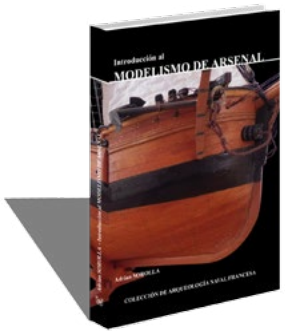

AN INTRODUCTION TO PLANKED ON FRAME SCALE MODEL SHIP BUILDING

An introduction to Planked on frame model ship building through more than 228 pages illustrated by approximately 500 colour photographs and captions.

Adrian SOROLLA

It is obvious that building a planked on frame model has always generated a certain amount of respect within the model ship building community: even from experienced builders. Taking on the construction of a first planked on frame model from a set of plans seems daunting. No box of pre-cut pieces, no pre-milled to size lumber in required quantity, no pre-made parts: evidently, all this may seem somewhat intimidating.

If being already familiar in building from kits, the concept of building from plans may be considered as the next logical step. Even if this work may bring us some apprehension, it should not scare us away, as we have already acquired knowledge in model ship building: this is knowledge we can apply through all phases of the construction.

This guide was written to help the modeler through the various stages of construction. As the title indicates, “An introduction to planked on frame model ship building”, this guide will show us through the process of building our first framed model from plans. A fairly easy model to build while having fun and being supported by the numerous photos and extensive captions provided to analyze and explain each step. This guide will introduce the modeler to ship building from plans.

From the first look into the plans, to the completion of the model, which will be a remarkable piece in your collection, this guide covers all phases of the construction.

Although a fairly easy monograph was chosen, the information contained in this guide is such that the explanations can be applied to any other monograph by adapting the advice given and the dimension of the parts needed to whatever project you may take on.

The chapter sequence guides us through the logical construction stages. The different steps are presented while taking into account the fact that not all modelers are equipped with the same tools to fabricate the parts: varying from hand to highly mechanized power tools.

The choice of lumber, the interpretation of the plans, the use of templates to cut parts, wood working techniques, the use of cutting tools, the choice and purpose of different material (brass, ebony, boxwood, lead, tin, etc.) including the steps to follows, everything to build your model is explained in this guide.

PRESENTATION OF THE BOOK

228 pages illustrated by approximately 500 colour photographs and captions.

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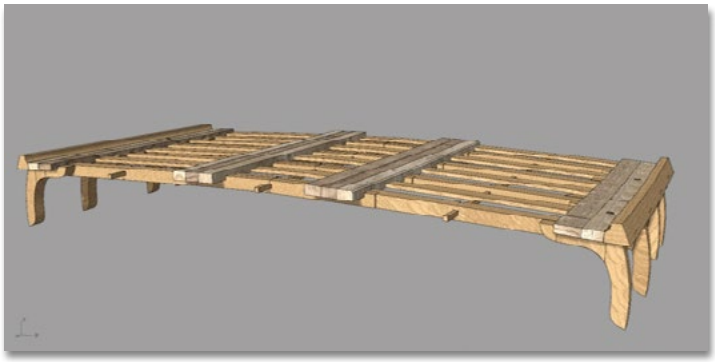

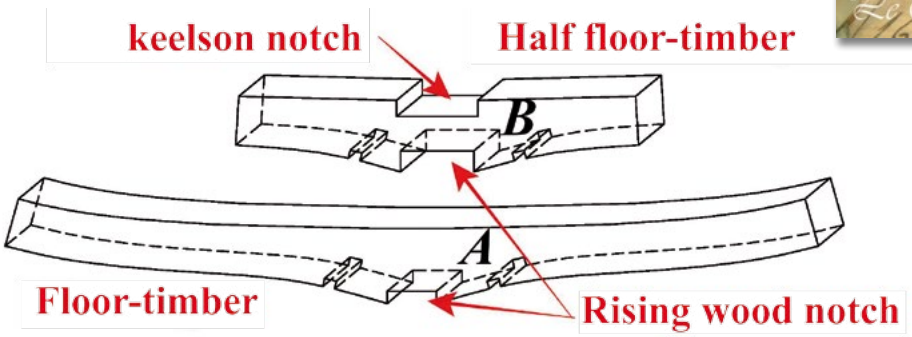

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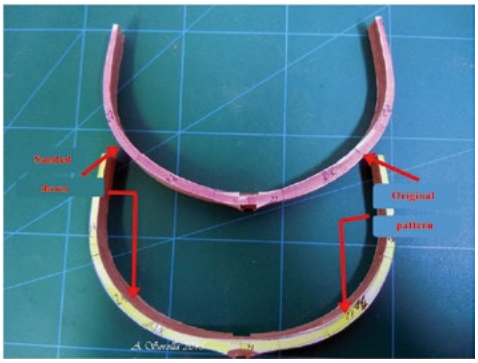
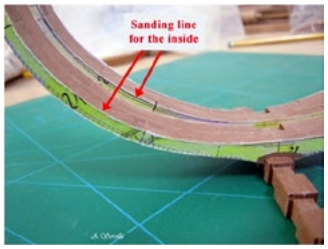
PHOTO EXCERPTS

▼In this photo, the outside sanding has been done on the frame located at the top: inside sanding on the frame at the bottom.

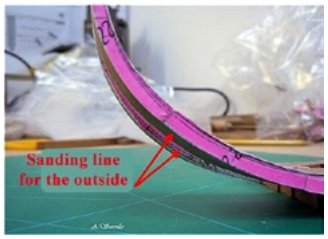
The right side of the frame is such that all the lines are visible.
On the left side of the frames, sanding has been done to the inside line.



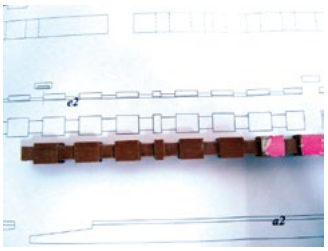


The importance of the lines, as sanding is being done, is seen in these photos. They were taken for us to appreciate the fact that these lines show the relationship of the bevel from one frame to the next and the amount of sanding (bevel) needed, by comparing the lines with the frame placed directly in front or back.

▲►Sanding can be done with using a disk sander for the outside edge, and with a drum sander for the inside edge: if the drum is long enough. In case these tools are not available, a high-speed rotary tool and sanding drum will work. Scrapers, files and sanding paper will work just as well but these methods may take more time.



Before assembling entire individual frames, the next step will be to glue together the floor-timber and half floor-timber assembly, and rising-floor and chock assembly for each and every frame. This operation is needed to ensure correct alignment of all the pieces and notches on the rising wood. We will do this with the help of a template, which we will make for that purpose.

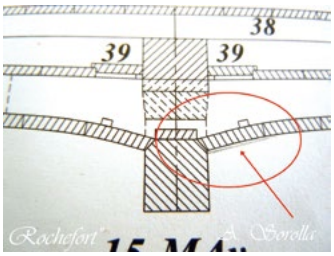


◄To make this template, we prepare a piece of wood of dimension to the width of the rising wood and long enough to receive 5 or 6 frames sitting on it: basically a short stretch of the rising-wood. We will glue photocopied section of this piece of rising wood and will cut the notches as if it were the real thing. This template should be made longer to ease handling.

►With the help of this template and using white glue, we can now assemble the pairs of layers for each frame composed of the floor and half floor-timber. We will position the two pieces checked on the frame template onto the template we made, knowing that the floor-timber fits the narrow part of the rising wood and that the half floor-timber fits in the larger part of the rising wood. We can use the same process for all the frames.

Glue is applied to the half floor-timber and the two pieces held tight together for a few seconds while being placed in the template: the assembly is complete.

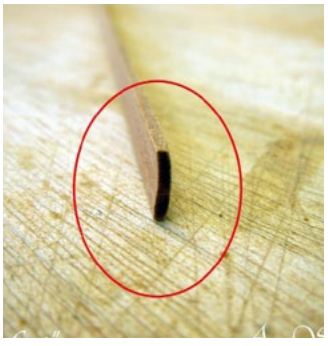
◄The result can be seen in this photo. We will note that a small portion of the paper was removed near the notches. This is because the rising wood notches cut in the template corresponds to the width of the finished frame, and the thickness of the paper may impede the fit of the assembled pieces. This said: we do not completely remove the paper pattern, as it will remain useful for later steps.



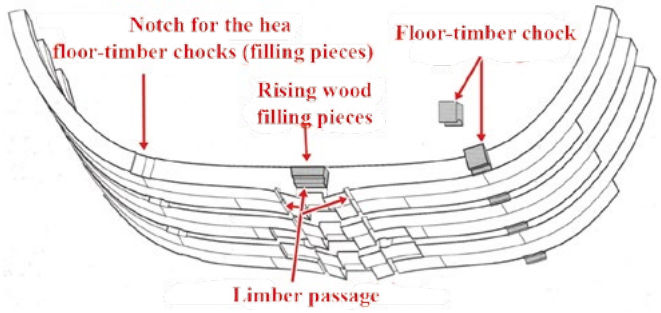
The area of the hull located between the wales and the keel is the under water hull, also named "the quick-works". The plank located the closest to the keep is particular in nature. It is called the garboard strake and is lodged into the keel's rabbet. This plank extends from the front to the back without a traditional taper. It presents a slight arching in its width, in the center area of the hull, as it needs to adapt to the shape of the floor-timbers near the keel.

We can take the dimension of the garboard strake from the plates showing the cross cut views. We will note that we need to work from a slightly thicker board to account for the arching.

Once the basic boards have been milled to size, we must shape the concave arch with a rounded blade (scraper) or a rounded sand paper pad. As for the convex side, we can use a flat file or sand paper: it works great.



Prior to the installation of the frames, we must work on the notches for the chock or filling piece, located on the frames at the height of the head of the floor-timber. For this we are going to study the drawing shown below: taken from the monograph of Le *Rochefort*.



In this drawing, we can see the two different types of filling pieces installed between the frames. In the center, the piece resting onto the rising wood: and in contact with the lower face of the keelson. It is fitted with a cross-channel, which is cut in order to allow movement of water from port to starboard side. Two lateral channels (the limber passages) can also be seen on each side near the foot of the frames. They are used to direct water leakage towards the pumps located in the center of the ship.

The other filling pieces, one row on each side, are located at the head of the floor-timbers. They are lodged into a notch cut in the faces of the frames. These filling pieces are fitted with a channel located on the lower face: this channel is also cut for the circulation of water towards the bottom of the hold. This channel will be shaped later: once the hull has been assembled and sanded.

In regards to the notches at the head of the floor-timbers, the monograph indicates that they must be 14mm deep (page 24), which translates to 0.40mm at 1:36 scale. The width of the filling pieces can be measured from the plans, on cut 11, marked 6.

Having taken these measurements, we can make a template to help us locate and scribe these notches. This template can be made with a small piece of brass sheet or cardboard, folded at 90-degree angle: it will serve as a support on one side and guide on the other.