

# **LA ROSE**

*French Fishing Schooner*

**Art. 749**

## **ASSEMBLY INSTRUCTIONS** *English Version*

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*For the*

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## HISTORICAL BACKGROUND

This scale model is of one of the numerous fishing schooners that, during the middle of the 19<sup>th</sup> century, sailed from Brittany and frequented the Icelandic banks to fish for cod.

These schooners, called goélettes by their French builders, were light and speedy boats, but were also strong enough to sail in constantly rough seas.

Fishing was performed from on board the vessel, without employing separate, small boats of the flat-bottomed 'dorey' type, as was the custom over the Newfoundland banks. As the schooner was allowed to drift, slowly driven by the wind, the crew let down the fishing lines windward. These lines consisted of a strong cable - 150 metres long - to the trailing end of which was fixed leaden ballast and an iron bar. The bar carried an arm at either end provided with fishing lines and baited hooks suspended above the seabed by means of floats.

Cod weighing up to 100 kilograms were hoisted aboard by strength of arm alone, cleaned and stored in the hold where they were then salted. The crew's wages were determined according to the daily catch. To establish the quantity of cod landed by each member of the crew, each sailor removed the tongues of the cod he landed and placed them in a tally-basket to be counted later.

When the cod were plentiful, each sailor could be on duty continuously for up to 24 hours and with the sole nourishment being cod's-head soup (something that today would strike a dietician with horror).

This model is designed to a scale of 1:47, considered by many to be the most suitable scale for displaying the graceful lines of these boats.

## ASSEMBLY INSTRUCTIONS

General notes:

- All dimensions given are in millimetres. The symbol  $\varnothing$  means diameter
- English translations of the Italian notes on the plans are given in these instructions.
- Figure numbers given below (Fig.1, etc) refer to the numbered figures on the respective plan sheets.
- Component numbers (n.11, etc) refer to the numbered outlines shown in Plan 4.

### PLAN NUMBER 1

**Figs. 1-2-3** - Remove all the plywood components from the two large plywood panels with a craft knife. Smooth all the edges of each piece with fine sandpaper, taking care not to damage the machined profiles of the pieces. Using Fig.3 as the guide, and without glue, test that the ribs n.1-n.9 can be inserted correctly into the keel n.11, and that the false deck plate n.18 can be inserted fully to seat down onto the ribs. Carefully trim the pieces where necessary to get a good sliding fit.

**Fig.4** - Glue the ribs n.1-n.9 into the keel, and fit the false deck plate n.18 down onto the ribs, checking the alignment of each rib with the keel. Clamp the assembly and allow to dry. As shown in figure 4, taper the frame n.1 and the two plates n.14 so that the fore ends of the planking will make a smooth line from the ribs to the bow, and glue them in position. Glue parts n.15 and n.16 accurately in place onto the stern, supporting them with clamps while the glue dries. Next glue n.10 in place, checking the angle using the side view in figure 5. Glue on the two blocks n.17 (following the dashed line) and when dry, taper the lower parts that protrude from the line of n.10 and the rear edge of n.9 in order to produce a surface and corners suitable to receive the ends of the hull planks. The upper profiles of parts n.17 will also need to be filed to shape, in order to make a flat horizontal surface on which to seat the stern part of the deck plate.

**Fig.5** - This shows the side view or profile of the 'skeleton' structure after assembly. The horizontal black line shows the position of the first plank to be fitted to the ribs. Aligning this first plank on each side is an important step as this establishes the eventual height of the handrails above the deck.

**Fig.6** - The first layer of planking is made from 1x5 light-coloured planks (Lime or Acacia). The second layer of planking is made from 1x5 Walnut strips. The first layer of planking must be sanded and smoothed before applying the second layer. This second layer will be the finished surface of the hull and needs to be applied with great care. Please see the separate instruction sheet for guidance on the method of applying the planking strips to the boat's 'skeleton'.

**Fig.7** - Cut out and sand the beams n.1a-n.8a. Glue these beams in position on the ribs as shown in fig.7. Using a 2mm thick plank or a straight-edge, ensure that a level longitudinal surface is created for seating the deck in position, filing the beams as necessary.

**Fig.8** - With a small saw, cut through and remove the top part of the ribs, and file the stumps to produce a smooth curve with each beam.

**Fig.9** - Trial-fit the deck plate n.19 in place, filing the deck plate's profile as necessary. Glue and clamp or pin the deck plate in position, making sure that the deck plate curves and contacts the beams at the sides and along its length. Cover the inner face of the transom n.10 with vertical 1x5 Walnut planks. Trim the ends of the planking at the stern and sand the edges smooth. Cover the stern with horizontal 1x5 Walnut planks.

**Fig.10** - Taking the greatest care, in order not to damage the junction of the planking, cut the three prow teeth parallel to the deck and remove them. File and sand the stumps to remove residual wood and glue, and to produce a smooth profile with the deck plate.

**Fig.11** - Cover the inner face of the side planking with 1x5 Walnut planks, building from the deck plate n.19 upwards, and taking care to adhere the planks to the deck and to the side planking. When the glue has dried, smooth the upper surface of the planks to prepare it for assembly of the handrails. Cover the deck with 0.5x3 light-coloured (Maple) planks (length 90mm) and positioned in alternate bands as shown in fig.11.

Using 2x5 Beech-wood planks, heat the strips in very hot water for a minute or two and carefully form the two handrails to fit the curve of the hull and hold in position until dry and stabilised. When the required curve has been achieved, glue the handrails to the hull. If you experience difficulties with bending the handrails, form the curves by cutting trapezoidal pieces from the planks and alternate them to achieve the curve, as shown in fig.14. When glued and smoothed, the joints will disappear. Using the same technique, make up the two reinforcing rails and fix them at the prow (see the perspective diagram on Plan 2 for a view of these reinforcing rails).

The handrail over the transom (n.10) is made from 2x7 Beech-wood plank and has a slight vertical curve.

The rubbing strakes along the length of the hull and under the transom are made from 2x2 Beech-wood and are fitted level with the deck as shown in the thumbnail sketch in fig.11. Before gluing the rubbing strakes to the sides of the hull, mark their positions and check that they are at the same height either side, so that the rubbing strake under the transom will line up with them and be horizontal (see Plan 2. Part 17).

**Fig.12** - Taking great care, perforate the junction point between the port and starboard planking just above the bowsprit support or ram. Use a drill of  $\varnothing 6$ , or even better, a drill of smaller diameter and enlarge the hole to the required diameter with a round file. The hole must be tangential to the top edge of the ram, which needs to be filed down along its top surface so that a shallow groove of circular section is produced in which the  $\varnothing 6$  shaft of the bowsprit will sit.

**Fig.13** - Apply some vertical segments of 0.5x3 light-coloured plank between the deck and the handrail - at 22.5mm intervals - but coinciding with the joints in the deck planks - to simulate the many support ribs that are situated along the inner sides of the schooner.

## PLAN NUMBER 2

**Fig.1** – This drawing shows the boat in perspective, with part numbers in circles (P1, etc) referring out to the numbered drawings (Part 1, etc) on plan number 2.

**Part 1 – Cat-heads.** These are made from the plywood parts P.1 supplied in the kit. In each cat-head, cut a rectangular slot to house the pulley, by drilling holes of  $\varnothing 2$  and then widening them with a file to create a slot 2.5 wide and 5 long. Cut a notch for the handrail into the inside bend of the cat-head so that it can abut against the hull planking. Paint the cat-heads white. Fit a brass pulley into the slot and fix with a brass nail through the sides of the cat-head and the centre hole of the pulley. Insert two brass nails into the back of the cat-head as shown in the figure, to simulate the cleat posts or bitt used to tie off the hauling line for the anchor. Make the hauling line from thick, light rope, and leave a few inches of excess for coiling up later. The hook, fixed on the other end of the line, is made from a large brass eyelet. Glue the cat-heads in place, and then coil up some of the excess hauling line and secure it to the deck with a spot or two of transparent glue.

**Part 2 – Anchors.** De-burr and trim the two anchor castings to remove excess material. Carefully drill out the larger hole in the anchor head to  $\varnothing 2$  to take the anchor stock. The horizontal bar or anchor stock is made from  $\varnothing 2$  brass rod, bent to the dimensions shown in the diagram. Slide the small brass bush into position and fit the two end caps to the stock (drilling out to  $\varnothing 2$  if necessary). Glue (or solder) the assembly and paint it black. Fit a large brass ring to the anchor head to take the anchor chain when fitted.

**Parts 3 – 8 – Belaying Pin Racks.** Make up 5 long and 1 short pin racks as shown in the diagram. The plywood vertical supports are provided in the kit (P.3-8). Make the racks from 2x6 Beech-wood plank radiussed at the ends as shown. Holes for the pins are  $\varnothing 1.5$ . Assemble the racks and trial-fit them in position trimming the uprights as necessary to obtain a snug fit against the sides of the hull. Two pairs of large racks are to be fitted at the rear of the boat, with one large rack fitted in the prow section. The two small racks are fitted in the front section of the boat. See scale drawing in Plan number 3 Fig.2 for the exact positioning of these racks. Paint the racks white and when dry, insert the belaying pins and glue the racks into position on the deck. The pins themselves are unpainted.

**Part 4 – Bitts.** These are fixed on the handrail and support the anchor when stowed. Make them from 4x4 Walnut square rod. Cut the notches with a sharp blade or a pattern file. Drill the base of each bitt and insert a piece of  $\varnothing 1$  brass wire to strengthen the joint. Drill the handrail and glue the bitts in place.

**Part 5 – Capstan.** This is a pump-action, ratchet-capstan used to raise the anchors. From the sheet of brass parts supplied, cut out and form the two ratchet plates as shown in the diagram. Paint them matt black. Cut out the two plywood supports (P.5) supplied with the kit and paint them white. Paint the gears matt black. Assemble the rotating gear on the  $\varnothing 1.8$  brass shaft as shown on the diagram. The gears, the end cones and the capstan barrels are glued on the shaft; the ratchet plates can rotate freely. The whole shaft assembly rotates freely in the side supports.

Make the support pillar from 6x6 Walnut square rod, 35 long. Measure the diameter of the brass pin protruding from the handle support casting and drill a corresponding hole in the top of the support pillar. Drill, glue (or solder) two brass eyelets into the equaliser (the pump-handle block) as shown. Assemble the pump-action handles into the equaliser, and assemble the equaliser into the brass support base with a brass pin as the axle. Paint this assembly matt black. Glue the brass support base into the support pillar.

On the back of the support pillar, insert two brass eyelets and fit the ratchet pawl made from  $\varnothing 0.8$  brass wire. Make the bell support and fit the bell in place. Apply glue to the end of the support pillar and insert it through the square hole in the deck. Ensure that it is seated on the deck below and is vertical. Glue the capstan assembly in position on the deck, and link the ratchet plates to the pump-action handle on each side using  $\varnothing 0.8$  brass wire. A well-assembled capstan will be able to be operated much like the real thing.

**Part 6 – Cleats and Bearings for the fishing lines.** Make 20 of these cleats out of square 3x3 Walnut rod and glue them into position on the handrails in the positions shown on the scale drawing in Plan 3 Fig 2.

**Parts 7-20 – Companionways.** Cut out and assemble the plywood parts n71, n72 and n73 to form the smaller companion-head. Do the same for the larger companion-head using parts n201, n202 and n203. Paint these assemblies white, inside and out. Frame the fixed roof of each with 2x1 Walnut rod and position the hatch slides made from 1x1 Walnut rod. Make the two sliding hatches by gluing 1x2 Birch plank sections to the plywood items n. 74 and n.204 respectively, and paint them white. File notches into the underside of the hatches and glue the two hatches in position over the hatch slides. Cut four (false) door pieces from 0.6 Walnut sheet and fit them to the inside faces of the two companion-heads. Cut four trapezoidal panels from the 0.6 Walnut sheet and fit them to the outsides of the two companion-heads.

Assemble the two companion-ladders using the pre-fabricated ladder side-pieces provided and making the treads from 0.5x3 Walnut planks. Trial-fit the first tread by checking the width of the ladder against the width of the hole in the deck.

**Part 9 – Chimney Flue.** Make this out of Ø4 Beech dowel, and paint it black. Glue this in position later after the gratings have been assembled (part 27).

**Part 10 – Deck Storeroom.** Assemble plywood parts n.101 and n.102 together using two 4x4 blocks to secure the end plates perpendicularly to the base. Cover the frame with horizontal 0.5x3 light-coloured planks. Use a plank-bender to form the three arch-shaped transverse supports. Paint the assembly white. Cut two (false) doors from 0.6 Walnut sheet and glue these to the ends of the storeroom.

**Part 11 – Hatchway.** Use 2x6 Walnut planks to make the bulkheads that encircle the hatch aperture in the deck. Make the base of the hatch cover using 2x5 Beech-wood planks secured in the corners with 4x4 Walnut blocks. File down the profiles of the hatch base to match the curvature of the deck. Glue 2x5 light-coloured planks on the structure to make the hatch cover. Fit two support crossbars made from 2x3 Beech-wood plank. Paint the whole assembly white, and then fit the four brass eyelets and Ø5 brass lifting rings onto the crossbars.

**Part 12 – Lifebelt rings.** Shape each of the four plywood rings P.12 to give a circular cross-section. Paint them white. Using green adhesive tape (not supplied), fix a piece of large, light-coloured thread around each lifebelt. The lifebelts will eventually be tied to the shrouds with thin, light-coloured thread.

**Part 13 – Hand-winch.** The scale drawing on the plan shows the final measurements. Re-drill the holes in the two brass supports using a Ø1.5 drill. Paint the supports white. Trim the gears and paint them matt black. Make the two wooden cylinders from Ø4 Beech-wood dowel 25 long and drill a Ø1.5 hole in each end to take the crank handles. Make the crank handles from Ø1.5 brass wire painted matt black. Link the two support ends with the three Ø1.5 brass rods supplied, assembling the winch on a flat surface until the glue has set. Fix in position on the deck.

**Part 14 – Galley.** Assemble the structure using plywood parts n.141, 142 and 144, and cover vertically with 0.5x3 Walnut planks. Construct the window frame from 2x2 walnut planks as shown in the diagram. Insert a piece of clear plastic sheet behind the window frames to simulate glass

Make the chimney-flue from Ø4 rod and the flue-cap from Ø6 rod. Paint the flue black.

Fix two support planks made from 2x3 beech-wood 16 long to plywood part n.144 to make the roof, and paint it white. Frame the roof with 1x2 walnut planks. Drill Ø1 holes in the four corners of the roof to take the tie rods.

Make the four tie rods from Ø0.8 brass wire. Use the tie rods to anchor the galley to the deck via a Ø1 hole drilled in the deck at each corner of the galley.



**Part 15 – Rudder tiller.** The base-prop stand is made from a 0x8x4 walnut block cut at an angle. The tiller's collar is made from a 9x6x4 walnut block with a  $\varnothing 2$  hole drilled in the centre. Glue the tiller (plywood part P.15) into the collar. Paint the tiller and collar white.

**Part 16 – Stern Platform.** Use plywood part n161. In the two front corners, drill  $\varnothing 2$  holes and glue in place the two support legs made from  $\varnothing 2$  rod 7 long. Cover with 0.5x3 light-coloured planks.

**Part 17 – View of the Transom.** Paint the edges of plywood part P.17 black and paint the faceplate white. Write the ship's name on the faceplate in black paint. Make the rubbing strake from 2x2 Beech-wood and fit in position to join up with the port and starboard rubbing strakes.

**Part 18 – Skylight and Compass.** Make the skylight from plywood parts n181, n182 and n183. Shape the underside profile to fit the curvature of the deck and paint the structure white. Insert the clear plastic sheet supplied, behind the skylight frame to simulate glass. Make the clog (wooden support block) for the compass from 2x8 walnut plank and glue this in the centre of the skylight. File a circular flat area in one side of the brass pot-bellied compass supplied with the kit, to simulate the dial glass. Glue the compass on the clog.

**Part 19 – Rudder.** File the fore-edge of rudder plywood part P.19 to create a circular groove to take the  $\varnothing 2$  rod for the rudder axle. Glue the 80 long  $\varnothing 2$  axle rod in place on the rudder (protruding 3-5 mm below the rudder) and allow to set. Taper the rear part of the rudder to give it a hydrodynamic (streamlined) profile. Drill a  $\varnothing 2$  hole in the sternpost to take the rudder axle. Insert the upper part of the rudder axle into the hole underneath the stern, so it protrudes above the main deck, and drop the axle stud into the hole in the sternpost. Fix the base-prop stand (Part 15) over the axle and glue in position. Glue the tiller and collar (Part 15) to the rudder axle and trim off any excess rod to give a neat finish to the tiller assembly.

**Part 20 – Companions.** Fix the companion-heads and companion ladders made in Part 7 to the deck in the positions shown.

**Part 21 – Bilge Pumps.** Drill a  $\varnothing 2$  hole in each of the two wooden pump barrels provided, to accept a short piece of  $\varnothing 2$  brass rod to simulate the pump's spout. Assemble the bracket, the handle and the plunger, using a brass nail as the axle, and glue the bracket in place on the pump barrel. Fix the pumps on deck in front of the galley as shown in Fig.2 on Plan 3.

**Part 22 – Slipways.** Make these from 2x2 Beech-wood planks and fix them on the sides of the hull.

**Part 23 – Deadeyes and Chain-plates.** With pliers, form the brass rings supplied to fit round the wooden deadeyes and to locate in the brass chain-plates provided. (*Caution: the deadeyes are fragile and easily crushed. Use a piece of rod as a former rather than risk damaging the deadeyes in this process*). Cut away sections of the rubbing strakes to accept the chain-plates and secure each chain-plate with brass nails. The scale diagram Fig.3 on Plan 3 identifies where the chain-plates and deadeyes should be positioned. Make and fit reinforcing strakes over the chain-plates using 2x2 Beech-wood planking.

**Part 24 – Sliding ways.** These hold the spare spars (stored in case of breakage) and are made of 5x5 Walnut block, with a circular groove filed in each to hold the spars. Make 5 of these blocks and fit them on deck in the positions shown in Plan 3 Fig.2.

**Part 25 – Mast Foot.** These are now provided as plywood parts P.25.

**Part 26 – Opening to the Chain Locker.** Drill two  $\varnothing 5$  holes in the deck and glue a  $\varnothing 7$  brass ring around each. Divide the large chain in two and insert the chains into the holes, wind them around the ratchet capstan and leave the ends on deck until Part 31 is completed.

**Part 27 – Grating.** Make up the grating from 14 toothed parts as shown and when glued, trim off the excess teeth and sand the edges smooth. Edge the grating with 2x6 Walnut planks. Sand the sides and the top surface.

**Part 28 – Row-ports.** Pierce the sides of the ship in two places with a  $\varnothing 5$  drill and file the holes to form the row-ports for the ships two galley-oars, which were used when the ship

was becalmed, or to manoeuvre inside the harbour without raising sails. Make up two oars 80 long from 0.5x3 planking, 3x3 Walnut bar and Ø2 rod.

**Part 29 – Boom Supports on the masts.** This diagram shows how the boom support rings (plywood parts nP.29) are positioned on the two masts and are reinforced with struts made from 2x3 Beech-wood planking. These supports are best assembled on the masts after the masts have been tapered (this comes later in Plan Number 3)

**Part 30 – Fluke Chock.** This wooden plate on the side of the ship prevents the fluke or tail of the anchor from damaging the ship's side. Make this from 0.6 Walnut sheet.

**Part 31 – Hawseholes.** As shown on Fig.2 of Plan 3, pierce the prow in two places with a Ø6 drill and fit the two brass hawsehole bushes. Pick up the ends of the hawse chains fitted previously to the capstan, pass these through the hawseholes and connect them to the brass rings on the heads of the two anchors.

**Note!** The brass wire is provided as a rolled-up hank. To straighten it, clamp one end in a vice and with pliers, pull from the other end, stretching the wire slightly. In this way you will be able to make straight rods.

## PLAN NUMBER 3

**Fig.1** – shows a longitudinal section through the ship and is drawn to scale.

**Fig.2** – shows a plan or aerial view of the deck and is drawn to scale. The numbering system refers to all those points where it is possible to fasten rigging.

**Fig.3** – shows a side view of the ship with mast and spar dimensions, sail plan, rigging and rigging points. The dual numbers indicate that the rigging is doubled and therefore needs two terminal points – one on each side of the ship.

**Masts, Spars and Yards.** Cut and taper all the masts and yards to the cutting and shaping dimensions noted on the plan: **L** = length; **ØMax** = the largest diameter; **ØMin** = the smallest diameter; **ØT** = Terminals or lines, the reduced diameter on the ends of the yards. Make two additional spars to lay on the deck as spares (as shown in Fig.2).

**Rigging Points.** Drill and fit all the eyelets and anchor points for the rigging indicated on the plan.

**Part 1 –Squaresail Yards.** This set of diagrams explains the construction and operation of the system for raising and lowering the squaresail. It was typical of these schooners to clew up or stretch out the squaresail from the deck without climbing up onto the yard. These drawings show:

- A** Fixing of the two pulleys to the top yard.
- B** Fixing of the guide along the yard using Ø0.8 brass wire and stemmed eyelets, shortened before insertion into Ø0.5 holes drilled along the yard.
- C** Fixing of the line ends to the rotating yard. Use large black thread.
- D** Bending (tying on) the sail to the yard, viewed from the back. Use large light-coloured thread.
- E** How to make and rig the double pulley block on the lower yard, used to pull the squaresail down taut. Cut a brass strip 3mm wide and 30mm long (from the edge of the photo-engraved brass plate that comes with the ratchet winch parts). Form the strip around a Ø5 rod and drill two Ø1holes for the pulley block. Assemble the small brass parts to make the pulley block and secure it to the clamp strip with brass nails, riveted by crushing with pliers. Drill a Ø0.8 hole in the back of the clamp strip to take the mast pivot assembly. The rigging of the yard is also shown: The lines fixed to the sail are large black thread, whilst the rest of the rigging is made of thin light-coloured thread. The manufacture of the sails is described later.
- F** How to make the two brass strengthening collars. Slide these on to the lower yard and glue them in place. Assemble the lower yard to the mast in the position shown in Fig.3. Attach the upper yard assembly to the topmast using the small chain supplied (which is attached to a brass eyelet inserted in the top of the mast in the position shown in Fig 3.).

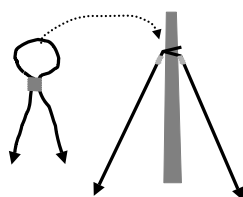
**Part 2 – Masts and Shrouds.** These diagrams show how the masts are assembled.

**Mast assemblies.** Carefully drill out or file the mast caps - to fit the tapered mast parts - before removing them from the plywood frame. Fit the masts into the caps ensuring that the two parts of each mast assembly are in good alignment. Check the mast assemblies for size and positioning against the side view in Fig.3.

Fit two plywood support cheeks under the caps of each mast. Paint the centre sections white as shown. Drill and fit two brass eyelets in each of the lower masts and fit small brass rings to take the top-shrouds. Glue the masts into the deck, checking alignment against Fig.2.

**Trestle-trees and Cross-trees.** Scaling off the small plan view in the Part 2 diagram, make the trestle-trees (fore and aft supports) from 2x3 Beech-wood plank and the cross-trees (the notched supports that sit on the trestle-trees) from 2x2 Beech-wood plank.

**Top-shrouds.** Rig the top-shrouds as shown, using large, black thread. The recommended method for fixing the top-shrouds to the mast is to make a 'seized' loop using small, light-coloured thread as shown below. The loops should sit snugly on the taper of the mast. Secure the top-shrouds to the mast rings using a half-hitch.



**Shrouds.** Rig the shrouds from the mast-heads to the deadeyes using large, black thread. The small diagram in Part 2 shows how the shrouds are secured to the mast-head with seized loops. Use Fig.2 to check the dimensions. Connect the shrouds to the deadeyes as shown in the diagram in Part 8, using small, light-coloured thread.

**Fixed rigging.** Fit all the fixed rigging (everything except the rigging of the sails) as shown in Fig 2. Start from one end of the ship and work towards the other. Make sure all rigging is tight, but does not deform the masts or spars.

**Part 3 – Line Tidy.** Make these four boards from 2x6 Beech-wood plank. Mark the shroud positions on each board and drill  $\varnothing 1$  holes to take the rigging lines as shown. All the rigging terminated on the belaying racks will go via these line-tidies. The associated sketch shows how a line is made fast to a belaying pin.

**Part 4 – Bending the Jib.** This sketch shows how the jibsails and staysails are bent (attached) to the stays using small brass rings. The manufacture of the sails is described later.

**Part 5 – Ratlines.** This sketch shows how to make and bind the ratlines to the shrouds using thin, light-coloured thread. Secure the end knots with a drop of glue.

**Part 6 – Bowsprit.** Bind the two trunks together with the double collar, and then lash them to the ram using large, black thread, interposing a connection block made from 4x4 Walnut square rod. Make the outrigger boom from 3x3 Walnut square rod. The two eyes, through which the stays pass are made from two brass stemmed eyelets appropriately shortened. Drill a  $\varnothing 1$  hole in the outrigger boom to take the centre stay. Fix the outrigger boom to the main bowsprit trunk with glue and two brass nails. Paint the boom and the double collar white.

**Part 7 – Gaff Topsail and Spankers.** This sketch shows how to bend the two spankers and the gaff topsail to the gaffs, masts and booms. use large light-coloured thread. The manufacture of the sails is described later.

**Part 8 – Rigging the Deadeyes.** Use thin coloured thread and rig each pair of deadeyes as shown.

**Part 9 – Trucks.** Make the trucks (mast caps) from  $\varnothing 5$  rod and, when all the rigging has been completed, glue them to the mast ends.



**Part 10 – Flag.** Glue the flag onto a length of thin, light-coloured thread and rig it on the Gaff as shown. To give the flag an appearance of weight and droop in the absence of wind, fold and secure the flag in a draped position using some thin pins, and then spray the flag with fixer or transparent hair lacquer.

**Part 11 – Rigging the Gaffs.** Use large, black thread to bind the pulley blocks to the masts and gaffs. Use thin, light-coloured thread for the rigging.

**Part 12 – Travellers and Gaff Collars.** Use large, black thread to bind the travellers (on the end of the booms), and the collars (on the ends of the gaffs) to the masts.

**Part 13** – This sketch shows how the two spankers and the two booms are rigged.

**Note: Tying up the excess lines.** Wind a length of the excess line around a 10mm former and glue it to hold it into a hank. Loop the hank over the belaying pin, and pull down on the hank to simulate the natural droop of the rope. Glue in position.

## Painting

See fig.2: Paint the hull and keel below the water line in Pompeian Red. Paint the water line white. Paint the hull between the railings and the rubbing strake white, but don't paint the ram which is to be left a walnut colour. Where it is not specifically stated, leave all other parts their natural colour and varnish them. All paints and varnish should be matt.

## PLAN NUMBER 4

Refer to Plan number 3 Fig.2 for the side view of the rigging and sails – to scale.

**Detail M.1** – This sketch shows the rigging on the spankers used to clew up (pull towards the mast ready for furling) the spankers. Note the brass eyelets fitted to the mast, and the blocks secured to the mast with large, black thread. Use thin, light-coloured thread for the rigging.

**Detail M.2** – The diagram shows how to rig the squaresail. Note the use of the double-pulley blocks.

**Detail M.3** – This shows the rigging on the rear corner of the staysail. Note the doubled rigging method.

**Detail M.4** – This shows the rigging on the front corner of the staysail. Note the brass eyelet in the mast cap.

**Detail M.5** – This sketch shows the rigging of the gaff topsail. Note the brass eyelet fitted to the mast, and the block secured to the mast with large, black thread. Use thin, light-coloured thread for the rigging.

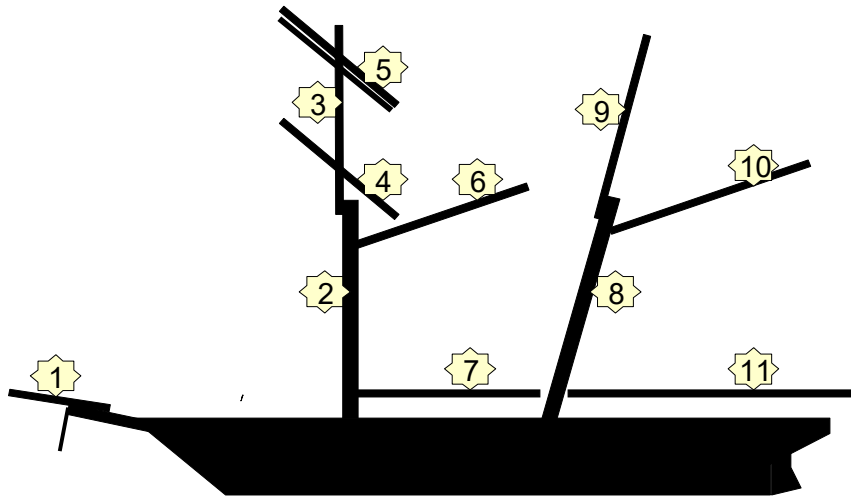
**Ship's Cradle** – Assemble the cradle with parts n.300, n301 and n.302 and paint white.

## Sails

The cutting-outlines for the nine sails are shown on the plan. Use tracing paper to make sail templates, and check these against the rigged ship. Make small modifications to rigging and sail templates necessary to achieve a good fit, then cut and hem the sails. Sails were made of many pieces sewn together. Simulate these joins by sewing across the sails as shown in Plan nr 3 Fig.2. Bend and rig the sails as described previously.

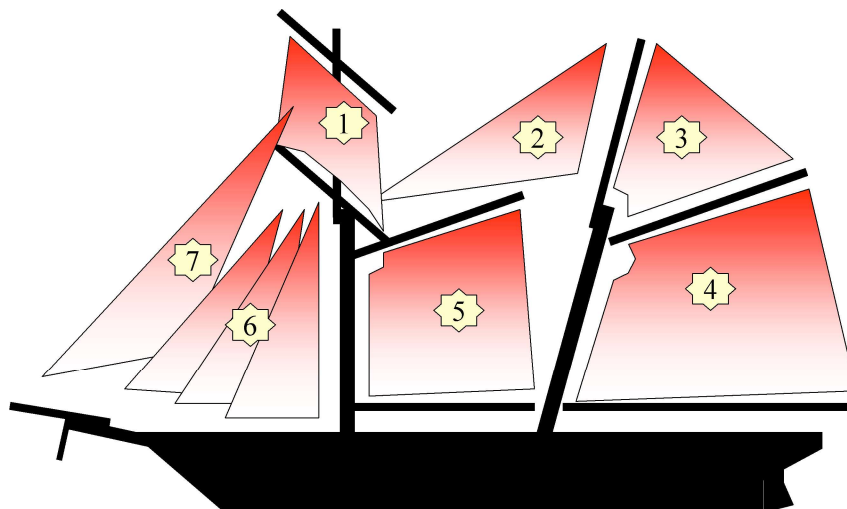
There are many hours of work needed to make the nine sails. Whilst this can be very satisfying work, some constructors may prefer to purchase the ready-made set of sails available for this model: La Rose Sail Set **Art. 34023**.

The two diagrams that follow identify the names of the many masts, spars and sails fitted to La Rose.



### Mast and Spar Scheme on La Rose

| Key | Name of the Mast or Spar    |    |                 |
|-----|-----------------------------|----|-----------------|
| 1   | Bowsprit and Outrigger Boom | 6  | Fore Gaff       |
| 2   | Foremast                    | 7  | Fore Boom       |
| 3   | Fore Top Mast               | 8  | Mizzen Mast     |
| 4   | Lower Yard                  | 9  | Mizzen Top Mast |
| 5a  | Top Yard                    | 10 | Mizzen Gaff     |
| 5b  | Rotating or Spinning Yard   | 11 | Mizzen Boom     |



### Schooner Sail Scheme on La Rose

| Key | Name of the Sail  |
|-----|---|
| 1   | Squaresail – bent on the yards of the foremast                            |
| 2   | Mizzen Staysail – suspended on the mizzenmast stay                        |
| 3   | Gaff Topsail – bent between Mizzen topmast and Gaff spar                  |
| 4   | Mizzen Spanker – bent between Mizzen Gaff and Mizzen Boom                 |
| 5   | Foremast Spanker – bent between Foremast Gaff and Foremast Boom           |
| 6   | Fore Jibsails of Fore Staysails – suspended on the foremast stays (3 off) |
| 7   | Flying Jib – suspended on the foremast top stay                           |

## LIST OF THE MATERIALS CONTAINED IN THE KIT

### READY-MADE PLYWOOD PARTS

|                                 |   |
|---------------------------------|---|
| <b>Plywood, 4x160x320 mm.</b>   | N. 4- 4A -5- 5A -6- 6A -7- 7 A -9- 300 -301 -302  |
| <b>Plywood, 4x160x465 mm.</b>   | N. 1 -1 A -2 -2A -3 -3A -8 -8A -11 -14 -15 -16 -17<br>18 -P. 1 -P. 12 -Cat-heads -Caps  |
| <b>Plywood, 2x120x390 mm.</b>   | N. 10- 71 -72- 73- 101 -102- 141 -142- 143- 144 181 -1 82 -183 -<br>201 -202 -203 -P. 3/8 -P. 5 -P. 1 2 P. 15- P. 17- P. 19- P. 25- P. 29 |
| <b>Plywood, 1,2x120x450 mm.</b> | N. 19 -74 -161- 204- Cheek plates   |

### PLANKS

**Lime or Acacia**  
40mm 1.5x5x450

**Walnut**  
4off 0.5x3x500  
1off 1x1x200  
2off 1x2x200  
50off 1x5x450  
1off 2x2x200  
1off 2x6x200  
2off 3x3x200

**White Maple**  
32mm 0.5x3x500

**Beech-wood**  
2off 2x2x450  
3off 2x2x200  
1off 2x3x200  
3off 2x5x450  
3off 2x6x200  
1off 2x7x100  
1off 3x3x100  
1off 5x5x150

### DOWELS

1off Ø2x150  
1off Ø4x500  
2off Ø4x450  
1off Ø4x350  
1off Ø5x450  
1off Ø5x200  
1off Ø6x300  
1off Ø6x310  
1off Ø6x150

### BAG OF BLOCKS

1off walnut 4x8x10  
1off beech-wood 4x6x9  
1off beech-wood 4x4x50  
15off gratings

### FITTINGS

#### Bag with:

2off cast metal anchor bodies  
2off brass pins Ø2x43  
4off perforated brass pellets Ø3  
2off brass connection blocks Ø3x2,5  
2off large port-holes (hawse-hole bushes)

#### Bag with:

1off large chain 400 long  
1off small chain 70 long

#### Bag with:

46off small belaying pins  
2off right-hand ladder sides  
2off left-hand ladder sides

#### Bag with:

1off transparent plastic sheet. 25x25  
1off brass pot-bellied compass  
72off brass rings Ø3

#### Bag with:

2off medium-sized cast metal gears  
1off large cast metal gear  
1off photo-engraved plate  
1off brass equalizer  
1off brass pin Ø2x50  
2off large cast metal shackles  
1off cast equalizer support  
1off brass bell (small)

#### Bag with:

2off cast metal winch supports  
1off large gear  
1off small gear  
2off brass rope-winding bells  
3off brass pins Ø0,5x32  
2off brass pins Ø1,5x50

**Bag with:**

2off pumps  
2off levers  
2off lever supports  
2off brass pins Ø2x10  
2off large stemmed eyelets  
2off wooded rope-winding bells 8x11  
2off wooded rope-winding bells 7z7.5

**Bag with:**

40 off deadeyes

**Bag with:**

20off brass chain-plates  
20off brass rings Ø10  
40off short brass nails

**Bag with:**

59off one-eyed blocks  
2off two-eyed blocks

**Bag with:**

65off brass eyelet nails  
4off brass rings Ø4  
4off brass rings Ø5  
14off small stemmed eyelets  
100off long nails  
1off cast metal double-collar  
6off small pulleys  
2 off flat supports  
3off folded supports  
1off yard connection block  
2off cast metal stirrups for spinning yard

**Bag with:**

1off French Flag

**Bag with:**

1off brass wire Ø0.8x 300  
1off brass wire Ø1x100  
1off walnut plank 2x3x100  
1off walnut plank 2x10x100  
1off walnut plank 4x4x100  
1off walnut plank 5x5x100  
1off walnut plank 6x6x100

**Bag with:**

1sheet of sailcloth

**Bag with:**

1off spool of large, black thread  
1off spool of large, light-coloured thread  
1off spool of thin, light-coloured thread

**1off Sheet of walnut 0.6x100x100**

**4off Construction Plans**

**1off Instruction Booklet**

## PLANKING INSTRUCTIONS

Newcomers to this fascinating hobby, or those new to the construction of a Mantua Group period ship model, sometimes have questions when they start to work such as: "How big an obstacle is the planking? Is it possible to have something additional in the way of equipment or instructions to help in this most important part? Are there any photographs or diagrams that may help?" To assist you, we have produced this short instruction sheet in an attempt to lessen any problems you may encounter.

### PLANKING OR THE APPLICATION OF STRIPS

First, a short note on the background. Each vessel was originally clad with large wooden boards positioned longitudinally or diagonally to the line of the hull, either with one plank overlapping the next (clinker-built), or plank one adjacent to the next (carvel-built), and nailed onto the ship's frames. This covering, in addition to being necessary for buoyancy (after caulking and sealing the joints) also gave considerable strength to the whole vessel.

In the case of our own models, because of the nature of the materials used, the planking will be accomplished using not short planks, but with full strips wherever possible, and doubled up in most cases, as they were in the original vessels. This technique is made possible through the flexibility and quality of the materials provided.

To achieve a high quality finish to the planking, we suggest the following system that we consider is most effective, and which is demonstrated in the diagrams on the last page.

The planking operation begins on plan number 1 of each of our model's instructions. The position of the first plank is shown on a profile of the skeleton structure after assembly. This reference point normally corresponds to the highest point of the two or three central frames and coincides with the lowest point of the curve formed by the extreme tops of the frames themselves. Where required, use a strip bender to curve the plank so that it fits the shape of the hull.

The first strip applied must be perfectly parallel to the line of the keel and should be fitted at the bow, the other end projecting beyond the length of the hull as in Fig.1 below. If the ship is to be double-planked, the initial planks may be glued and lightly pinned to the frames. The pins are to be removed once the assembly has properly set. Please note that where the upper sections of the frames are to be removed later, the planks should be pinned only at these places, i.e. no glue applied.

Proceed in the same manner from the top to bottom, fitting each plank snugly against the other, checking that they can be positioned easily without having to unduly force or twist the plank longitudinally. **Be sure to cover each side of the hull alternately, working three to four planks at a time. This avoids twisting the hull.**

After a number of these 'easy' planks have been fitted, a certain amount of difficulty will be encountered in placing subsequent strips, as the planks will now want to overlap in some places. You will now have arrived at the curve or sheer, of the vessel. Planking now requires a different procedure. All the planks must adhere to, and lie flat against, the frames for their entire width without curling, twisting or forming strange and unwanted 'ears'. We need to overlap the new plank on the previously positioned plank, allowing the strips to guide us in determining at what point the overlapping is to begin at each end. Position this overlapping plank without gluing onto the central two or three frames of the hull (see Fig.2), holding the ends down with your fingertips, mark both ends where they overlap, with a pencil. Cut along the lines drawn, using a sharp craft knife (see Fig.3).

Reposition the cut strip on the hull, fitting it snugly against the preceding plank, making slight adjustments to the angled cut as necessary, to ensure an exact fit.



Now glue and pin the trimmed plank into position. Proceed with this method working towards the bottom of the hull i.e. towards the keel. Note that if this operation is carried out with due care, the planking will create the beauty of a wood inlay as the pieces fit together smoothly.

After proceeding in this manner for a while, we arrive at a point where the strips begin to leave a space (rather than overlapping). Irregular shaped spaces appear at the bow and stern ends of the strips as we position them alongside the preceding strips. Even in this case, let the strip itself guide you. Fix the strip into position, letting it follow its own natural curve. The spaces that are left, normally acute triangles, will be filled later with segments of strip carefully cut to shape (see Fig.4).

After the lower portion of the hull has been completely covered, proceed to cover the upper areas along the upper deck parapets (if this is relevant to your model), leaving the ends of the strips extending beyond the parapet line. This will be trimmed away later to achieve the correct outline when measured against your drawings (see Fig. 5). After the application of the first layer of planking over the entire hull, it will be necessary to smooth down the surface, removing the inevitable remains of excess glue, and leveling off any small imperfections in the planked surface.

Having finished the surface to your satisfaction, if you are working on a kit that is double planked, proceed to apply the second and final layer of planking. This will be the layer that is visible. Having gained the skills carrying out the first level, you should now be well able to ensure that the quality of the second layer is of a high standard.

The second planking will follow the same process, and, assuming a good level of preparation, should be somewhat easier.

In some instances, strakes or rubbing boards that stand proud of the planking should be fitted to the first level of planking, where indicated on the drawings. However the instructions may well direct you to fit them after the second-level planking has been completed.

## **FINISHING**

When the final planking has been completed and the glue is fully set, the next task is to smooth the entire hull. We suggest the use of a scraper, a small wood plane (set fine) and various grades of sandpaper.

At this point, after having trimmed off the excess planking, according to the general profile at the parapet line, proceed to install the handrails and the gunwales, which are those planks that extend beyond the planking.

For the handrails, since they will be placed flat it will be necessary, especially at the bow and stern sections, to cut the strips into small angled (trapezoidal) sections in order to follow the curve of the hull (see Fig 6). The joints between these sections should be carefully sanded to make them as invisible as possible and to achieve a smooth, continuous curve.

For the gunwales, the strips will be fixed "edge on". The thickness of the strips (usually 2mm.) means that it will be necessary to pre-form them to fit the curves. We suggest the following methods to achieve the desired curve. i) If only a slight curve is required, use a standard plier-type plank bender. If a deeper curve is needed, ii) soak the strip in very hot water for a minute or two, then carefully bend and hold the strip in position against the hull or over an object of the right shape until set. Alternatively, iii) wet the strip and use a wheel-type bender.

When the strip dries out it will be stabilized and can be placed into position. If there are a number of these pieces to make, build a jig to save time and increase accuracy.

At this stage, after ensuring the main decks are properly positioned, cut out the sections of the frames that are visible above the decks (extending up to the parapet tops), and smooth them off level with the deck surface. Proceed to plank the inside faces of the bulwarks, covering the inside of the first layer of white planks. Carefully sand this last section of planking smooth using progressively finer grades of sandpaper.

*The foregoing briefly describes the subject of planking in an effort to assist the beginner with what appears to be a rather daunting task but which can become a very satisfying achievement. The rest "as they say" is up to you. Take your time; use your own skill and ingenuity to develop your own methods having considered our suggestions.*

## **TOOLS FOR THE JOB**

Each individual may have their own idea about how many, or what type of tool to use and what to use them for. We set out below some general advice of modeling tools and their uses for your consideration. These are just some of the tools available. Please ask your supplier for details.

- **Craft Knives.** There are a number of sizes available, the larger handle being the most useful. There are many blades available from straight edge to curved and chisel ends, together with saw blades, etc.
- **Plank Benders.** There are two main types: i) plier-type strip bender for forming dry planks (used in most applications); ii) wheel-type bender suitable for bending wet planks.
- **Strip Clamp.** This is a quick release clamp for holding strips whilst you trim them. This also doubles as a hull clamp allowing you to work with both hands on intricate work.
- **Pin Pusher.** This tool is spring loaded. A pin is inserted headfirst into the barrel then the tool is used to punch the pin into the wood, removing the need to hammer pins in delicate places.
- **Balsa Plane.** A small plane with a razor-type blade, and can be set for a fine cut.
- **Scraper.** A razor-type blade used for finishing flat surfaces.
- **Pin Vise.** A tool that looks like a jeweller's screwdriver but with collets of varying size, and which can take the smallest drill bit and act as a twist drill.
- **Sanding Stick.** A small plastic spring-loaded stick with a tapered end that takes a thin sanding belt, for sanding in tight places.
- **Razor Saw.** There are various grades of miniature saw blade available that all give a very fine cut. They are usually tenon-backed and can be obtained in sets to include the handle, mitre box, or just the blade.

