

September 2008

SAILSetc

MISCELLANEOUS INFORMATION

MIA 01

# **SWORD**

*A Class design by SAILSetc*

## *background*

The 2005 world championship for the class prompted us to look carefully at all our previous designs for the class during 2004. Experience of how the FRIGATE design had performed against other top designs during the previous years was especially useful.

The wind speed range expected at the Gosport venue for the world championship was 2 - 10 knots (in fact this was the case) so special emphasis was placed on performance in these conditions. Nevertheless it was felt necessary to provide excellent performance in heavier conditions and so the main parameters for the design were pitched not so far from the existing norm for the class.

## *design development*

The new design is not a development of FRIGATE but has a hull form developed from other successful solutions in the class. The effect of overhang design was carefully studied as was the choice of beam to depth ratio and waterline length and displacement. In fact around 45 different hull and hull/rig combinations were compared before arriving at a handful of designs between which there was little to choose in terms of predicted performance. The choice between them was then based on the likely suitability of their handling characteristics.

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## *performance*

The first boat out of the mould was built for Gerry Gray and was due to sail at an early 2005 race at Hampton Court. Circumstances did not permit this so the first outing for the design was when Gerry's and Graham's boats raced at Fleetwood a month later. They finished 1<sup>st</sup> and 2<sup>nd</sup> after a day of light airs sailing.

The next opportunity to sail them, this time joined by Phillip Playles's boat, was at another PRACC series race at Gipping Valley. Although Gerry had some rc problems, the other SWORDS finished 1<sup>st</sup> and 2<sup>nd</sup>.

The opportunity to sail the boats in these fleets showed we needed to adjust the mast positions to get the balance spot on.

Graham's boat was lent to Roy Pearson to use at the Veteran's championship which he won after a couple of days of racing in stronger winds.

All four of the boats completed before the world championship were used at the event. Phil Playle was unable to use his own boat as he had badly damaged his hand earlier in the season so it was chartered by Ken Binks for the event. Even though Ken had not sailed the boat before he went on to place 2<sup>nd</sup> with Graham taking top spot.

Since then Graham's boat has been bought by Gary Cotterell of Perth who has used it to win the 2007 and 2008 AUS national championships.

During 2008 Ken Binks' SWORD won the veterans' and national championships as well as the PRACC series.

## *statistics - approximate*

Length over all	1950 mm	Length on waterline	1250 mm
Sail Area	1.05 m <sup>2</sup>	Displacement	16 kgs
Ballast	13 kgs	Draught	300 mm
Maximum Beam	350 mm		

## *construction*

Please see the current Specification document for up to date details of the construction method.

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## *rigging*

After the 2004 season we re-evaluated the design of the rigging and fittings for yachts as large as A Class and produced a re-specified kit of parts for an A Class rig.

Now that the last of the 15.4 carbon GROOVY section has been used we have revised the mast design. The lower part is 16 mm diameter round tube while the upper part is a special tube that tapers from 14 mm diameter at the lower end to a 14 x 5 mm ellipse at the top. The backstay crane is a moulded carbon/epoxy item.

The booms are 14 mm and 12 mm carbon tubes for the main and No 1 headsail respectively. The gooseneck is a substantial unit with ball races.

Bent joiners are options for the headsail booms and permit the headsail to be used closer to the deck. It is possible to use alternative headsail booms for the lower rigs and these would normally be of 14 mm diameter. The joiner for the 14 mm diameter headsail boom is a substantial carbon moulding.

The attachment of the No 1 headsail boom is made to an eye tied to a piece of cord which is attached to the bottom of the hull in the bow. The cord is placed in a tube to keep the hull watertight. Other headsail booms are designed to be attached using the ball raced swivels we have developed for larger boats.

Boom bands are now stainless steel items making the whole rig capable of withstanding the large loads that occur when the boat is used in high wind speeds.

If you want to order rig and sails please see our Rig Specification and Rig Order Form.

## *foils & ballast*

In 2004 we tested a new ballast on FRIGATE and found it to be a marked improvement on previous designs so a ballast pattern to the same design has been made that is suitable for SWORD. We found the fin we had been using since 1996 for A and 6M class could be improved on so a new metal mould was made. The new deeper and narrower rudder we use for the IOM, M and 10R classes is also used for this application.

## *specification and prices*

Please see the Boat Specification and Boat Order Form spread sheet.

## *ordering and payment*

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You can specify the boat you want by completing the Boat Order Form.

Confirm your order by sending us your copy of the Boat Order Form. This provides us with confirmation of what you have ordered. The specification of your boat can be altered at any time up to production time by submitting a revised Boat Order Form.

We have to buy the hulls in batches of 5 and we do not always have hulls in stock ready for us to work on. It may be a while before we order another batch of hulls so our normal practice is to take a £50 payment on submission of your Boat Order Form. This reserves your boat from the next batch.

If you are unsure of the final specification details it is worth getting in the queue and deciding the details later.

When we have the hulls here and start work on your boat we will normally take 50% of the total cost and the remainder including carriage when the boat is ready to send.

## *delivery*

Please ask for current estimate of delivery date.

**end**

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