

HELSAL II Scale Model

On the occasion of his 70th birthday, Past Commodore Keith Flint was presented with a scale model of HELSAL II by his son Ian. Keith is now the proud owner of an exceptionally well detailed model which is a credit to it's builder David Mortimer who created his latest masterpiece during his leisure time over period of about 8 weeks.

The model is 89 cm (2'11") in overall length and 128 cm (4'2½") in height, having been built to a scale of 1:22.5. The hull was shaped from western red cedar in accordance with plans supplied, the mast from 2 pieces of half round timber, and the boom was also shaped from timber from plans provided by Ken Banwell. The rig was set up from photos taken of HELSAL's rig.

Every part was fashioned by David except for the turnbuckles and the pulleys which were purchased from Sydney, and the sails which were made by his house-keeper. The wheel was made from the rim of a plastic coffee cup, the winches are thumb tacks and the rails are from coat hanger wire. All the painting, signwriting and pin striping is also David's work.

The photos on the following pages are as follows:—

1. LR: Ian, David and Keith with the model.
2. The hull during shaping.
3. The stern area of the model showing the incredible detail including the meters, sign-writing, rudder, wheel, etc.

4. More detail around the base of the mast including winches, pulleys, turnbuckles, spinnaker pole bells, etc.

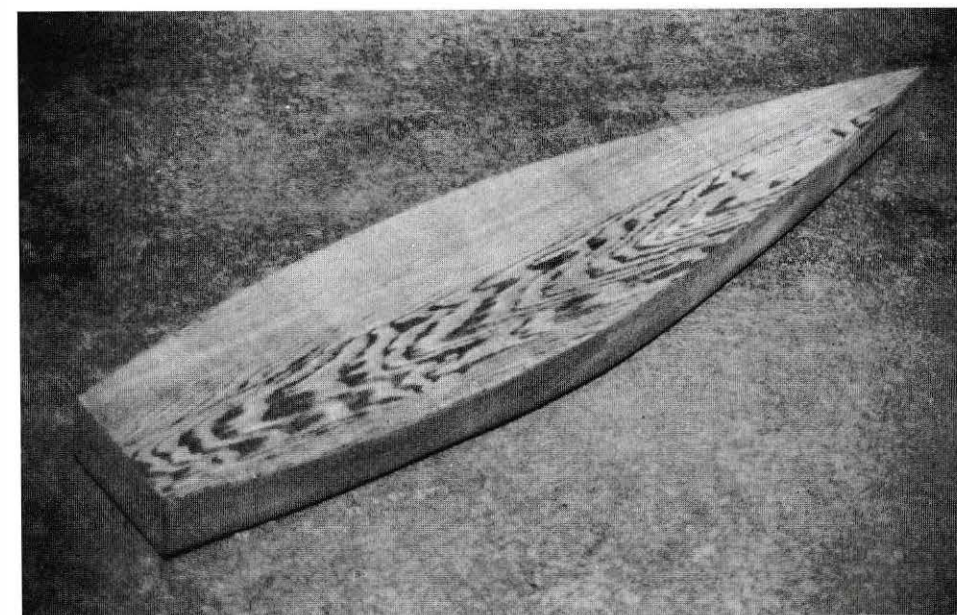
David began building models in 1990 with 2 plastic kit boats. He quickly progressed to building models completely from scratch and now has completed 10 boats. He exhibited 3 of his creations at our Wooden Boat Day with a photo of his model of the COONAWARRA subsequently appearing in the last edition of "SQ". The COONAWARRA and models of the CAPTAIN STURT and OSCAR W are now being displayed at Signal Point at Goolwa.

He invites commissions to build yacht models, generally charging between \$500 and \$1500 depending on the labour required. In this price he includes a professionally laid out album detailing each stage of construction of the model, and a description of the finished article. If anyone is interested in finding any more out about David's modelling work, he can be contacted at either (08) 212 3977 (W) or (08) 270 2472 (H). [\[SQ\]](#)

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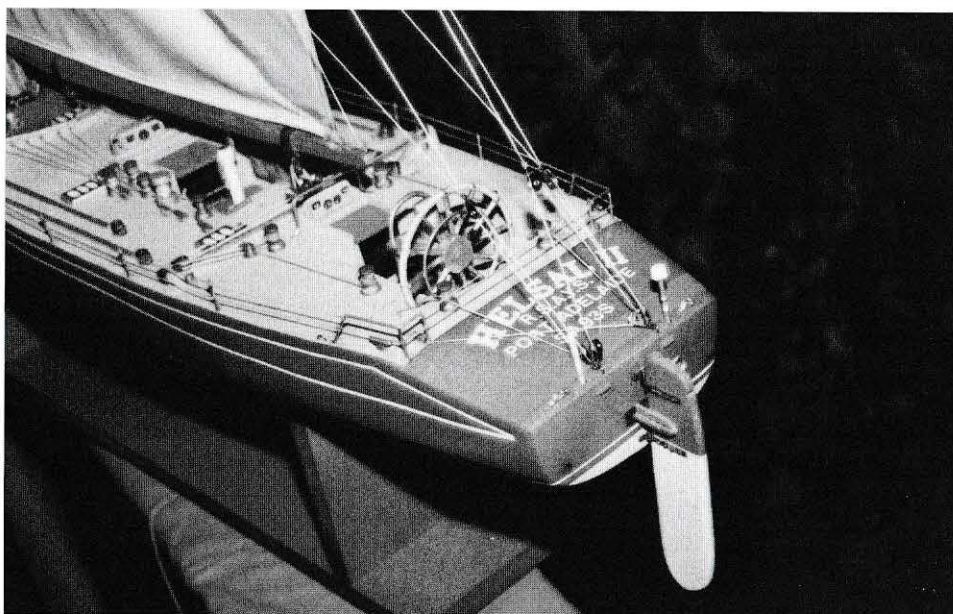


1.

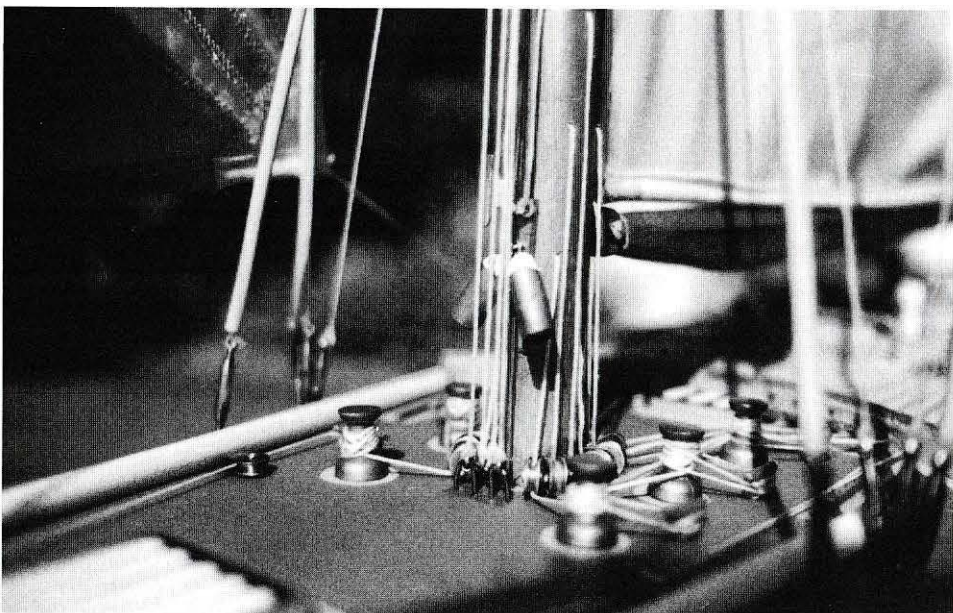


2.

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3.



4.

Use of Turnbuckles on Forestays

During the last Sydney-Hobart race a forestay turnbuckle on AMAZON failed with disastrous results. Proctor Masts and Binks Yacht Fittings have investigated the use of turnbuckles for forestay applications and offer the following recommendations to yacht owners.

Firstly, to summarise the AMAZON failure, an independent NATA approved testing laboratory examined the broken parts concluding that the product and materials were not at fault and that the failure was consistent with cyclic reverse bending of the terminal. Indeed the terminal was found to be bent which had resulted in several cracks on the outside of the bend, one of these extending with continued repeated reverse bending until failure occurred. That the cracks would have been visible some weeks or months before the failure is small consolation or insurance. The most surprising thing is that the bend and cycling occurred in the direction that the clevis pin (in the toggle) allows the whole assembly to rotate, rather than in the direction controlled by the toggle and threaded eye joint. It thus appears that unless the toggle was restricted from turning on the chainplate that at various times it is possible for large loads to be applied to a forestay before the rigging screw is completely aligned, say after rounding marks, tacking in heavy seas, or when whipping occurs when off the wind, etc, and that this is the source of the fatigue end loading.

Given previous history of use of rigging screws in forestay applications, the following recommendations can be made:

1. Assume nothing as regards fatigue life of any marine fitting. It is the applications that governs the useful life more so than the design (in the case of a well designed fitting). Frequent inspection is the key to discovering problems before they become disasters. Broken wire strands and tiny cracks at the roots of terminal threads (at the commencement of the thread normally) are the places to look for signs of trouble.

As a general rule, if a wire is replaced, other components attached to that wire will have suffered similar loadings, fatigue and corrosion to the wire. They should be replaced at the same time.

2. Factors that can affect the life of rigging components include fatigue (cyclic loading) stress corrosion on working surfaces (varying and different corrosive elements in marine atmospheres), bending loads as distinct from tensile loads, obvious damage or overloading.
3. Attempt to minimise fatigue, ie in the case of shrouds, shock cord tied tight enough between the stays to eliminate the slack created when sailing to windward will minimise fatigue. Minimise forestay slackness and whipping when off the wind as much as possible.

Ensure all toggles are completely free to rotate both on the pin in the terminal and on the clevis pin attachment point (ie chainplate, etc) and also that all opportunities for failing due to jamming, corrosion or side load application, such as contact with jettys and/or anchor chains, etc are prevented.

4. Forestays clearly have a history of applying larger fatigue loads especially in bending, to rigging components.

For forestays, we suggest that the lower terminal of a rigging screw is simply a threaded eye without a toggle. A shackle should be used to attach the threaded eye to the chainplate. The chainplate will require a