

Basic Detail Report



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Title

The hull of the one third scale test tank model of AUSTRALIA II

Date

1981

Primary Maker

Ben Lexcen

Medium

Wood, paint

Dimensions

Overall: 730 mm, 300 kg Display Dimensions: 1205 x 1245 x 6740 mm

Name

Model

History

There is a complex set of choices and compromises that have to be made in relation to the best proportions and shape of the keel and hull around the desired hull dimensions and sail plan area allowed by the rule. There are always penalties along with advantages. In this case one of the significant penalties was the greater wetted surface area and resultant drag, coming from the addition of the large wings. With the aid of the tank testing using one-third scale models and computer simulations it was possible to trial a variety of models generated from Lexcen's basic concept, often making gradual changes as suggested by the testing. When the model with the best ratio of gains to losses was identified, the final design was then able to be drawn. [<http://anmm.wordpress.com/2013/09/24/australia-ii-the-winged-keel-and-more/>] The revolutionary keel development met with opposition by some Americas Cup participants who claimed Cup rules were violated in letting boat designers to test boat models in model basins that were not in their native countries. In the case of AUSTRALIA II this testing was undertaken in the Netherlands with Dutch technicians Peter van Oossanen and Joop Sloof carrying out much of the engineering analysis. While the opposition was overcome at the time, the controversy did appear again when it was later claimed by van oossanen that it was he and not Lexcen that developed and fine-tuned the winged keel design and had in fact been silenced by Alan Bond. This claim was never substantiated and Lexcen supporters point to an earlier designed boat by him, TAIPAN, in the Australian National Maritime Museums collection which features, a winged keel. "KEN BEASHALL: In them days, you could never design a boat without the tank testing, and somebody in the tank testing should be given the credit. And I suppose this is one way of Peter saying, "Well, let's -how 'bout throwing a bit of credit my way." (ABC 7.30 Report - 14 October, 2009).