December 2011

Specification

for SAILSetc International A Class

SWORD

prices will be found on the boat order form and are valid for boats planned to be built by end of 2012 and paid by end of 2012

news – see last page

HULL KIT B - with added centre deck, foredeck, fin box, mast tube

primary hull moulding with the following features – see notes on last page

- moulded in pre-preg carbon
- 2 layers of 200 grams/m^2 woven carbon with 3rd layer in certain areas
- weight - about 950 grams
- length – 1.95 metres when finished with bumper
- natural black carbon finish
- centre deck moulding with rc hatch and recess for pot
- foredeck with swivel attachment recess
- fin box
- mast tube
- rc pot access at deck level
- opening for access to winch & servo(s)
- recesses for snap in/out rigging screws
- separate moulded bracing for backstay loads and rudder tube bonded in

and the following items supplied

- diagonal bracing for shroud attachment
- rc support
- 250 mm x 14 diameter carbon tube used to extend mainsheet post tube from deck to box
- Tube M for mainsheet post
- TubeJ for headsail swivel
- fairlead, 67g
- fin moulding, item 350h, requires cutting to length, requires finishing to section
- moulded rudder, 4 mm stainless steel stock fitted, item 360a, requires finishing and fitting to hull
- ballast casting in natural cast state with fin slot, 200-130
- A3 format general arrangement showing position/size of major component parts

options
assembly of these parts into Hull Kit C

to complete the hull kit you will need fittings and adhesives

fittings pack
adhesives
silicone sealant

delivery
please contact the SAILSetc office for details of likely delivery date

HULL KIT C – with parts added

Hull Kit C is as Hull Kit B above and with the following parts added

- diagonal bracing for shroud attachment
- rc support
- 250 mm x 14 diameter carbon tube used to extend mainsheet post tube from deck to box
- Tube M for mainsheet post
- TubeJ for headsail swivel
- fairlead, 67g

and with the following items supplied

- fin moulding, item 350h, requires cutting to length, requires finishing to section
- moulded rudder, 4 mm stainless steel stock fitted, item 360a, requires finishing and fitting to hull
- ballast casting in natural cast state with fin slot, 200-130
- A3 format general arrangement showing position/size of major component parts

options
assembly of these parts into a PART COMPLETED HULL

to complete the hull kit you will need fittings and adhesives

fittings pack
adhesives
silicone sealant

PART COMPLETED HULL

hull kit C with the following tasks completed

- Hull Kit C parts added — includes adding the following to the hull moulding: diagonal strainers, fairlead for sheets system, rc support, one tube for free running No 1 headsail boom swivel
- fittings added — includes fitting rudder tube, rigging attachments, snap in/out attachment for rigging screws, drain bung, bow bumper, mast/deck adjuster, sheet post, pot for rc containment, winch line running gear with Holt block, backstay attachment, tiller arm and servo/tiller connector strut, headsail sheet fairlead
- tack points added — several attachments for boom swivel added to foredeck
- foils fitted to hull — the fin is cut to profile, the length is cut to give near the maximum draught, the edges are sealed and the whole is adjusted to fit the hull in the correct alignment, the rudder profile is trimmed to fit the hull correctly
- foils finished — the fin and rudder are finished to section
- ballast finished see note 1 — the ballast is fitted to the fin and a recessed bolt is used to retain it in place – the ballast is faired, adjusted to weight and prepared with 100 grade abrasive ready for final finishing spraying with grey primer

options

spray ballast — only available as an option if the boat is to be collected by the customer

parts required to fit rc — (as per the standard SAILSetc method)

see note 1

FIT RADIO CONTROL EQUIPMENT

fitting radio control equipment can be done if it is provided by yourself
work required to achieve the specification you want will be timed and charged for accordingly

the following equipment should be provided to us

- 2 or 3 channel transmitter & receiver
- battery pack for transmitter
- preferred winch - RMG 380 winch with standard 42 mm drum
- rudder servo – min torque 10 kg.cm
- battery pack for boat to match requirements of winch

for more complete information concerning rc equipment see the appropriate worksheet on the boat order form (click on the tab at the bottom of the boat order form)

the following parts are required to fit rc (as per the standard SAILSetc method) and will be charged for

- plug/socket on aerial/receiver and as required – AERX
- aerial – AER
- water resistant switch if required – SWB
- mounting plate for winch – 67i
- sheet lines added to winch – D30, D50, D75
- tension system for main winch line – 46b, 61h, 67j
- servo arm extender – 67b
- other fittings as required

options
fit completed rig

Where the boat is completed to the stage where measurement is possible it is worthwhile to ensure that the trim of the boat is optimised to give the 'best' rating before going on to the measurement process. The normal build procedure brings the boat close to the design dimensions but there are several areas where attention to detail before measurement will give benefits. These include:

- total weight optimised
- fore and aft waterline endings close to optimum positions
- draught maximised for measured waterline length
- unnecessary penalties avoided where possible
- transverse level of the boat checked and corrected as necessary
- mast verticality checked

To accomplish some of these procedures it may be that minor asymmetry and departure from the original design is introduced in features that are of little significance to performance in comparison to the gain achieved by carrying them out.

MEASUREMENT of YACHT with ONE RIG

(see other sheet for rig prices, measurement does not include adding sail marks)

- waterline limit marks applied to hull
- limit marks applied to spars
- number + national letters engraved in hull
- number + national letters applied to deck
- measurement forms ready to send to registrar

Measurement of additional sails (each main + headsail)

- measurement forms ready to send to registrar

Note 1

SPRAY FINISHED BALLAST NO LONGER AN OPTION UNLESS BOAT IS COLLECTED

We much regret this step but carriers/couriers have continued to perform abysmally and frequently wreck our nicely finished ballasts in spite of our best efforts to protect them during delivery. Two things compound this failing. The package itself is rarely damaged when the goods are delivered to the customer so the customer signs for delivery (thus accepting the goods are satisfactory). Any claim against the carrier is then impossible – they argue the packaging is inadequate and the customer signed for the goods anyway. The customer is unhappy. We are fairly un-impressed too especially as we spend a lot of time and money on packaging and, amazingly, have also paid for insurance…… and time spent complaining is usually a total waste of more of our valuable time.

No one carrier is any better than any of the others so we have accepted that we cannot offer spray finished ballasts unless they are collected from our workshops by the customer. We will offer ballast up to 'ready to final fair and spray' stage leaving the customer the task of finishing

this item. If the ballast arrives damaged it is usually only cosmetic damage to the aft end and this can be rectified using polyester filler before going on to the spray stage. We have always used grey cellulose primer spray as it gives the best coverage in the shortest time. It is easy to rub down to a smooth finish and easy to re-touch if the surface is marked.

One Metre and Ten Rater ballasts may be carbon coated for an additional charge. Thankfully these survive the attentions of the carriers a little better than sprayed ballasts so we will continue to offer these as options. However, unless we can make these items in Tungsten I think we will never be able to fully guarantee delivery of a ballast in perfect shape.

PACKAGING, PACKING and CARRIAGE

Collection of the boat and rigs will mean you avoid any packaging, packing and carriage costs. You may wish to bring or purchase a rig bag to ensure that this is protected during you return journey. Alternatively consider making a rig box to bring with you when you collect the rigs. As an A Class has only one mast it may be more convenient to have a rig box for the headsails, especially if each has its own boom, and store the mainsails in card tubes.

If the goods are to be sent to you, in the UK or outside the UK, then the packaging, packing and carriage costs will depend on the other options you choose, your own location, and the method of delivery that you prefer. We can give you some idea of the costs involved but cannot determine the actual figure until your final order is confirmed.

Background

February 2008
The moulds for SWORD were modified to enable the fin box, mast tube, centre deck and foredeck to be incorporated into the primary hull moulding in the same way that these items are an integral part of the hull for our Marblehead and Ten Rater.

We have some of the earlier hull mouldings made with just the flange around the deck edge should a hull kit be required. Future hulls, hull kits and completed boats will be based on the new style moulding but, if the need arose, we could have the simple hull with flange moulded as a special.

Previous material relevant to pre-preg boats dating from late 2006.
In late 2005 we experimented with a hull made for us from pre-preg carbon using the ROK mould. The result was very encouraging and we have continued to explore this method of making hulls. In fact, except for our IOMs, all our boats are made this way now.

New moulds for PRIME NUMBER were made in early 2006 and the prototype boat finished 3rd in the 2006 world championship sailed by Zvonko Jelacic who had not raced a Marblehead before. In 2nd place, on the same points, was a ROK built in 2002, sailed by Ante Kovacevic who has not raced Marbleheads for many years.

New moulds for the A Class SWORD were also made in early 2006 and all new SWORDS will be made this way.

Rather than make a new mould for the 1999 design Ten Rater PRIZM we revised the design a little to take advantage of the lighter build weight and in light of experience gained since 1999. This produced a new Ten Rater, called DIAMOND, which has been sailing and performing well since spring 2007.

The pre-preg hulls have several advantages. They are stronger, stiffer, heat resistant and longer lasting hulls, with the possibility of supplying hull mouldings and hull kits almost ‘from stock’ and more time available for us to carry out other work. One side effect (possibly good, possibly not so good) is that the natural carbon and clear resin produces a black hull thus requiring the hull to be painted/sprayed if you want any other colour.

So, except for our IOMs, all our boats are now made using this method. We do not see this as an immediate option for IOM hulls because clear glass is not so attractive as a hull finish.

During 2006 we were in the process of learning about the methods and costs of building boats this way. Initial indications were that price of hulls made using pre-preg would remain about the same and for 2006 we are kept the price the same as for hulls made using the previous method. Having settled down to a system that gives us excellent and consistent results we have found, perhaps inevitably, that this is no ‘magic’ way of making top quality boats less expensively. Thanks to the aircraft and defence industries, as well as industry as a whole, waking up to the benefits of carbon fibre the cost of this material has escalated a lot recently. While we have good stocks of our own materials we can keep price rises for parts made in house to levels close to inflation. However, we cannot do that for carbon products that we buy in. Thus the price of the pre-peg hulls (as well as carbon tubes) have risen considerably.

The very large increase in the prices of a Marblehead and Ten Rater hull moulding are due partly to the increased price of the process but also reflect the very much larger amount of value that is built into the hull moulding itself. The hull shell is a very complete moulding and, apart from details that help with the fitting out, now even has the fin box and mast tube moulded in from the outset. Because of the extra completeness of the primary hull moulding the cost of getting to the completed boat stage has been reduced. There is also a benefit in consistency. However the cost of a hull kit, part completed boat or a finished boat remains much higher than previously.

Our boats have always had a reputation for excellent performance and value over a long term and we are confident the extra longevity achieved by the pre-preg building process for these thoroughly well proven designs will make the increased costs fully justified.

end

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