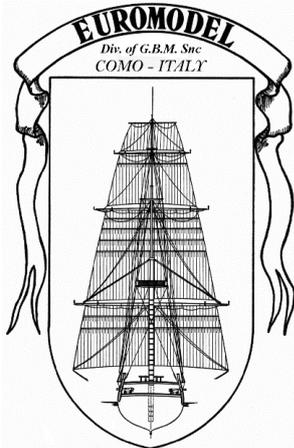


## TRANSLATION LINKS

1. type into your browser ... **english+italian+glossary+nautical terms**
2. utilise the translation dictionary 'Nautical Terms & Expressions' from Euromodel website



# An *interpretive* review of the **Royal William**

## 1<sup>st</sup>. Rate English Vessel

Originally launched in 1670 as the 100-gun HMS Prince  
Re-built and launched in 1692 as the HMS Royal William  
Finally re-built again and ...

**Launched 1719**

**Scale 1:72**

**Checked the  
Essential Resource  
Information File ?**

## 10.SHIP'S BOAT

September 2021

**This paper is based on the supplied drawings, external references, kit material – and an amount of extra material. It serves to *illustrate how this ship might be built.*The level of complexity chosen is up to the individual**

This resource information was based on the original text supplied by Euromodel and then expanded in detail as the actual ship was constructed by MSW member piratepete007. [Additional & exceptional support was gratefully received from MSW members **marktiedens, Ken3335, Denis R, Keith W, Vince P & Pirrozzi**. My sincere thanks to them and other MSW members who gave advice and gave permission to use some of their posted photos.

Neither the author or Euromodel have any commercial interest in this information and it is published on the Euromodel web site in good faith for other persons who may wish to build this ship. Euromodel does not accept any responsibility for the contents that follow.

***This is **not** an instructional manual but is a collaboration amongst a number of MSW members whose interpretations were based on the drawings and the supplied kit.***

- Additional material used was dictated by personal choices.
- Greater simplification would be achieved by using the material as it is supplied.

**Model Ship World Forum**

I am indebted to those members who were, or are, involved in their own build of the Royal William and have allowed me to add photos from their posts – but not utilising their personal text - in the belief that the images could add both a stimulus and an interest to new builders of this ship. So my grateful thanks go to ... Brian C; Denis R; KeithW; marktiedens; Vince P, Ken3335

***They have taken the RW build to a much higher level than intended by this kit.***

## Reference Texts

*Fighting at Sea in the Eighteenth Century; The Art of Sailing Warfare* by Sam Willis (2008)

*Historic Ship Models* by Wolfram zu Mondfeld (1989)

*Seventeenth Century Rigging* by R.C. Anderson (1955) [almost a complete copy of his earlier book *The Rigging of Ships in the Days of the Spritsail Topmast, 1600 – 1720* (1927) ]

*The Construction and Fitting of the English Man of War 1650-1850* by Peter Goodwin (1984)

*The Masting and Rigging of English Ships of War 1625 – 1860* by James Lee (1984).

**For the purposes of discussion, this ship is considered as an 18 C build.**



The Ship's Boat

It should be strongly emphasized that the supplied ship's boat could be used as it is or just slightly changed by the simple addition of thwarts (seats).

However, there are some significant changes that *could* be made but in no way should much of the following information be taken as a necessary part of the overall build of the Royal William.

There is a chance here to scratch build a long boat and a pinnace as a substitution.

*[To navigate through the contents – use 'control + click']*

# Contents

CHAPTER 1: LONGBOAT (kit supplied .....	6
Terminology.....	6
Different Approaches to Building a Boat .....	7
Working with Plastic Resin .....	7
Clinker vs Carvel .....	7
Adaptation of Supplied Hull .....	8
Modifications to the Supplied Hull.....	9
Introducing Weathering .....	12
Fitting Out.....	13
Ribs .....	13
Bottom Boards .....	14

## Illustrations

[The figures below are not hyperlinked]

Figure 1: Boat Structural Detail .....	6
Figure 2: Cutting & Sanding Tools.....	7
Figure 3: Ship's Boat and Fittings.....	8
Figure 4: Longitudinal Profile .....	8
Figure 5: Longitudinal Profile .....	9
Figure 6: <i>Rough</i> Outline of the Proposed Modified Longitudinal Profile.....	9
Figure 7: Clinker Outline .....	10
Figure 8: Carvel-style Surface .....	10
Figure 9: Additional Features .....	10
Figure 10: Possible Internal Contouring (incomplete).....	11
Figure 11: Removal of all Ledges & Squaring of Stern Corners.....	11
Figure 12: Stem Post.....	11
Figure 13: Paint Selection for Dry Brushing .....	12
Figure 14: Immersion in Ammonia Solution.....	13
Figure 15: Rib Shaping .....	13
Figure 16: Ribs in Position with Keel.....	13
Figure 17: Barge Bottom Boards and Keel.....	14

## CHAPTER 1: LONGBOAT (kit supplied)

Towards the end of the 17C, *longboats* were no longer than 36 ft./ 11 m. – (152 mm. at this scale of 1:72) (by late 18C, they were replaced by the launch). This maximum length was dictated by the Admiralty's insistence that boats be stored aboard and not towed behind. Apart from a variety of incidental uses the longboat faced heavy demands through the replenishing of ship's water and carrying and laying out of the ship's kedge and stream anchors; it needed to operate in all weathers and utilise oars or sails.

There is an opportunity to scratch-build a smaller work boat, the *pinnace*, which was usually stored inside the long boat. This was a boat common in the 15 – 18 C (sometimes referred to as a 'cutter' but that did not appear as such until late 18C).

### Terminology

The longboats of the time had bluff bows, a relatively narrow stern and a significant sheer.

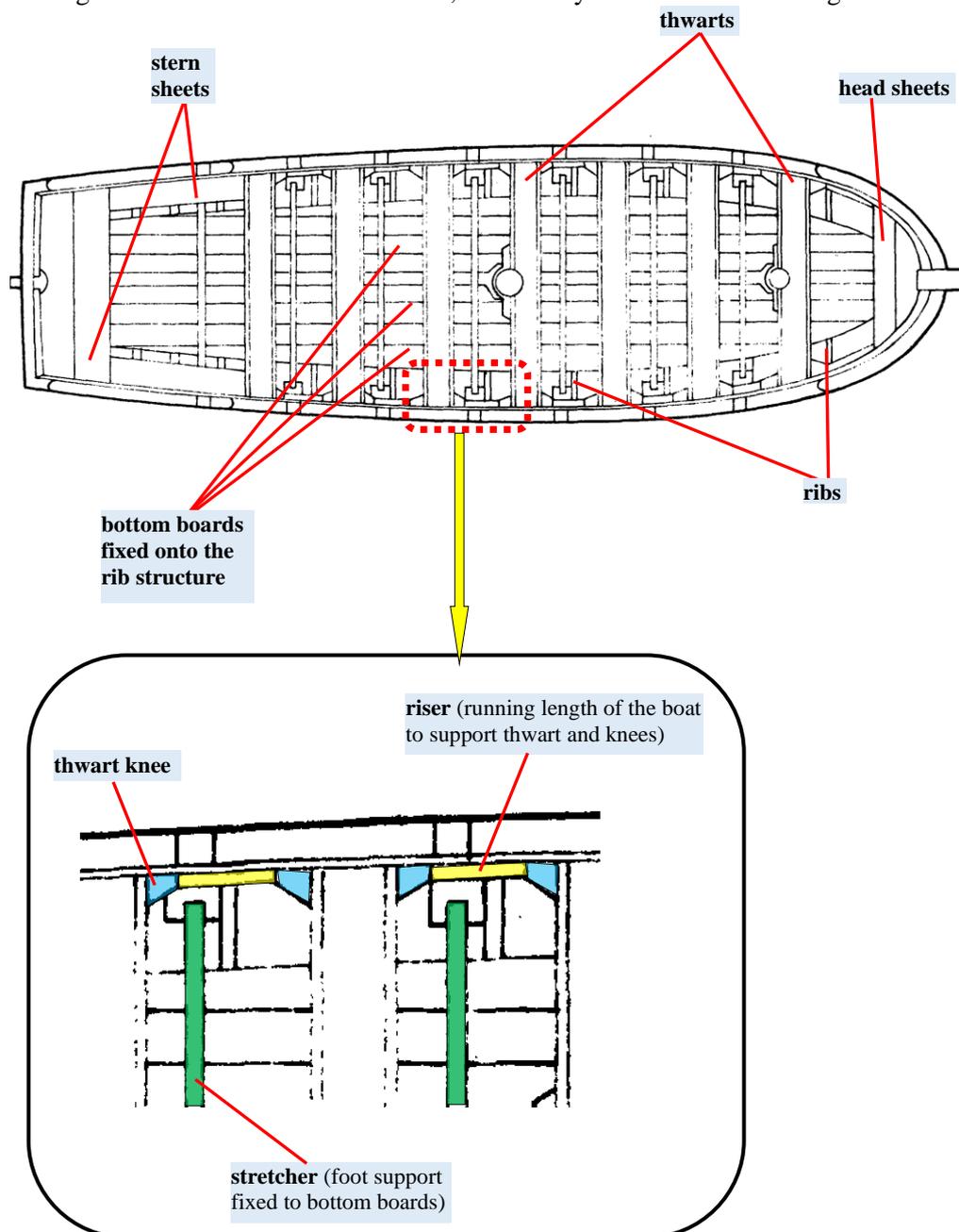


Figure 1: Boat Structural Detail

## Different Approaches to Building a Boat

### Alternative 1:

Many builds have part of the gun barrels projecting out past the hull profile suggesting a state of readiness for battle. If so, then to clear the Main Deck for battle, the logical excuse can be that the ship's boat was removed and towed behind the ship. The *boats then are not built*.

### Alternative 2:

Suitably painted.

### Alternative 3:

Install interior fittings and paint.

### Alternative 4:

Modify the longitudinal & interior profiles, install interior fittings and paint.

For those not wishing to completely scratch-build a boat, Euromodel in the past has supplied a timber-carved boat but modern technology has enabled them to produce a more useful but basic hull created from plastic resin.

### Working with Plastic Resin

This proved incredibly easy to work with and equipped with a Dremel and a number of differently-shaped cutting and sanding tools, the standard shape is easily altered to conform quite closely to the drawings supplied.



Figure 2: Cutting & Sanding Tools

### Clinker vs Carvel

The *clinker* form of boat supplied up to early 18C was easily built and often constructed in private shipyards for supply to the yard building the actual ship. Eventually the Navy insisted on standardisation and also to have the boats built in the same yards that built the ships resulting in *carvel* (plank butting) became the order of the day later in the 18C (the same skills were employed whether building the ship or the boat). Knowing that clinker boats deteriorated over time and the last re-fit for the RW being in the early 18C, a carvel ship's boat could easily have been substituted for what would have been clinker in the original fitting out.

## Adaptation of Supplied Hull

altering the gunwale profile by addition of pieces at both the forward and rear sections and adding appropriate interior fittings

Timber lengths have been added to both the rear and forward parts (yellow dotted lines) of the resin boat to change the longitudinal profile without altering the resin hull in any way. The interior profile is clearly visible and whilst thick, it will go un-noticed to the casual observer. Thwarts and sheets have been added.

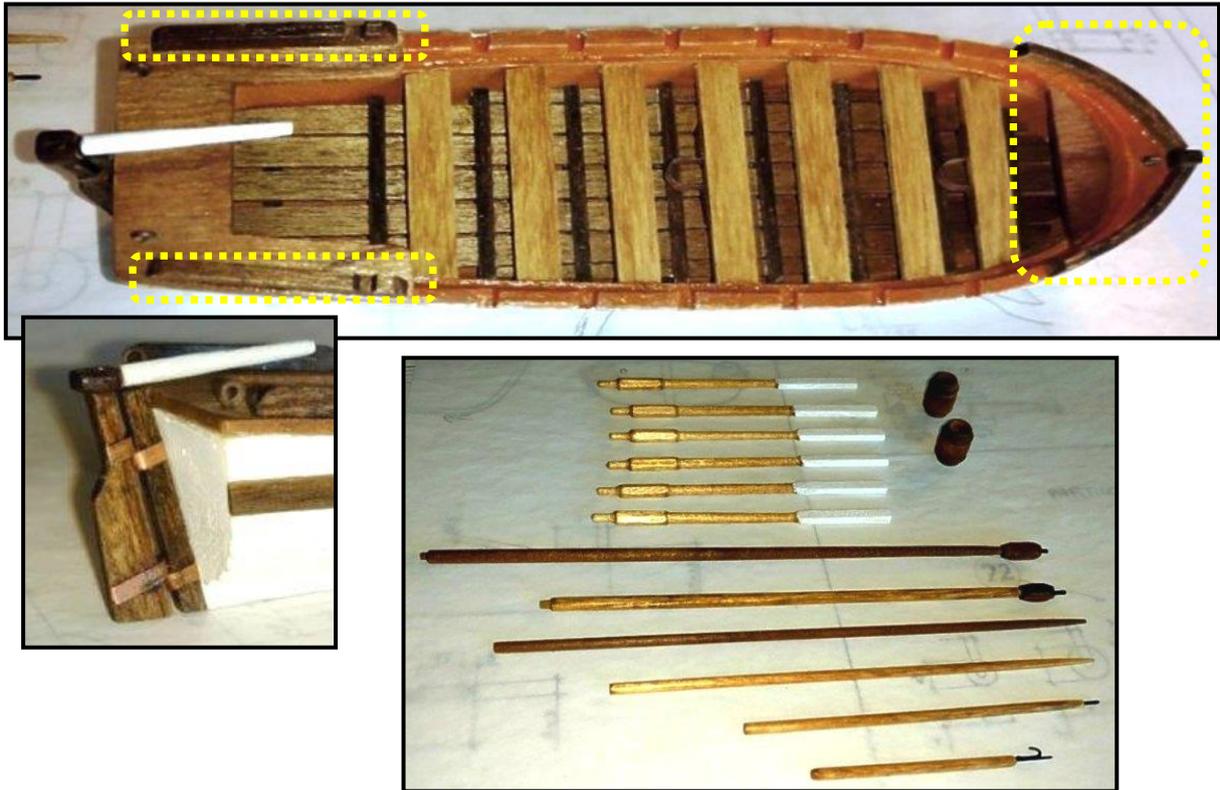


Figure 3: Ship's Boat and Fittings

Fig. 4 below shows the longitudinal profile (refer to Fig. 5) of the supplied resin boat that has not been altered to a curvature (yellow, straight dashed line) but the addition of bow and stern timbers has created a suitable change.



Figure 4: Longitudinal Profile

## Modifications to the Supplied Hull

modifying the longitudinal & interior profiles and adding appropriate interior fittings

*The following text illustrates some direction for modification of the hull but what the outcome is will depend on the individual builder. The modifications are not difficult but demand both time and patience.*

### Longitudinal Profile

- The drawing shows the boat as having a significant sheer (*curved longitudinal profile*) along the gunwale. The stern section of the gunwale is approx. **3 mm.** lower than the stem (broken blue line).

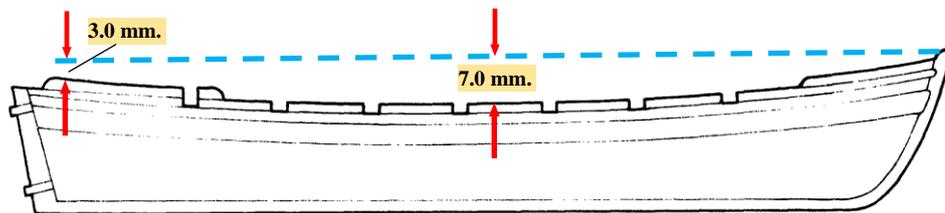


Figure 5: Longitudinal Profile

Even retaining the clinker style, the resultant shape of the curved gunwale produced a reasonable outcome.

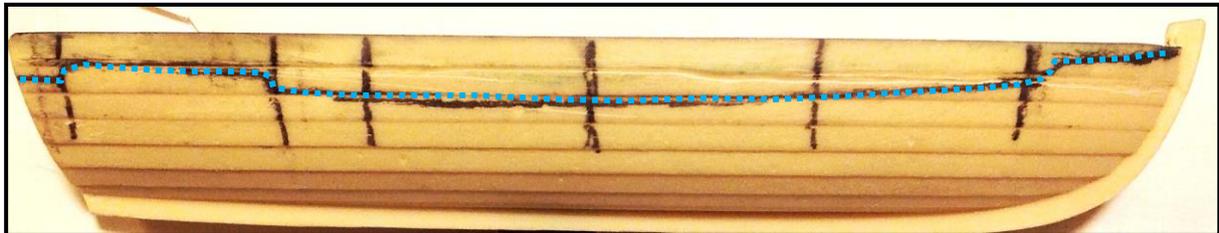


Figure 6: Rough Outline of the Proposed Modified Longitudinal Profile

Potential problem ... whilst the plastic resin is easy to work, vigorous filing can cause the material to fracture so changing the longitudinal profile is best done *before* altering the interior.

Fig. 7 shows the clinker format but this was subsequently changed through sanding to represent the carvel format (some may choose to portray it as a clinker-style boat). With a Dremel sanding drum operating, the smoothed surface was incredibly easy to produce but filing and sanding would produce the same outcome. The smoothed surface could either be planked or just painted.

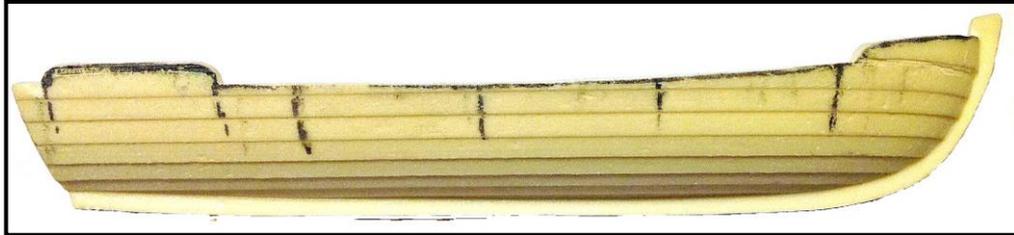


Figure 7: Clinker Outline

Interesting changes can be made as Fig. 8 shows ...

- clinker surface and the raised sections at each end have been removed
- capping rail can be added along the top edge of the hull
- removed sections at each end are then added back

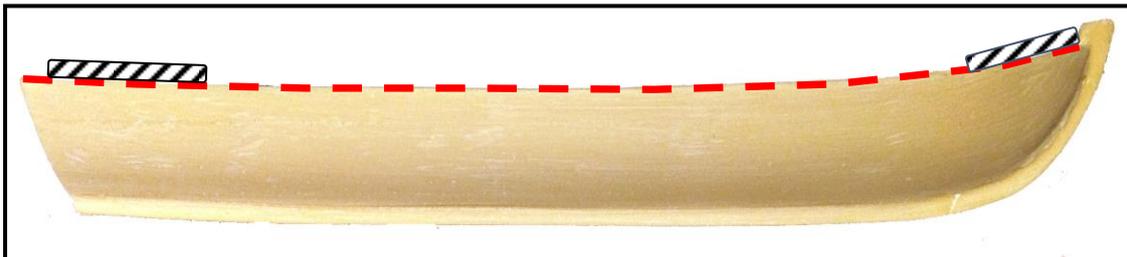


Figure 8: Carvel-style Surface

Additional features shown in Fig. 9 include the addition of ...

- pairs of \*tholes for supporting the oars
- interior planking above the thwarts
- central support column under each of the thwarts
- for extreme detail and not shown would be the all-important windlass to assist with raising the anchors and a moveable davit over the stern to help with lifting the buoy rope.

\* the drawings indicate slotted square holes for the oars but these were not common until the mid-18C and early 19C.

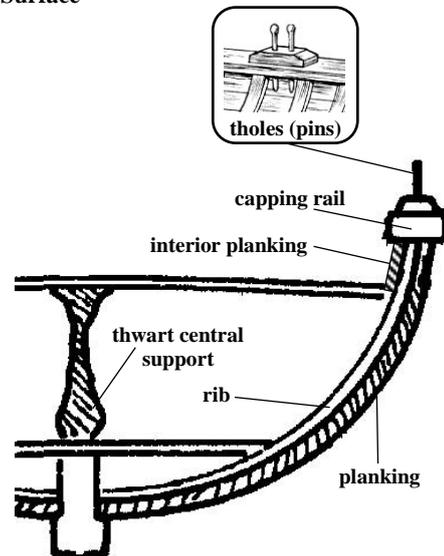


Figure 9: Additional Features

### Interior Profile

The photos below are mis-leading in that they suggest the curved longitudinal profiling has not yet been done. To protect the hull integrity, that step must be done *first*.

- The flat inside base was changed into a *concave surface roughly matching the outside*. A Dremel cutting bit with a rounded shape made this task simple and approx. 5 mm. was cut out from the bottom. The guide to cutting down to a suitable depth involved holding the boat up to a strong light and observing a uniform translucent colour (to begin with, thick bottom was totally opaque to light). The concave inner surface is evident in Fig. 10.

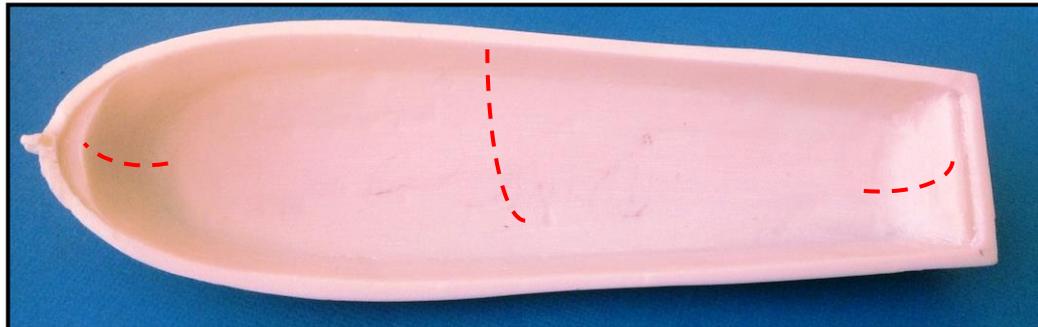


Figure 10: Possible Internal Contouring (incomplete)

- The removal of ledges, squaring off of the two stern corners and removal of excess bow interior can be seen in Fig. 11. This allowed for the construction of the risers supporting the thwarts (seats) and inclusion of the head and stern sheets all at the same level.



Figure 11: Removal of all Ledges & Squaring of Stern Corners

### Stem Post Extension

Depending on the actual resin casting, the stem post may be virtually non-existent or badly formed. In this case, the bow would be levelled to the gunwales and a small nail (broken red line) inserted as a reinforcing pin to support a small timber piece (blue) used to extend the stem post upwards.

The aim is to make the forward edge of the extension continuous with the moulded post underneath and the aft edge continuous with the interior added post section (yellow). To accommodate the inner edge of the extension profile, some resin will need to be removed from the internal surface.

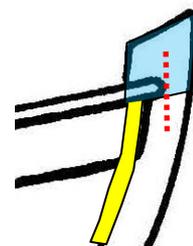


Figure 12: Stem Post Extension

## Introducing Weathering

Since the basic boat is a white plastic resin, it needed to be coloured in some way and the choices totally variable and perhaps a 'captain's call' was the order of the day with painted colours varying from black through to white. Where the boat has been scratch built, it seems that the natural woodwork is often left un-painted ! In this build, it was decided to give the boat a weathered look through the use of a series of different paint layers by 'dry brushing'.

Dry brushing involves a specific brush being lightly filled with the paint applied and then stroking that brush over paper until all the paint appears to be used. The brush is then lightly applied to the base coat until an amount of colouration can just be perceived. That is the point when the brushing on of that new 'layer' is stopped. If multiple brush coat 'layers' are used, then it becomes a mixture of colours rather than just a multi-layered application of paint.



Figure 13: Paint Selection for Dry Brushing

The **first step** was to add a base **wet brush layer** of a dark brown paint called 'Dryad Bark' (refer below).

The **second step** was to apply paints using 'dry-brush' technique described above.

[Paints used 'Citadel' from Games Workshop that seem to have outlets in many countries. Model Ship World Forum contains a number of very excellent & specific references.]

### Layer Sequence:

1. *75% Dryad Bark & 25% Skrag Brown*
2. *50% Dryad Bark & 50% Skrag Brown*
3. *Dawnstone*

## Fitting Out

### Ribs

Eighteen ribs were cut (from 0.5 x 4.0 mm. planks) to a length of approx. **60 mm** and a width of **1.6 mm**. allowing spacings along the keel approx. **5.0 mm**. apart.

The extra length allowed easier manipulation of the ribs; the width should/could have been reduced.



Figure 14: Immersion in Ammonia Solution

To fit ribs against the curved boat interior without breaking, the strips were soaked in dilute ammonia solution – available from supermarkets as a cleaning agent called ‘cloudy ammonia’.

The timber strips were removed after 6 – 8 hours of soaking, wiped with a dry cloth and then held in position in a block grouping (Fig. 15) allowing at least 12 hours to dry.

Even though the athwartships width varied across the boat along the length, the dry ribs were easily fitted into position.



Figure 15: Rib Shaping

A keel (**2 x 2 mm.**) was added over the ribs, as well as at each end to simulate part of the stem and stern posts. The stem post section particularly had to be thinned down greatly at the top (refer to a following commentary on extending the stem post).



Figure 16: Ribs in Position with Keel

### Bottom Boards

From the scrap stock, timber *0.9 x 3 mm*. was utilised. Fig. 17 shows added stern and stem post sections. The placement of boards bears little resemblance to the drawing but that was principally due to the difference in the athwartship measurements between the two.

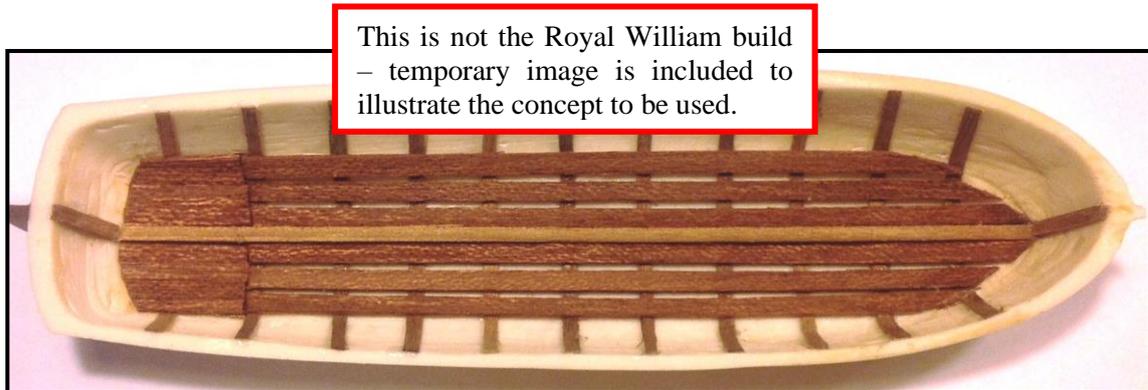


Figure 17: Barge Bottom Boards and Keel