

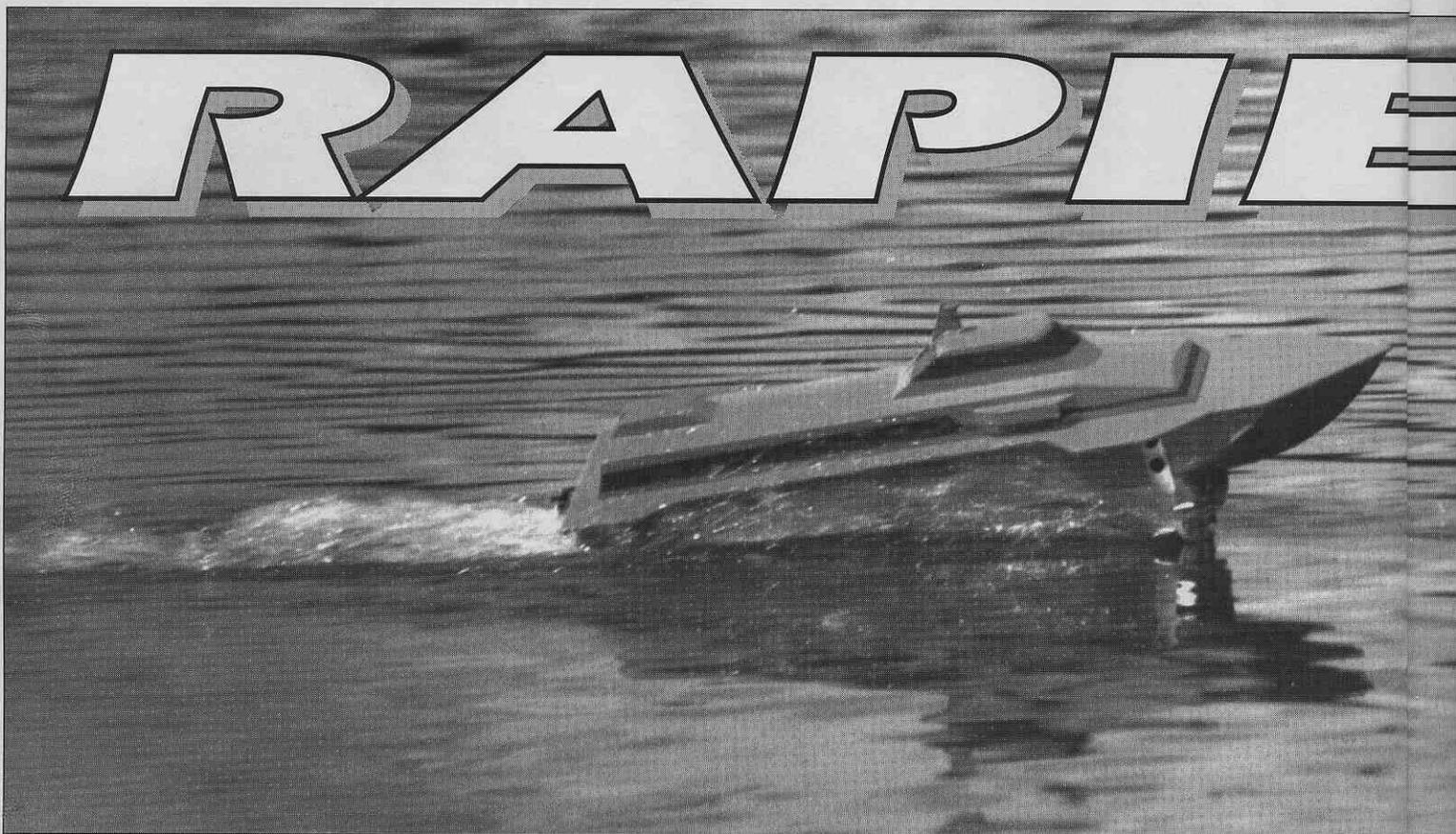
Now here's a model that will make the old fogies at the pond sit up and take notice!

The hydrofoil has long been one of those curiosities that modellers have shunned because of its apparent complexity.

In this feature, I show how a very successful model can be built which requires no more engineering skill than a conventional boat. If you've built a model boat from wood you should have no trouble with Rapier.

through air. Unlike skis, or other planing surfaces, lift is generated from both the upper and lower surfaces. Also, flying beneath the water surface the foils are much less susceptible to wave motion.

There is one really big problem with the hydrofoil: Stability! If you think of the hydrofoil as an aeroplane, it is



The model at speed banking to starboard.

A WORKING
MODEL
HYDROFOIL BOAT,
DESIGNED BY
GRAHAM TAYLOR.

Contrary to popular belief, hydrofoils do make a practical model subject. In particular, they have an ability to maintain high speed in roughish water on relatively low power which, as a model, will ensure good performance over the local pond. I'm pleased to say that Rapier proves the point.

Hydrofoil Flight

The foils of a hydrofoil boat "fly" through water to generate lift in the same way as an aeroplane's wing flies

immensely top heavy, since its bulk is supported on struts high above its wings. This means that some cunning use of dihedral (the "surface piercing" system), or some other method, is needed to keep it the right way up.

About Rapier

This Rapier is not so much a design as a concept. It was intended to build the model as a sequel to my experimental hydrofoil (see January 1992 edition), using the tried and tested construction methods but also to broaden the appeal of the craft and provoke more interest in this form of vessel. For this reason the Rapier has a more traditional appearance than the original experimental model, but also has greater versatility and scope for the modeller to try out his own