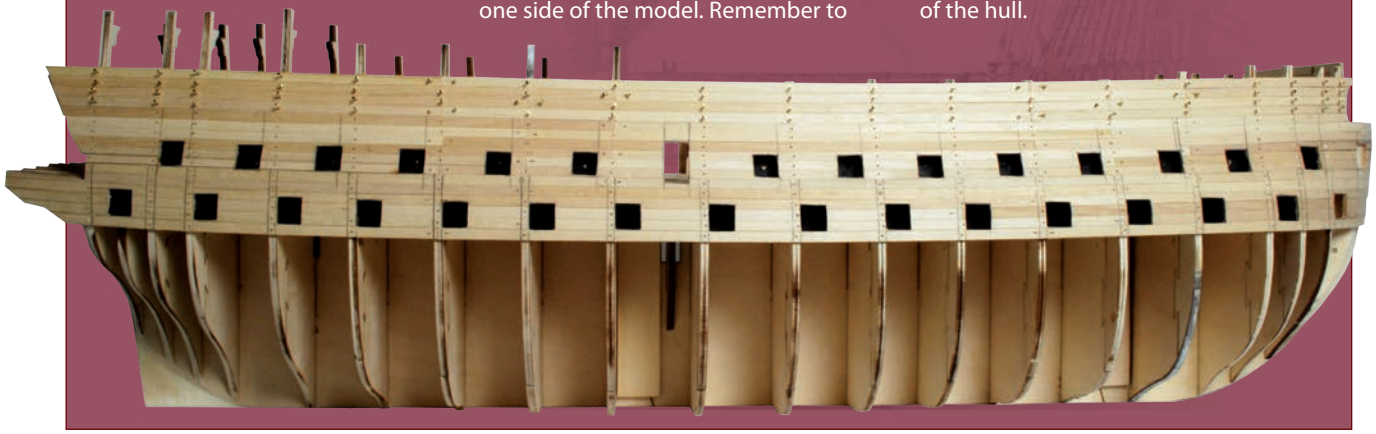
The components provided with this stage include more strips of wood for planking *Victory*'s hull.

Wooden strips

20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins

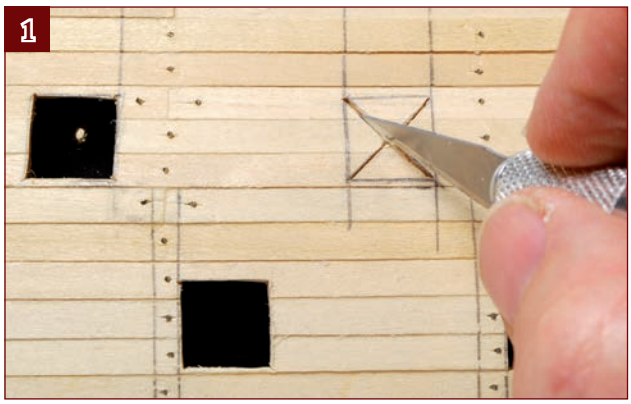
Where the parts fit

This stage completes the entry ports on the middle gun deck, then continues the planking upward from Layer 13. As the planks on the quarterdeck will be visible from both sides, remove all excess glue from them – both inside and out. As usual, the steps only show one side of the model. Remember to plank evenly, left and right, to avoid uneven pressure that might distort the hull. You will be cutting various short lengths of planking and it pays to keep all the larger offcuts. These pieces will be useful for filling in smaller areas when planking the lower part of the hull.

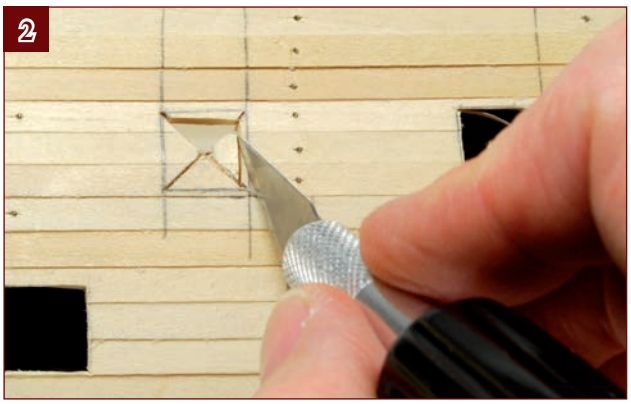


Cutting the entry ports

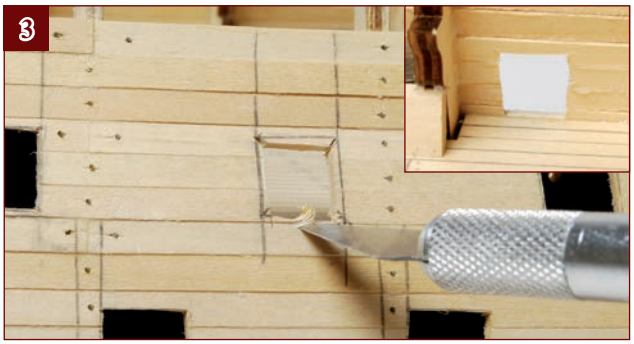
The entry ports on the middle gun deck – one on each side of the hull – are formed by extending the remaining squares that you marked in the row of gun ports, between frames 21 and 22.



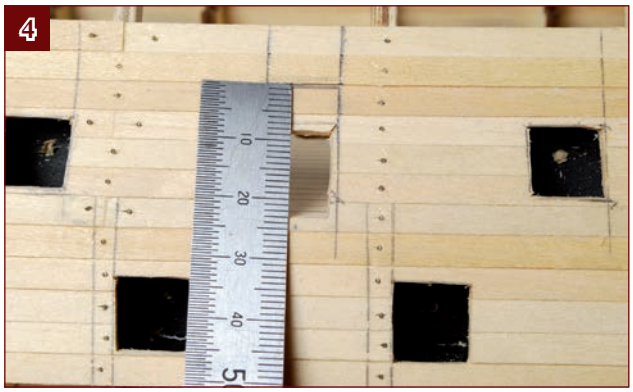
1. Check that your craft knife has a sharp blade, and then cut from the corners to the centre as you did for the gun ports.



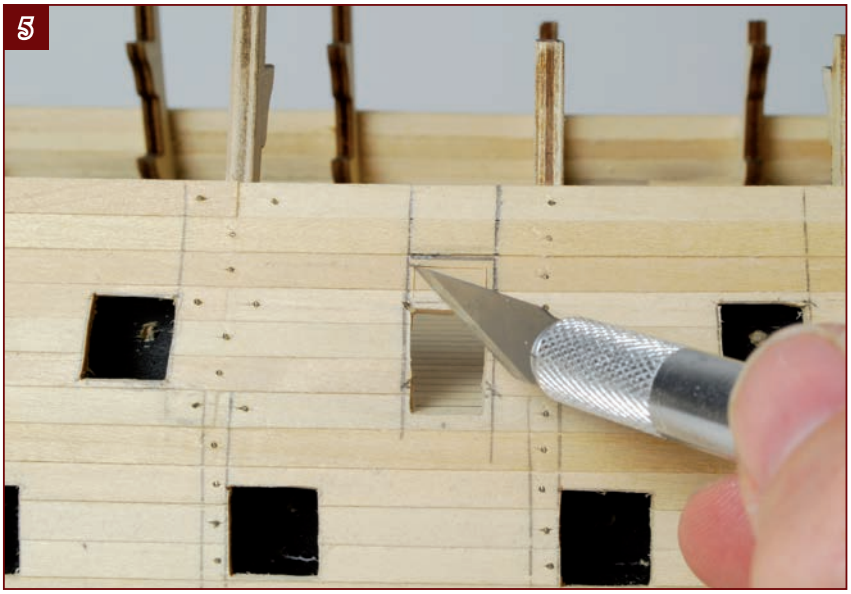
2. Now cut away the small triangles of wood, leaving about 1 mm allowance to the marked pencil lines for final trimming.



3. Carefully trim away the wood at the bottom of the entry port to extend the hole down until it is flush with the deck. Do this in small steps, checking from the inside (inset) as well as the outside of the hull.

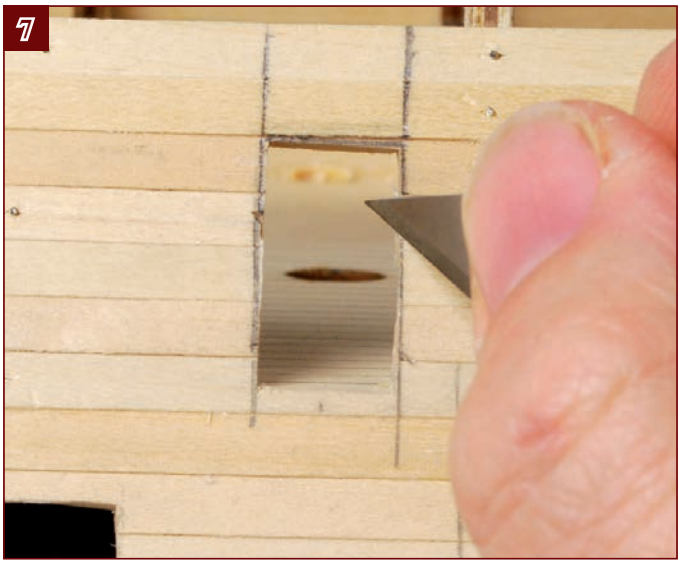


4. Measure 23 mm from the bottom of the entry port, in order to mark the top of the entry port with a pencil line.



5. Remove the wood from the top of the entry port, again leaving about 1 mm spare for final trimming.

6. The port should now have the bottom edge smooth and flush with the deck, while the top and sides still have a 1 mm allowance for trimming.

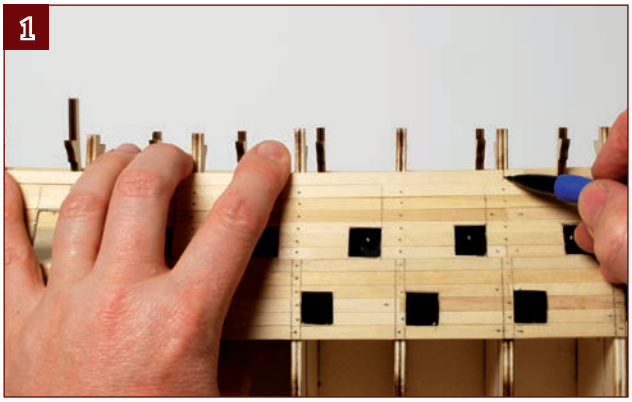


7. Carefully pare out the port to almost the finished size, leaving just a small allowance for sanding.

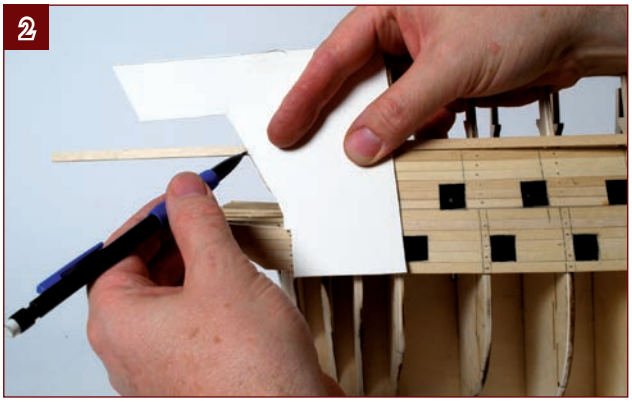
8. Finish off the edges of the entry port with an emery board/nail file.

Continuing the planking

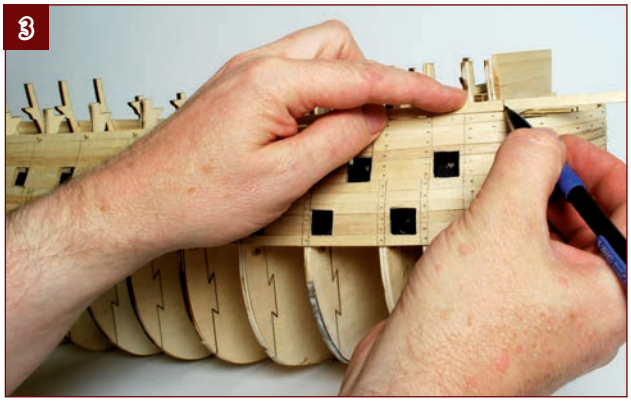
Carry on planking the hull up to the level of the shortest rib frames, which are located in the area of the quarterdeck.



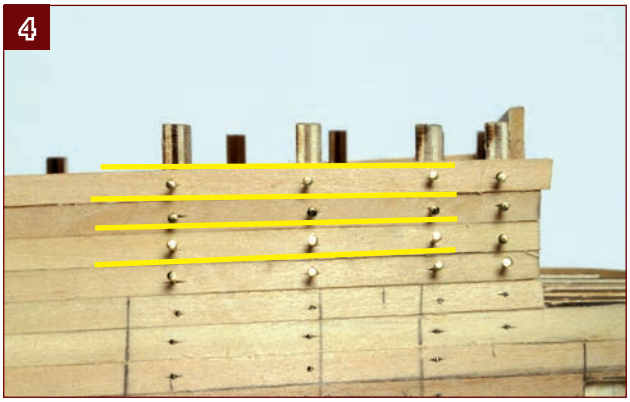
1. Place the first plank of Layer 13 in position between frames 17 and 24. Mark and cut it to length, then chamfer the edge and glue and pin the plank in position.



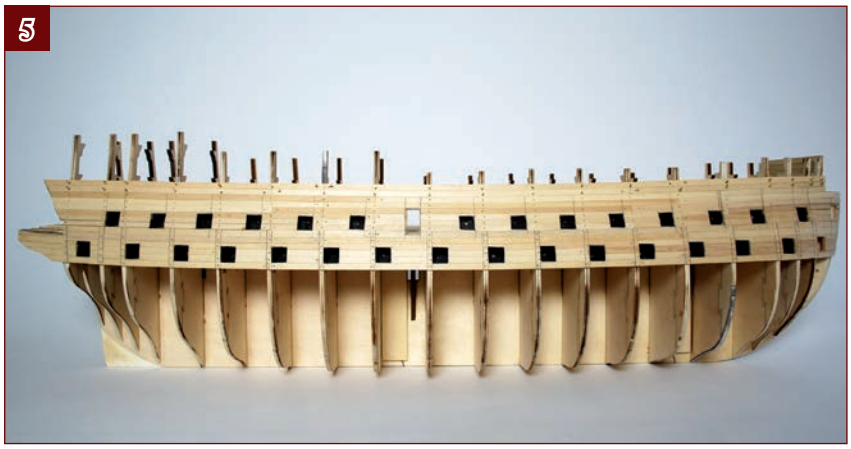
2. Fit the stern plank, using your card template as a guide to cutting the overhanging end of the plank.



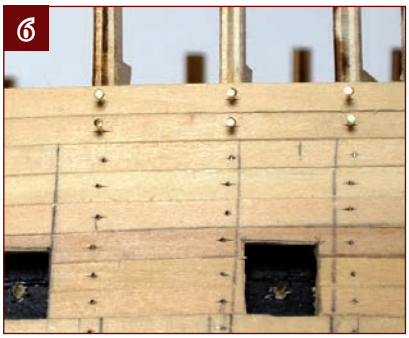
3. Fit the forward plank, cutting it so that it overhangs the forward bulkhead by a few millimetres. Note that if your model required Layer 12 to curve all the way around to complete the bow planking, this may be the first layer that stops at this point.



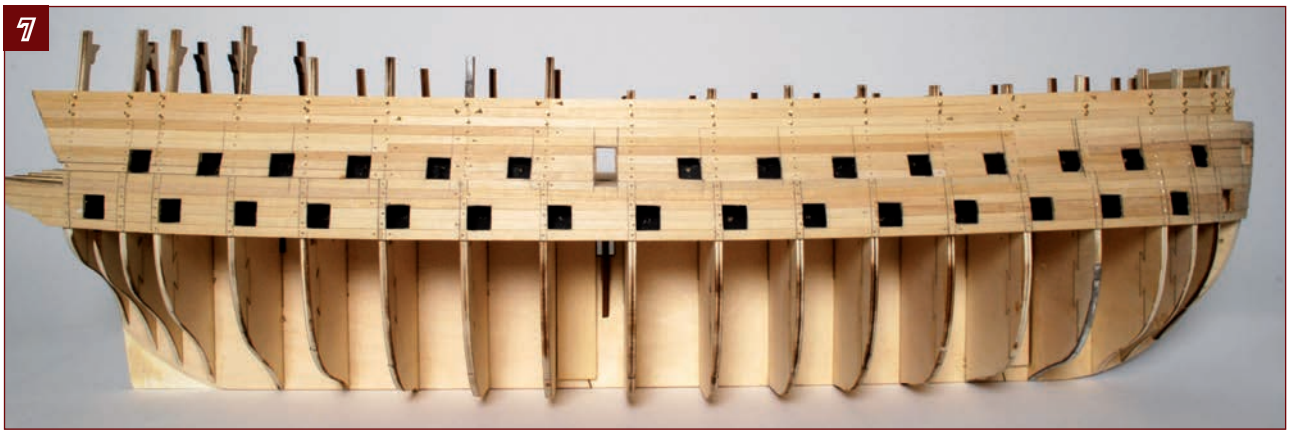
4. The planks at the bow need to be tapered toward it so that the top plank will end up roughly parallel to the top of the frames. The amount of tapering needed will vary from one model to another. Taper each plank a little, rather than doing it all on one plank, and do not worry if the tops of the ribs are not completely level, as they will be trimmed later.



5. Fit the next layer of planks, with the first plank fitted between frames 16 and 25. Trim the bow and stern planks as shown in steps 2 to 4.

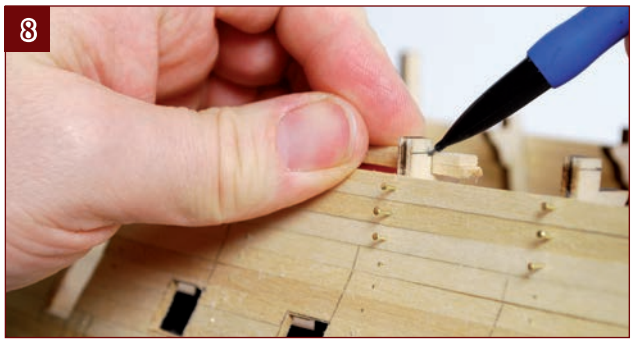


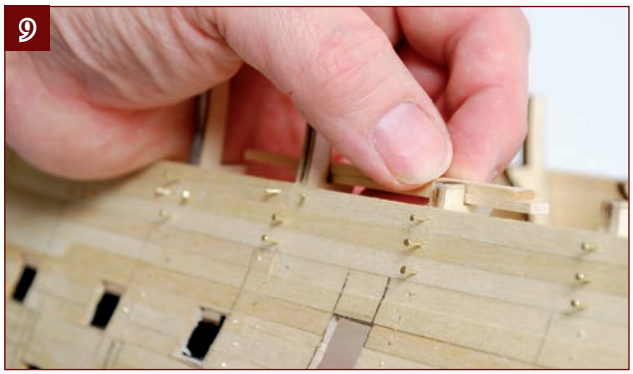
6. The chamfer of the planks in the bow area needs careful attention. The shape changes along the length of each plank as it twists to follow the line of the frames. Check frequently against the model and trim the planks to fit.



7. Continue with the next layer. The first plank is fitted between frames 15 and 22 and the bow and stern planks are fitted in a similar way to the previous ones. By this stage, you will be nearing the tops of the frames in the area of the quarterdeck, near the centre of the hull.

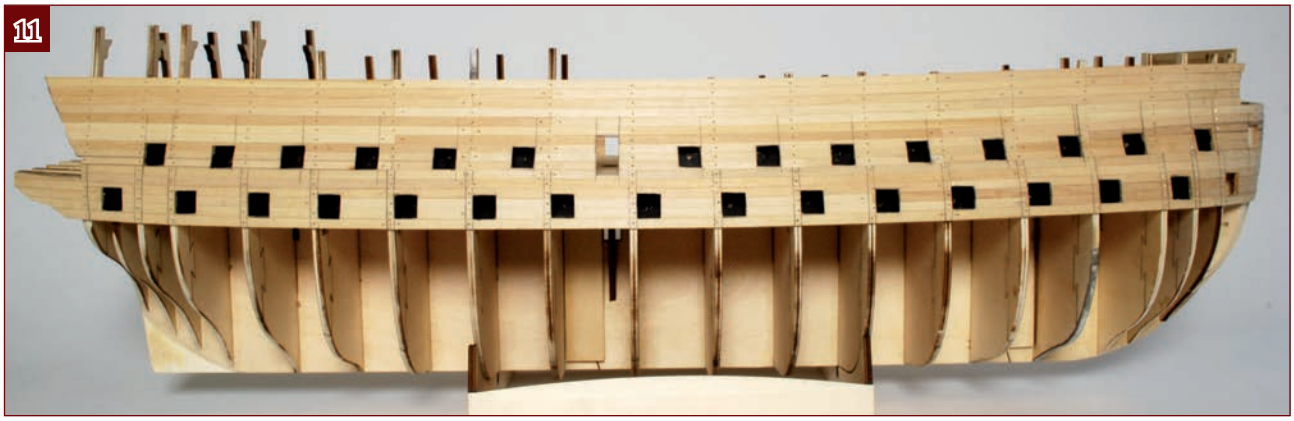
8. Before continuing with the next layer of planks, mark the finished height of the planking. The deck and deck beams will be 3.5 mm thick, so mark a line on frames numbers 17 to 21, 4 mm above the bracket that supports the deck. The extra 0.5 mm is a small allowance for sanding. Take two scraps of plank and use these as a gauge to mark the required height.





9. Some of the frames may be just the right height. Do not cut any frames down now; this will be done at a later stage.

10. Apply the final layer of planks, fixing the first plank between frames 17 and 24. Don't worry if this plank is not quite level with the lines you marked in steps 8 and 9. We'll deal with any discrepancy later.



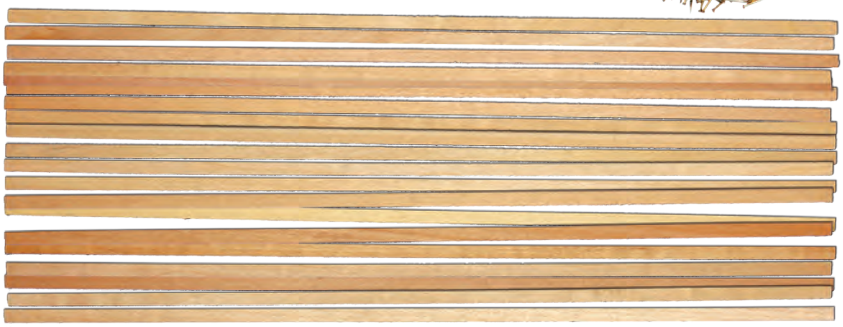
11. The hull of your model should now look similar to this. When it comes to pulling or trimming the pins, those that are pushed in at an angle at the ends of the planks need to be pulled out rather than trimmed. The pins that should be pulled out are those forward of frames 12, 14, 16, 17, 22 and 23, on rows 12, 13 and 14.

Stage 29: Cutting the upper deck's gun ports

The components provided with this stage include more strips of wood for planking *Victory*'s hull.

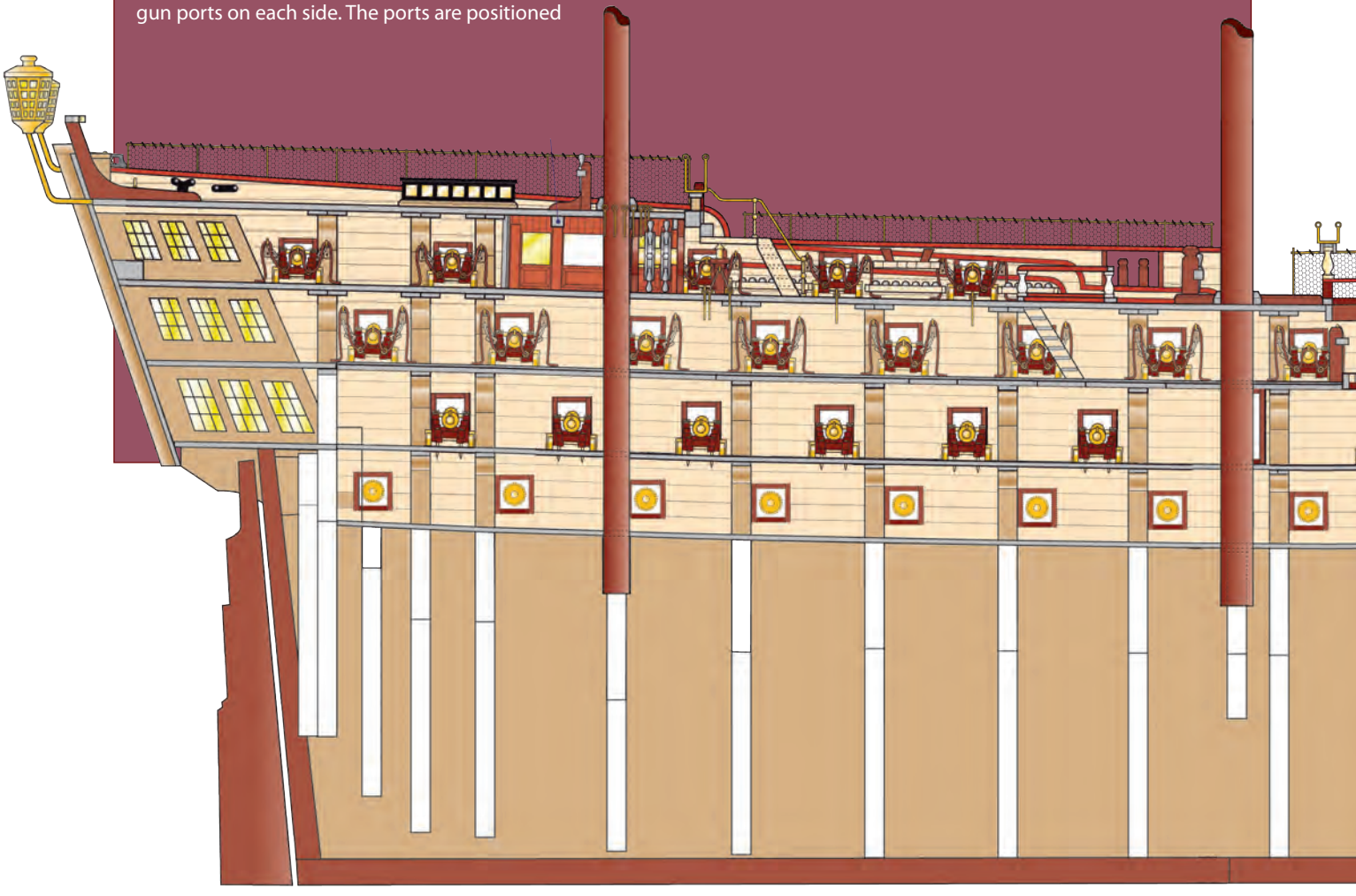
Wooden strips

20 wooden strips 5 x 2 mm, 300 mm long, for hull planking, plus fixing pins



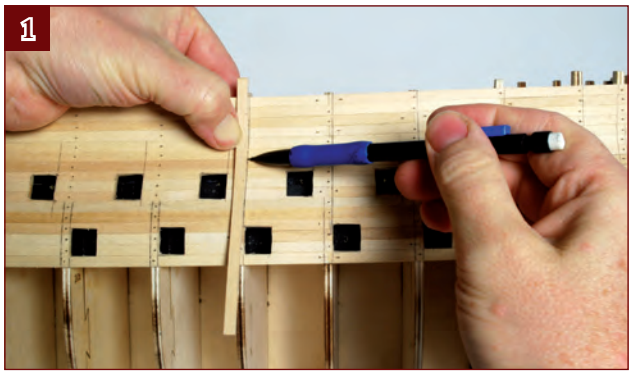
Positioning the gun ports

The plan below (continued on next page) shows the positions of the gun ports to be cut through the hull planking. Although we only show one side in the steps, both sides of the ship have identical features and need gun ports to be cut in the same positions. This stage covers the gun ports on the upper gun deck. As you can see on the plan, there are 15 gun ports on each side. The ports are positioned between the hull frames, and most of them are directly above those in the lower gun deck, apart from the two closest to the stern. When marking the positions of the ports, refer to this plan and check off each one in turn. Then double-check that all the positions are correct before starting to drill and cut the holes as in Steps 13-16. Unlike the lower gun decks, the gun ports on the upper deck are unaffected by whether or not you have decided to include a cutaway in your model's hull. However, you need to take extra care in making the ports above the cutaway.

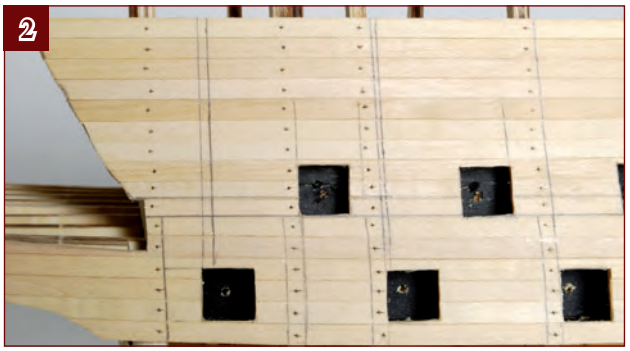


Cutting the gun ports on the upper gun deck

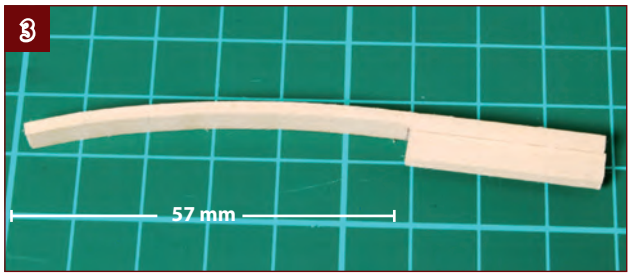
The technique for cutting these gun ports is similar to that for the lower and middle deck ports. Take great care marking their positions, as they are now a considerable distance above the reference point.



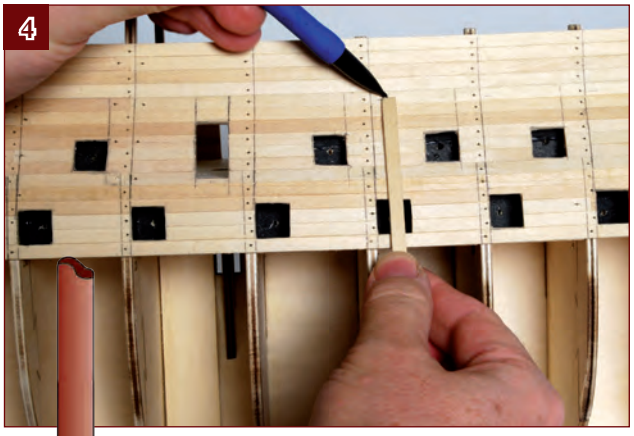
1. Mark the forward line of the frames on the planking. Use a plank offcut on the hull, as shown, to extend the line already marked for the lower gun ports.



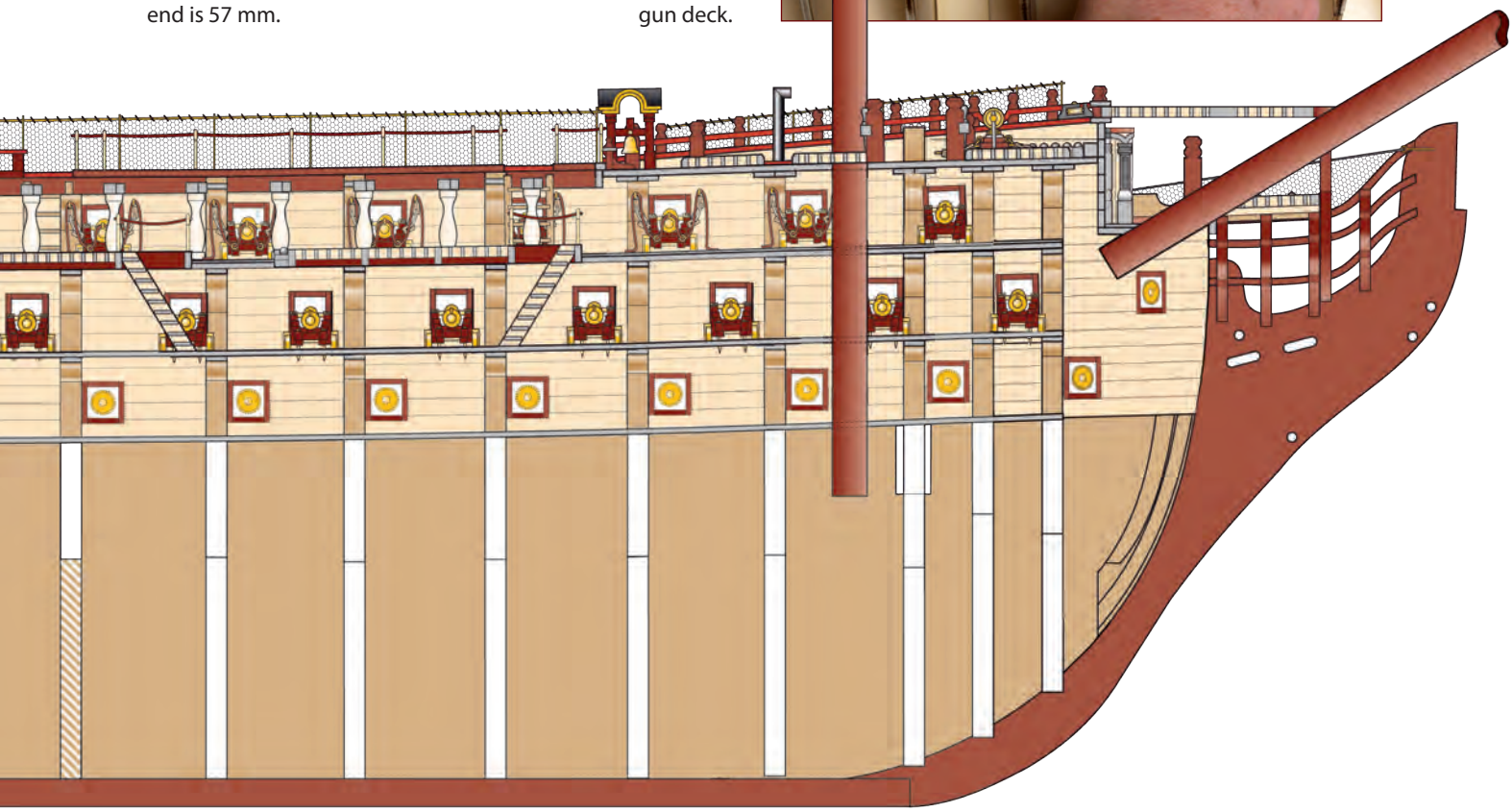
2. For the gun port nearest the stern, draw the line of the aft edge of the lower gun port and then draw a parallel line 2 mm forward of that point. For the next gun port, draw a parallel line 1 mm forward of the frame.



3. Make a marking gauge similar to the one you made in Stage 27. The distance from the stop piece to the end is 57 mm.



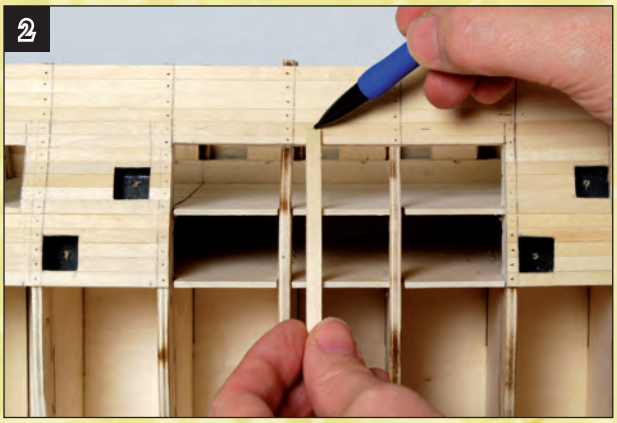
4. Use this 57 mm gauge to mark the height of the gun ports on the upper gun deck.



The Cutaway

If you have chosen to have a cutaway in your model, take extra care when cutting the upper gun ports above the cutaway section.

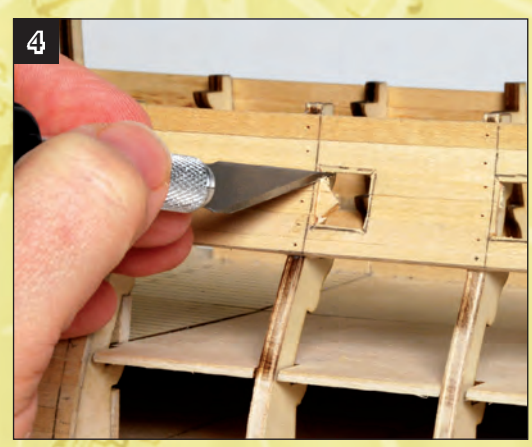
1. Mark the vertical lines along the side of each frame in the cutaway area as shown.



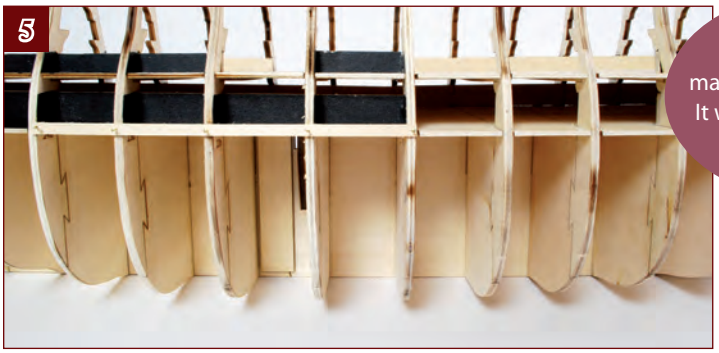
2. Hold your height gauge against the lower deck to mark the height of the gun ports.

3. Mark the position of the gun ports in the same way as described on the previous pages.

4. When cutting out the gun ports above the cutaway, use very light cuts to avoid cracking the planks at their tops.



5. After you have finished cutting the gun ports above the cutaway section, your hull should look like this.



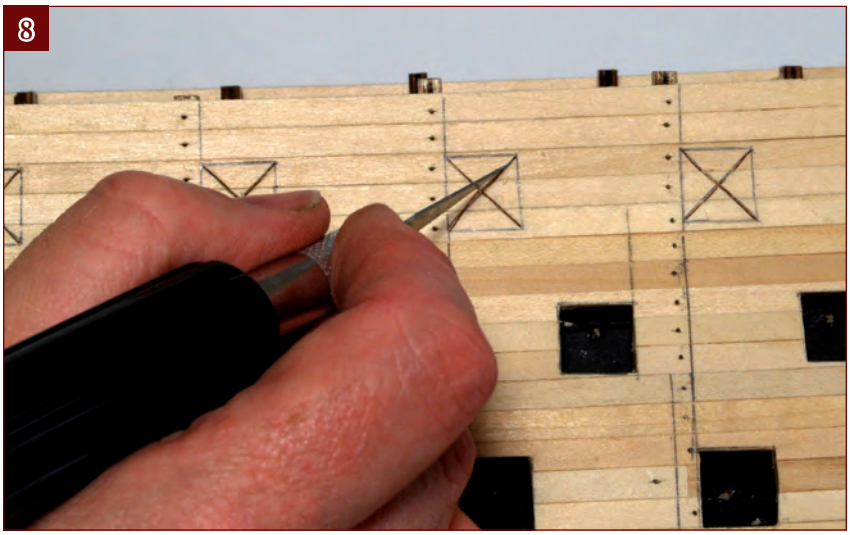
QUICK TIP
Keep your jig after marking these gun ports. It will be used to cut the final few ports later on.

5. Use the 12-mm square jig that you made in Stage 23 to draw the outline of all 15 gun ports on each side.

QUICK TIP
Any pencil marks left by the construction lines you have drawn will be sanded off at a later stage.

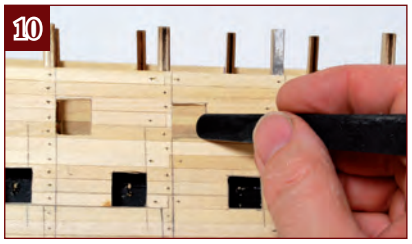
6. The two gun ports nearest the stern are slightly forward of the lower ports, along the extra lines you drew.

7. The port nearest the bow is exactly above the lower gun port, midway between the frames.

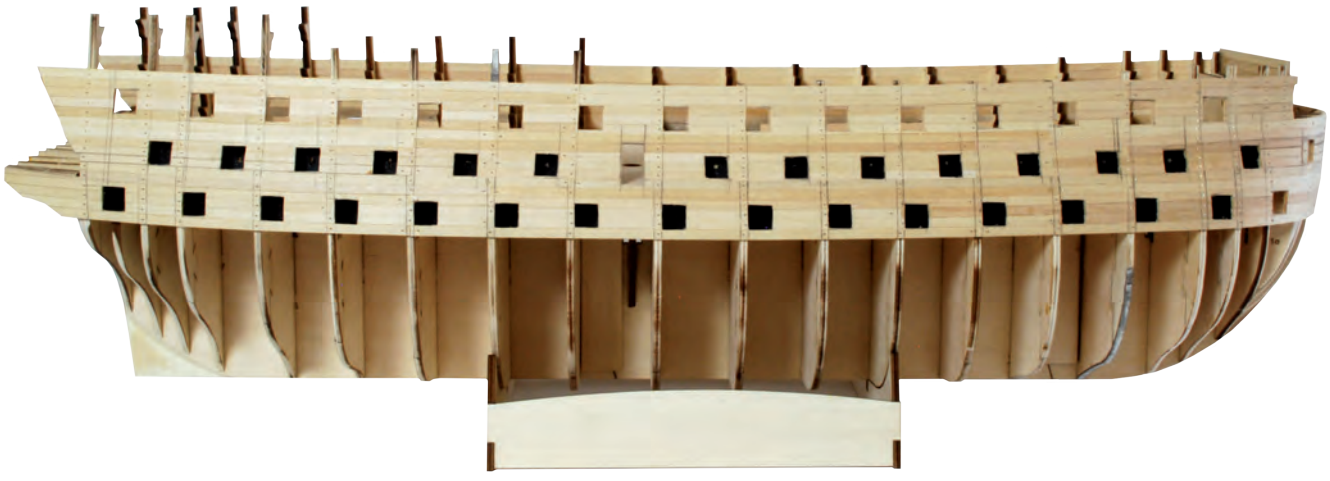


8. You do not need to drill the centre of these gun ports as there are no cannon supports behind them. Cut triangles with a sharp knife blade, using the same technique as for the lower and middle gun ports, going from the corners to the centre using light cuts.

9. Cut out the triangles of wood, leaving about 1 mm for trimming.



10. Trim the ports close to the final size, then sand the edges smooth and square using an emery board/nail file.



Stage 30: Assembling the anchor

This stage brings you more of *Victory*'s fittings – another of her 12-pounder guns and the second of her great anchors. Even if you are familiar with the assembly of both of these from earlier stages, the following hints and tips will prove useful.

Anchor

6 components

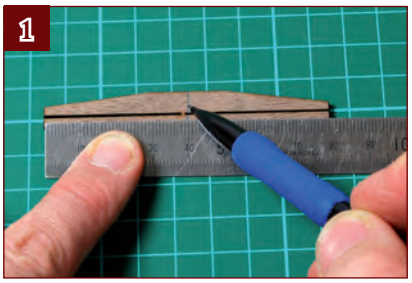
12-pounder gun

13 components

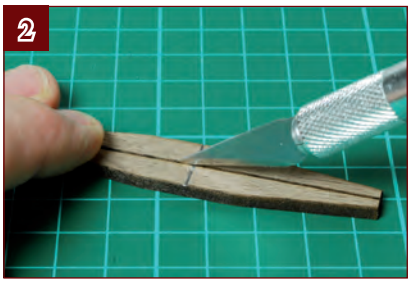
SMALL PARTS

Take care not to lose any of the small parts, especially if you don't assemble them immediately. The two pins will only be used to secure the cannon at a later stage. Note that the thin thread is used to bind the anchor stock; the thick one is used to make the mooring cable.

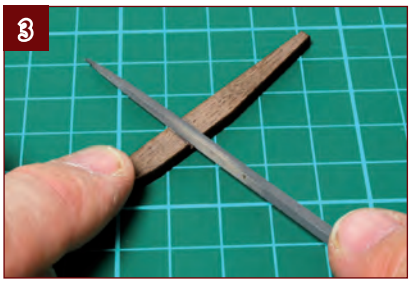
Assembling the anchor



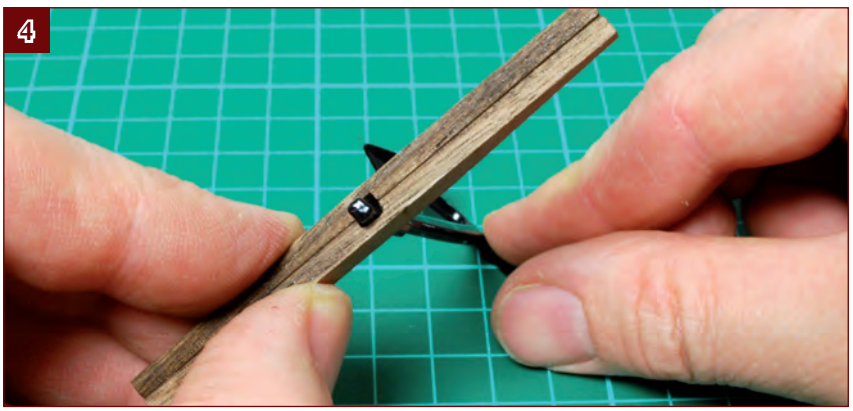
1. Measure and mark the centre of the anchor stock.



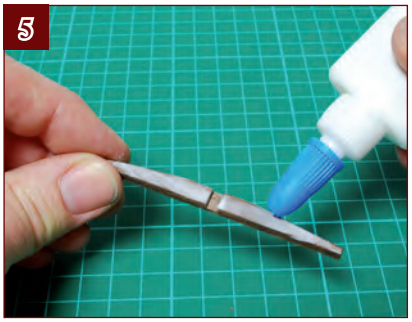
2. Separate the two pieces of the stock and sand the rough edges smooth.



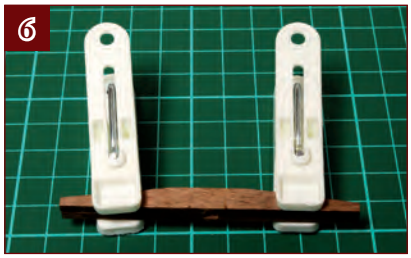
3. File a notch in the centre of both parts of the stock. This should be just big enough to take the shank of the anchor – about 2.5 mm wide and half the depth of the wood.



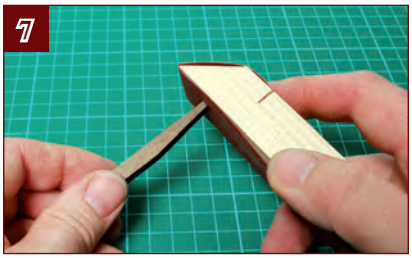
4. Hold the two pieces together and check that the shank slides in the hole without forcing the two halves of the stock apart.



5. Apply a thin smear of glue to the inside of the stock.

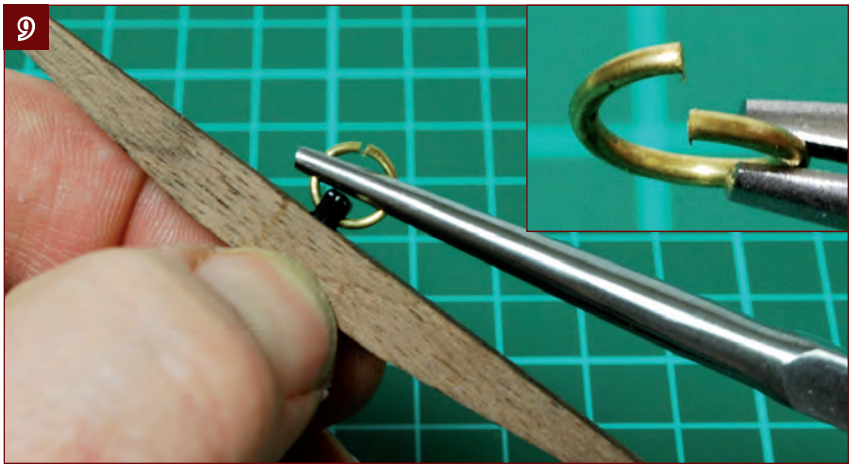


6. Join the halves and hold with clamps or clothespins while the glue dries.



7. Sand all the edges of the anchor stock smooth.

8. Apply a little superglue to the top of the shank and insert it into the hole in the stock, with the flukes at 90 degrees to the stock. Clean off any excess and let the glue dry, making sure that the stock is at right angles to the anchor shank.



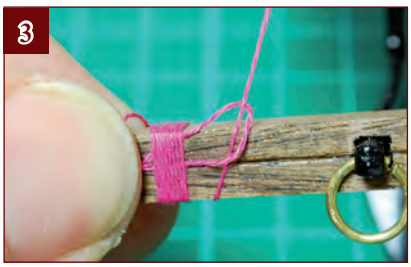
9. Use a pair of smooth-jawed long-nose pliers to open the brass ring enough to insert it through the hole in the stock, then pinch the ring closed.

Binding the stock

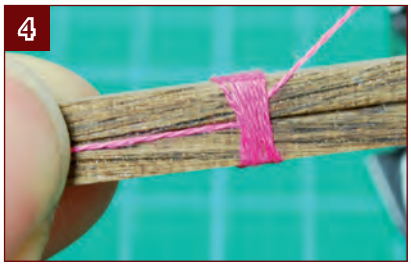
You need to form four bindings at the points shown, using the thin brown thread provided. The steps below demonstrate the basic technique by using pink thread to make it clearly visible against the wood of the stock.

1. Take the thin brown thread and make a loop as shown.

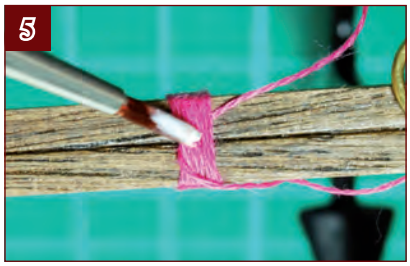
2. Now wrap the thread around the shank, starting next to your thumb and working toward the centre.



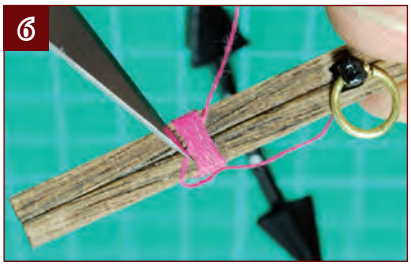
3. When you have wound six or seven turns, take the end of the thread through the loop, holding it taut.



4. Gently pull the original end to draw the loop back underneath the binding.



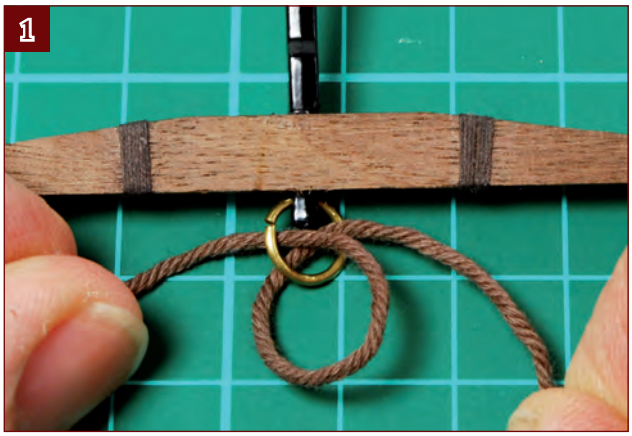
5. Paint the binding with diluted glue to stop the thread from unravelling.



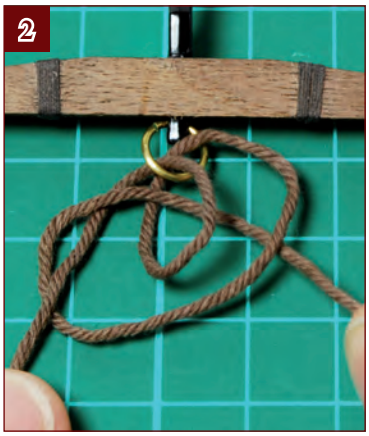
6. When the glue has dried, cut the loose ends close to the binding.

Tying the anchor cable

The thick brown thread should be tied to the anchor stock using a "fisherman's bend" knot.

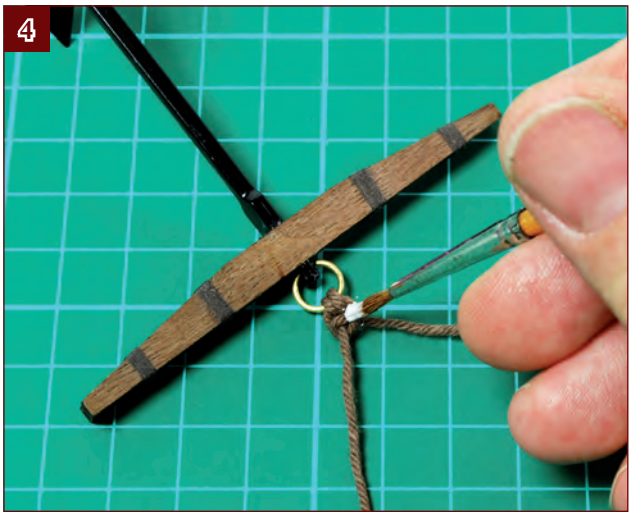


1. With the main length of thread on the left, start by putting a turn of thread through the brass eye, leaving a short end about 40 mm long on the right.



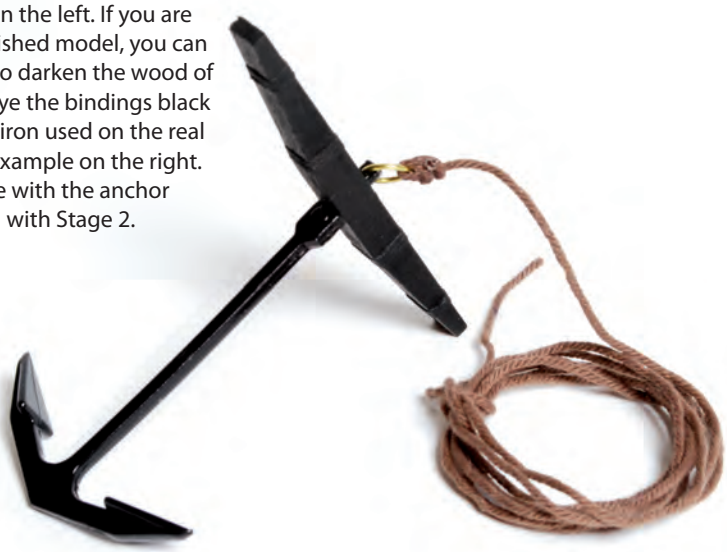
2. Take the short end under the long one. Bring it back over the top, and tuck it through the loop you made in Step 1, then also under the loop you just made.

3. Gently pull the knot tight. Then take the short end back under the long one and under itself again, forming a half-hitch. It should look like the knot above as you are tightening it, and like the inset picture when it is pulled tight.



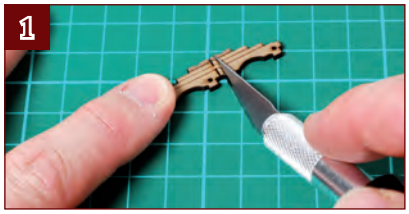
4. Paint the knot with diluted glue to seal it. Do not squash the knot while the glue is drying, as you want it to keep its distinctive shape. When the glue is dry, trim the loose end close to the knot.

The finished anchor should look like the example on the left. If you are painting the finished model, you can use wood stain to darken the wood of the stock, and dye the bindings black to simulate the iron used on the real ship, as in the example on the right. Do the same with the anchor supplied with Stage 2.

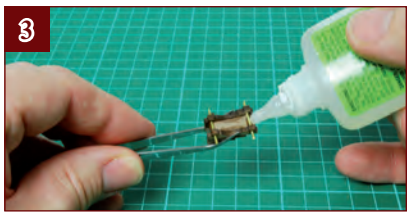


Assembling the 12-pounder gun

Here is a reminder of the key stages of the assembly, which are also covered in Stages 14, 18 and 24.

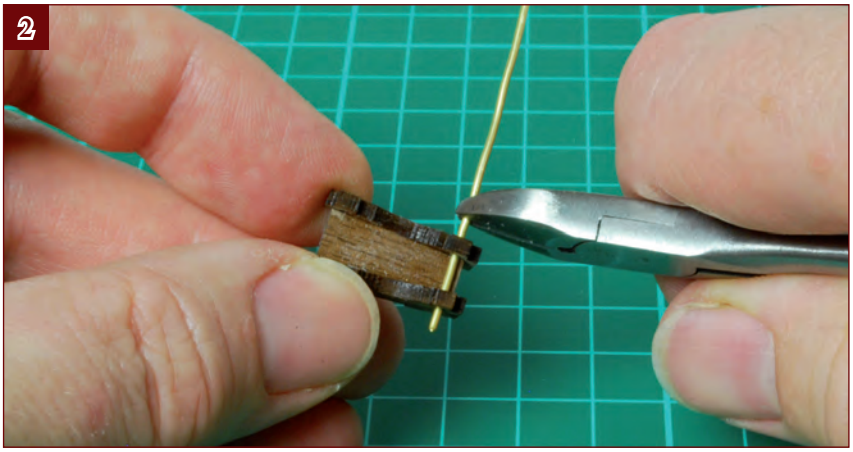


1. Separate the two sides of the gun carriage and file off any surplus "whiskers" of wood.

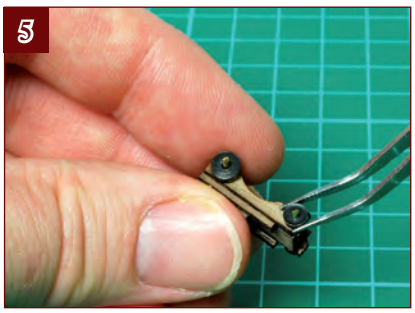


3. Push the base down against the axles, check the axles are centred, and glue together with a little superglue.

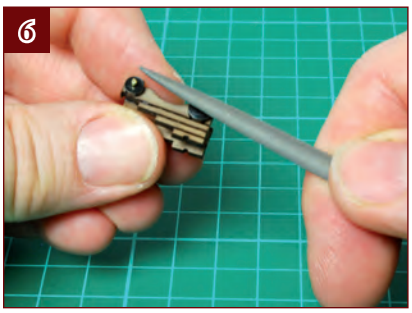
4. Place one of the large wheels on the front axle and secure with a drop of superglue.



2. Hold the carriage sides and base together. Push the brass wire through the holes and cut it, leaving about 3 mm protruding on each side. Repeat to make two axles.

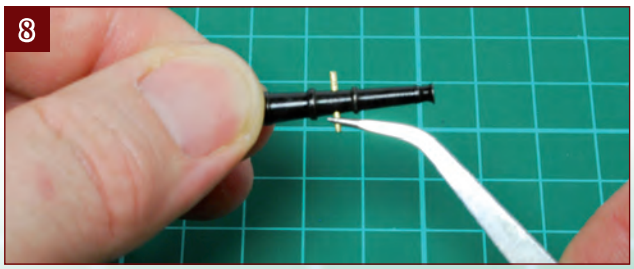


5. Fit a smaller wheel to the rear axle in the same way, then repeat on the opposite side of the carriage.

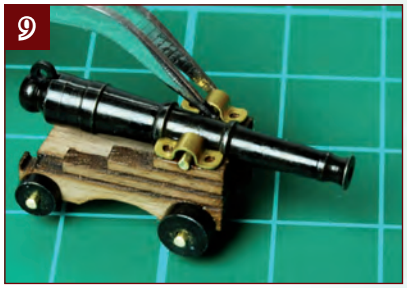


6. File the ends of the axles flat, leaving about 0.5 mm protruding from the centre of each wheel.

7. Cut a length of wire to fit across the notches in the top of the gun carriage and file the ends flat.



8. Insert the wire through the hole in the gun barrel, ensuring it is centred.



9. Lay the barrel in the carriage, ensuring the "thimble" is uppermost. Glue the two brass cap squares over the pivots using superglue. Cut a small wooden wedge to form the "quoin" and glue it under the barrel.

BUILD LORD NELSON'S

HMS VICTORY

Coming in Pack 4

Stages 31-40 complete the lower planking, and also start the construction of the stern cabins.