



*The **Redesign** of the Expedition Boat*

Many hands make light work of sailing the King Alfred School Boats. But with fewer hands available, designer Nigel Irens and boatbuilder Bart Jan Bats needed to rethink the design.

Words and pictures by Kathy Mansfield.

Mention King Alfred School's Expedition Boats to me and I'm back in Scotland, watching a group of north London pupils who have built three of these boats learning how to sail and row them in everything from a sunny lull to a fierce Scottish squall. At first, the teenagers only want to hang out with their mates but end up finding the thrill of helming, rowing and sail managing – the three lugsails spread over two unstayed masts and a mizzen give plenty of scope for willing hands – see W25. And the boat, just 17' long and 5'8" wide (5.19 x 1.73m) looks after those kids in every type of weather with a good skipper at the helm. She's fast, shallow draft and fun, a perfect boat for the competitive Sail Caledonia raid up the Caledonian Canal.

Now Nigel Irens has given the design a makeover for individuals or families who would like the same experience

but do not need quite as many lines to pull. She's turned out to be quite a star...

It all happened because a Dutch boatbuilder, Bart Jan Bats, built a King Alfred School Boat for a customer who brought her to the Sail Caledonia raid. She was beautifully built with lots of teak trim, a wonderful sight on the lochs, a work of art. But the extra wood plus the extra ballast requested by the owner made her slower than the school boats. With Bart Jan Bats, Nigel sailed this boat in the Blekinge Archipelago Raid in 2005 and he couldn't resist the temptation to improve her performance a little, going further than taking out some of the extra weight.

Nigel worked on the lines again, resulting in a boat about 4" (100mm) longer and the transom more of a wineglass shape than that of the School's boat. The King Alfred boat is already



The original King Alfred School boats had three masts and lots of string for the pupils to pull.

about 12" (0.3m) longer than the original commission, and with this little extra length again, plus retuned lines, she has that much more hull speed. He also made her a little narrower, improving performance though at the same time making her slightly more tender.

Nigel also reconsidered the rig and sail area. The three unstayed masts and high peaked lugs have worked very well for the school and full sail is a wonderful sight on such a small boat, akin to the great French bisquines, *Cancaleise* and *Granvillaise*. In France, the versatility of the numerous sails allowed the original old boats to dredge oysters even on days with almost no wind. The fishermen had figured out back in the late 1800s that they needed to conserve their oyster stocks if they were to continue to ply their trade and therefore they only dredged for oysters on certain specified days in the year. They needed sailing rigs for all weathers so they did not miss an opportunity. On the King Alfred Expedition Boats, Nigel used the same idea: numerous sail configurations for differing strengths of wind, which also means lots of sails for the students to manage and lines to pull.

For smaller crews, a simpler rig is preferable. Nigel also took the opportunity to increase the sail area from 130 square feet (12m²) to almost 169 sq.ft (15.7m²). The rig is similar to his very successful Romilly and Roxanne configurations, again lug rigs on two carbon fibre masts, a big main and small mizzen. "This makes the boat very lively to sail," Bart Jan told me, "And even in light winds she sails beautifully, when every other boat lies still."

Nigel also made drawings for a gaff rigged version which would look beautiful on this boat and work well. But Bart Jan has stuck with the Roxane rig: there are no shrouds, so the carbon fibre masts are quick and easy to take down, and the boat feels more spacious with no jib sheets running over the cockpit sides. She is simplicity itself; a minimalist boat.

But don't be fooled, this is a boat which will respond to every slight sail adjustment. She'll teach you to sail better and she'll clearly point up your mistakes. It took me very few minutes at the helm to find this out for myself. Rarely have

I sailed such a responsive boat; she invites you to experiment, to learn. Bart Jan wins regularly at his local club, winning two out of three races the day I met him, though coming second on a tough handicap against boats with longer waterlines. The advantage of greater sail area diminishes once wind strength reaches Force 4, when the BJ17 must reef.

The BJ17 is now built in GRP, the prototype having been epoxy foam sandwich with a plywood interior. The new GRP version has good-looking teak caprails, side seats, tiller and a detachable thwart for rowing, with two oars neatly stowed on the cockpit side, the handles under the stern deck.

The mainmast is as far forward as a catboat's and Bart Jan has built a

foredeck with buoyancy tanks and useful watertight stowage below for lines and anchor. There is another buoyancy tank in the stern, again with a watertight hatch for stowage, as well as side buoyancy tanks and a double, self-draining floor with self bailers towards the stern. Bart Jan considered adding water ballast but the self-draining floor would then be below the waterline, so some freeboard – and some – performance could be lost without a very complicated system, while putting in a reef is quick, cheap and easy.

"In my opinion, water ballast should be stored in the side of the boat where the benches are, but that's a technically more complicated solution which is also expensive and would need greater skills of its crew." The boat is designed for dinghy sailing families, so cost is a factor. Having said this, Bart Jan can custom build a variation on the design, for example a larger cabin version.

Bart Jan studied naval architecture but found that he wasn't interested in big ships so he didn't entirely complete the training. More to his taste was building a canoe and paddling it for nine weeks from near the source of the Danube in Germany as far as he could safely get at the time towards Istanbul, ending up well into Roumania in the days before the Wall came down. He worked for a time for a high tech yacht builder, later building yachts on his own, including a Nigel Irens Romilly. Bart Jan started a yard in 1995 where he builds, refits and repairs wooden boats, installs new interiors, runs a consultancy service advising home builders, sometimes assisting with difficult jobs, and has a few boats for sale as well. An elegant Thames launch that he built of mahogany veneered epoxy strip is for sale, showing the craftsmanship resulting from his earlier years making furniture. He has recently changed to small boats, mainly using wood epoxy and foam sandwich techniques for classic and modern designs. Next May, he will start a 'green' boat show in the Haarlem area, focusing on environmentally sustainable boating.

We visited Bart Jan's local club at Spaarndam, a picturesque village outside Haarlem in the Dutch polders known for its smoked eels. The lake is big enough for racing, has a small

BJ17 Specification

LOA: 17' (5.18m)

LWL: 15'6" (4.72m)

Beam: 5'8" (1.73m)

Draft – c/p raised: 6" (0.17m)

c/p lowered: 4'3" (1.29m)

Displ: 276 lbs (125kg)

Sail areas – Main: 151 s/f (14m²)

Jib: 18 s/f (1.71m²)



marina, some traditional boats and houses, meadows and reeds, and even a proper Dutch windmill at one end. If Britain had more lakes like this, surely sailing would surge in popularity. The day's racing had just finished, families were packing up the picnic and sailing gear, the youngsters were drying off after the first cold swims of the season on this sunny late April Sunday. It was a relaxed, casual, friendly place. Bart Jan's wife Narda came as crew on the BJ17, raising the sails as they eased into the lake from a small wooded promontory while I watched from another boat.

The wind was light but *Nardje*, named after Bart Jan's wife Narda, was off quickly, tacking up towards the windmill. Her huge sail area and high aspect rig is good for a lake, where winds are often fickle. She heeled quickly but stiffened up and did not look or later feel too skittish. Her sails, made by Frank van Zoest who specialises in small boat sails, pulled beautifully. Bart Jan finds she tacks higher than any boat he knows and later when I sailed her I was impressed.

It would be interesting to sail the BJ17 in company with one of the King Alfred School boats. The School's John Peisley sailed her at the Beale Park Boat Show in June and was intrigued: "In profile the two boats look the same, though the changes would be obvious in plan view and the high aspect rig makes her more tender." The double floor and side buoyancy means that you sit higher on the side benches, but the safety factor makes this worthwhile. She's also probably lighter at 660 lbs (300kg); the King Alfred School boats are strip planked in cedar, glass sheathed inside and out and the spars are wood,



The BJ17's thoughtful fit-out includes capacious lockers at bow and stern; carbon spars; tackles on yard and boom to tension the luff and that 'teak' main thwart which is much lighter than it appears.



not carbon fibre. One difference to the King Alfred School boats and which John plans to add now he has seen it work, is a downhaul on the yard: a simple line running from near the top of the luff of the lugsail which tightens it and gives a much cleaner edge to the wind. At present it comes down to a chock but Bart Jan plans to lead it back to the helmsman's position for ease of single handling. That certainly helps with pointing high and tacking.

I would have liked to have seen the BJ17 in stronger winds, though I know the seaworthiness of the King Alfred School boats so need no convincing. I can well believe with the extra sail area, the BJ17 needs to reef by Force 4 and she has two sets of reefing lines ready for use which tie to cleats on the



main boom. She might well plane and reefing would help keep her bow up in a strong wind. Bart Jan then takes down the mizzen, which pushing her more into the wind.

At present the BJ17 is set up for sail and oar. I liked the apparently teak detachable thwart that turned out to be made of light foam sandwich: "That doesn't come as standard," Bart Jan admitted, "But it saves some weight if I'm racing." The narrower hull would make rowing a bit easier if she were to enter one of the competitive raid events, though she might want an extra set of oars, which would be easy enough. And for less energetic owners, an electric outboard would fit nicely on the transom.

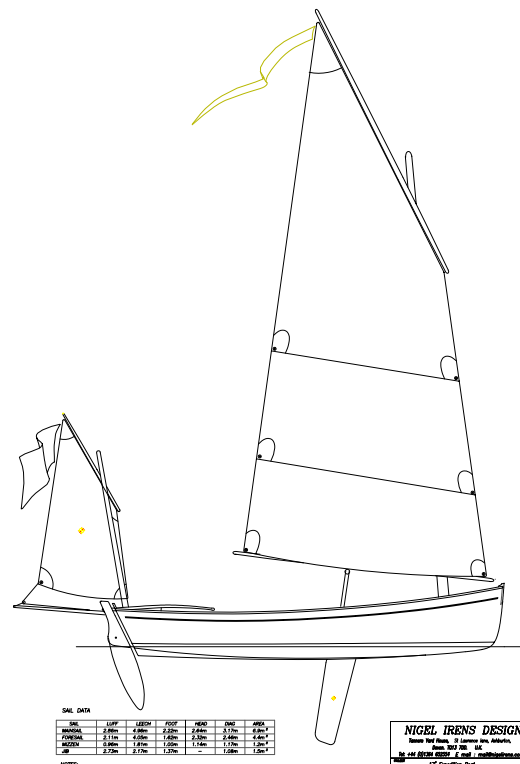
But I would suggest experimenting first. Bart Jan left me to take the boat into her berth at the bottom of the marina in no discernible wind at all and she never lost manoeuvrability as we ghosted in. "She's a happy boat," her namesake Narda told me. "We always have fun."

CONTACTS

Nigel Irens Design, Tanners Yard House, St Lawrence Lane, Ashburton TQ13 7DD Tel: +44 (0)1364 652554 www.nigelirens.com

Jachtbouw Bart Jan Bats, Gerrit Bolkade 9a, 1507 BR Zaandam, Netherlands
Tel +31 75 616 0035 www.bj17.nl
www.jachtbouwbartjanbats.nl

Frank van Zoest, Oar & Sail, Kleiwerd 91
9746 CV Groningen, Netherlands
Tel: +31 50 785 1672
www.oarandsail.nl



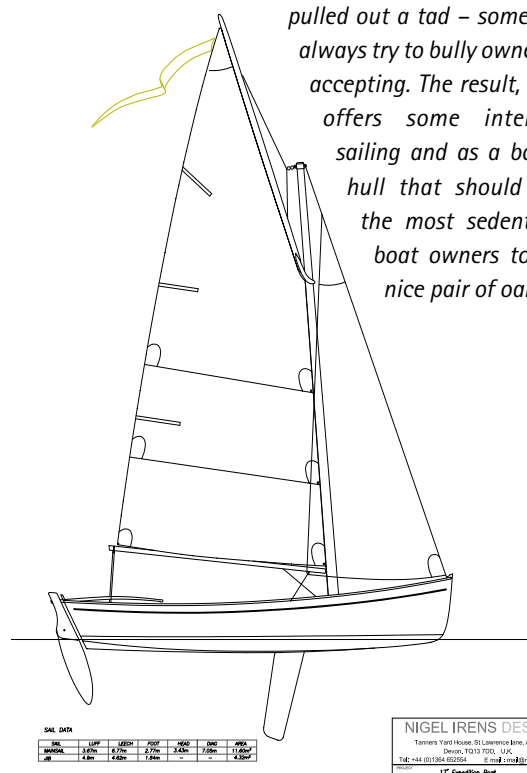
SAIL DATA									
SPR	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m
HEADSAIL	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m
MAIN SAIL	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m
MIZZEN	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m
TOTAL	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m

NIGEL IRENS DESIGN
Tanners Yard House, St Lawrence Lane, Ashburton,
Devon, TQ13 7DD, U.K.
Tel: +44 (0)1364 652554 E: nigel@nigelirens.com
www: www.nigelirens.com

Rethinking the King Alfred Boats Designer Nigel Irens comments

The original King Alfred School boat had to be a load carrier – there's loads of them – and have bags of stability. These two qualities dictate a fairly firm bilge. When Bart Jan Bats wanted to make more boats to the same design I suggested we tweaked the original lines to nudge the shape into becoming something a bit more slippery and a bit more adventurous. The waterline became a bit narrower, still leaving enough overhanging volume in the topsides to supply some large-angle stability and the length was pulled out a tad – something I

always try to bully owners into accepting. The result, I hope, offers some interesting sailing and as a bonus, a hull that should tempt the most sedentary of boat owners to get a nice pair of oars out.



SAIL DATA									
SPR	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m	1.00m
HEADSAIL	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m
MAIN SAIL	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m	2.10m
MIZZEN	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m	2.00m
TOTAL	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m	2.70m

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Tanners Yard House, St Lawrence Lane, Ashburton,
Devon, TQ13 7DD, U.K.
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www: www.nigelirens.com