September 1982

DESIGN NO. 124 - 36' 7" LOA I.O.R. RACING YACHT

DESIGNER'S COMMENTS

This commission called for an all out Grand Prix IOR Racing Yacht of just above One Ton size, which would excel as an all-round performer in conditions such as those experienced in the S.O.R.C.
Notwithstanding this, the client also required that the boat be as fast as possible in light weather without compromising the all-round characteristics, and fast and easily handled in hard reaching conditions.
The resulting design is slightly longer than a One Ton concept, but incorporates higher sail area/displacement and sail area/wetted surface area ratios along with lower beam/length and displacement/length ratios than are normal for this size of IOR yacht.
A computer Velocity Prediction program was used to optimize keel size to reduce wetted surface area to an absolute minimum consistent with extremely good upwind performance, and to fine tune the balance between sail area and rating to give maximum light weather performance relative to rating without significant effect on performance in moderate and fresh conditions. This resulted in a large rig which is right on maximum sail area without incurring any SCF penalty under the IOR Rule.

The underbody is clean and fair with only minor distortion through the aft end to ensure there are no unnecessary restrictions to high speed performance down-wind.

The hull form represents a significant development of our earlier "lighter than normal" approach, but with very carefully researched proportions of beam and displacement along with a more conservative approach to fullness for'ard and width aft, so should be considered as a completely new style from this office. Indications are that this development has produced not only a faster boat in all conditions, but also a more easily handled and forgiving style.
Early races against some very competitive boats from last year's S.O.R.C. indicate that this design has a speed advantage over a wide range of light to moderate conditions, and may represent a significant development in

performance versus rating by utilization of more moderate proportions than are currently the norm.

A lofty fractional rig was chosen to allow easy depowering of the large sail plan in changeable weather and because we, and the owner, believe that the personnel on board were good enough to extract the extra potential that the fractional rig has in some conditions. The tall topmast section is mildly controlled by short-strut jumper stays in conjunction with a finely tapered mast to give good side support to the rig but allow a certain amount of fore and aft "breathing" to assist in automatic depowering of the rig.

Construction was carefully engineered in Kevlar/S Glass skins sandwiching PVC foam core utilizing a new style of Kevlar reinforcing developed by Dupont for this and other projects we currently have underway.

Careful attention was paid to cost effectiveness of the use of exotic materials to ensure maximum weight savings in the ends of the boat, where most performance benefit can be gained, without undue expenditure in the center of the boat, where little or no gain is made from weight saving.

END