SHRIKE /

SHRIKE TOO

Lightweight Sea Kayaks for Home Construction

By Nick Crowhurst

I was first ensnared by the wonderful world of sea kayaking in 1958, aged 11. I was a scruffy undersized South London hooligan. I carried a sheath knife and an air rifle. I wore only second-hand clothes. The headmaster of my school once asked me if I had no other clothes to wear. (Nice one, Mr Sutton.) We were poor, but no matter: I could read. I haunted the local public library, and became enthralled and inspired by the classic autobiographies of mountaineers and sailors. Think Herman Buhl and Joshua Slocum. Then one day I opened *Quest by Canoe* by Alastair Dunnett, and my life changed. The two Scottish heroes were young, broke and in love with the Highlands. They paddled the west coast of Scotland in primitive three-part kayaks, the sections held together (just) by a wire strop. The description of paddling wildly through the tide race between Skye and the mainland had me jumping from foot to foot. This I would do!

La Douce

I went out pulling weeds in local gardens for a few pennies an hour, and eventually earned enough to buy a set of plans to build an 11-foot-long skin-on-frame kayak, together with some plywood and other timber. I built it in the kitchen using a pathetic set of children's 'tools', with zero skills and maximum determination. Each night I hung the frame on a couple of nails hammered into the outside wall of the house. I named her *La Douce*.

I persuaded my parents that our annual caravan rental holiday would be ideally located near Falmouth with its wonderful Carrick roads, rivers and coastline. We placed *La Douce* on the roof of our 1939 Morris 8, and headed west. The next day we went to the Helford River and my parents disappeared into the pub at Helford Passage, leaving me on the beach with my kayak. I remember that the wind was blowing strongly from the east, and there were white caps on the waves. I had read all the books, so I was well prepared with a huge wooden 90-degree feather paddle, no training, no spray deck, and a buoyancy aid of very dubious efficiency. I was wearing shorts and a cotton shirt. No matter. I was nearly 12, so everything was possible.

I left the beach and paddled directly across the estuary towards Helford. The motion became wild, the seas seemed larger than they appeared from the beach, and the front half of the kayak was regularly disappearing beneath the water. It gradually occurred to me that the day could take an ugly turn. For the first time in a kayak, but certainly not the last, I realised that there was an unknown outcome to the expedition. This of course is one definition of an adventure. I travelled across the estuary. The waves decreased as I neared the far shore. As I dragged the kayak up the beach I tried to appear nonchalant to the holidaymakers (I wasn't feeling nonchalant). I looked back across the estuary and viewed the breaking waves. Could I make it back, would I dare to try? I would, and I did. I made it back and waited a few hours for my parents to come out of the pub, while letting my exhilaration and anxiety levels return to normal. My sea kayaking career was launched.

First expedition

A school buddy, Mick said he could borrow his brother's home-built kayak so we planned a kayak camping expedition in our far north, the Norfolk Broads. We examined the Ordnance Survey map of the area, and saw that there were two broads – Ormesby and Rollesby – that could only be linked together and to the main river system by what appeared to be drainage ditches. On the first night we camped beside the Eeel's Foot Inn at Rollesby. The cotton tent and blanket bag were no protection from the persistent rain.

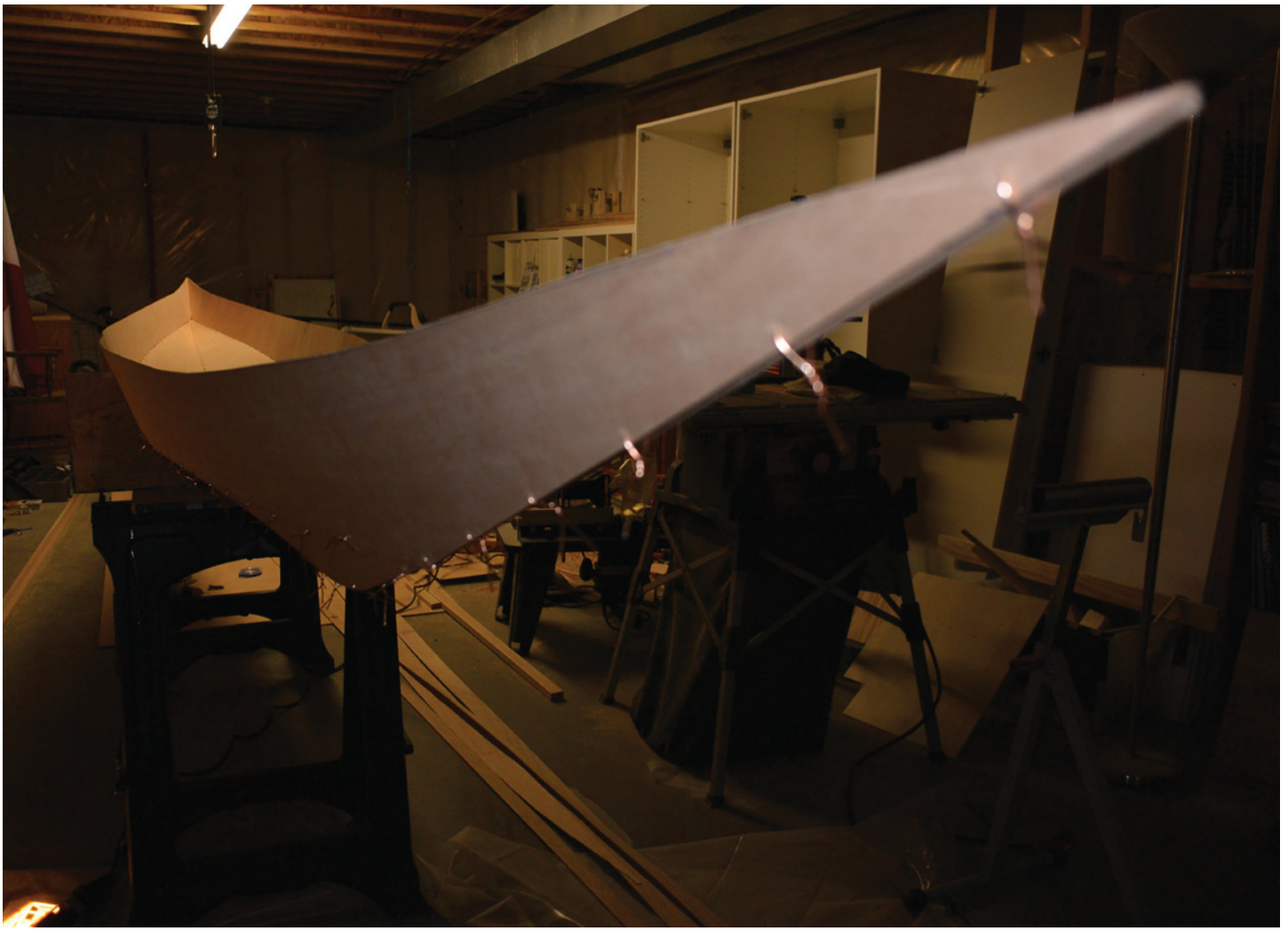
The next day we pioneered the ditches and portages necessary to reach the River Bure. We were met by persistent head winds and rain from the west as we struggled upstream. Our wild campsites were on dykes between reclaimed fields. The tent poles would disappear completely into the mire if pushed downwards. (Yes, the whole length of the poles.) The groundsheet was neither waterproof nor sewn-in. On the water, a hooligan in a large hired power cruiser decided to amuse his family by making fast circles round our kayaks, laughing as they saw our frantic efforts to avoid capsizing our heavily loaded craft. There were challenges, but we survived. The only communication method in an emergency would have been to paddle to the nearest town, Acle or Wroxham, and find one of those red telephone boxes.

Spirit worth preserving

Would I recommend this as a way to begin kayaking? Certainly not. Then why do I relate this story?

I want to point out that this was how it was just 55 years ago for many paddlers, and that some of that spirit is worth preserving. Home boat building was the norm, training was non-existent and equipment was rudimentary. With my modern kayak, equipment and training, a paddle across the Helford River in two-foot waves doesn't give the same buzz. I just need greater challenges.

But, again, why this story? I'm not suggesting that newcomers to the sport should avoid training, good equipment, clubs, courses and commercially organised kayaking holidays, but they could be encouraged to build cheap and simple kayaks and thereby discover at least one aspect of kayaking that has not been 'commoditised' or sanitised. They can still have adventures with a mate, rather than be shepherded along in a supervised group. The experience of ploughing through the waves in a kayak you have built is very special, especially with just a friend or two. Modern youngsters



I meet have little opportunity to learn practical skills, or to have true adventures. Are there still some who would aspire to build their own kayaks? Are there any people, of any age, who have the audacity to dream?

The Shrike

For such people we've designed the Shrike: a combination of traditional West Greenland hull design with the advantages of modern materials, bulkheads, hatches, keyhole cockpit and an optional skeg. This craft is half the weight of some commercially available sea kayaks and it is elegant and beautiful, creating pride of ownership. It is a serious sea kayak, so it is a craft for life and not one adapted for use by novices on flat water. It is simply constructed at low cost by an amateur with very few woodworking skills, using three sheets of plywood and epoxy resin and 'stitch and glue' construction. The craft is constructed from full-size plan drawings of all panels, freely available, and can be adaptable to variations in size, weight, strength, preferences and abilities of paddlers.

Typical dimensions are a length of 17 feet 4.8 inches, beam of 21.5 inches, internal cockpit of 32.5 inches x 15.5 inches (which can be varied to suit) and a weight of just 14.5 kg. Adjusting the percentage of full-size at the printer/plotter setting can vary the overall dimensions of the Shrike. Currently a 90% plot Shrike LV is under construction by one of my granddaughters. A graph showing percentage plot against load can be viewed at the FAQ section of our website (www.cnckayaks.com).

Design and handling

There is nothing original in this design. Several books give highly detailed measurements to enable the construction of a West Greenland hull shape. In particular, Shrike's dimensions are very similar to those of the Disko Bay kayak shown at page 306 in Harvey Golden's magnificent 2006 book *Kayaks of Greenland*.

These classic and beautiful lines, the result of centuries of development, produce a hull that is manoeuvrable and suited to rough water. This shape behaves rather differently from a modern round-bilge hull. Jeff Allen put it very well in Ocean Paddler issue #39:

"Initially the shallow-chined hull will feel a little wobbly. The transition from chine through the centre line to opposite chine will be relatively constant until you reach the mid-point; it will then feel the least stable, but will improve again as you move towards the next chine. 'Twitchy' might be the best word to describe it when sat in the upright position. Once on edge the shallow-chined hull will feel more stable and you will be able to perform with stability throughout the edge-holding process with a greater degree of confidence."

"The hull shape will not be as fast as the rounded hull shape, but you may have a more stable platform to operate from in dynamic waters where maintaining a more constant edge is required. The edge will also act as keel when it is applied in a dynamic environment to counter the effect of wind or flow."

Passion for building – By Christopher Crowhurst

My father and I possess what is unfortunately a scarce characteristic: when we have big ideas we don't just talk about them, we tend to do them and bring the ideas to life. My passion for building has been ever present. Some of my earliest childhood memories involve working alongside my mother and father as they renovated our family's home and constructed the numerous sailing boats necessary to keep us entertained. I have my parent's passion for creation, and I feel as comfortable picking up a block plane as I do typing on my keyboard.

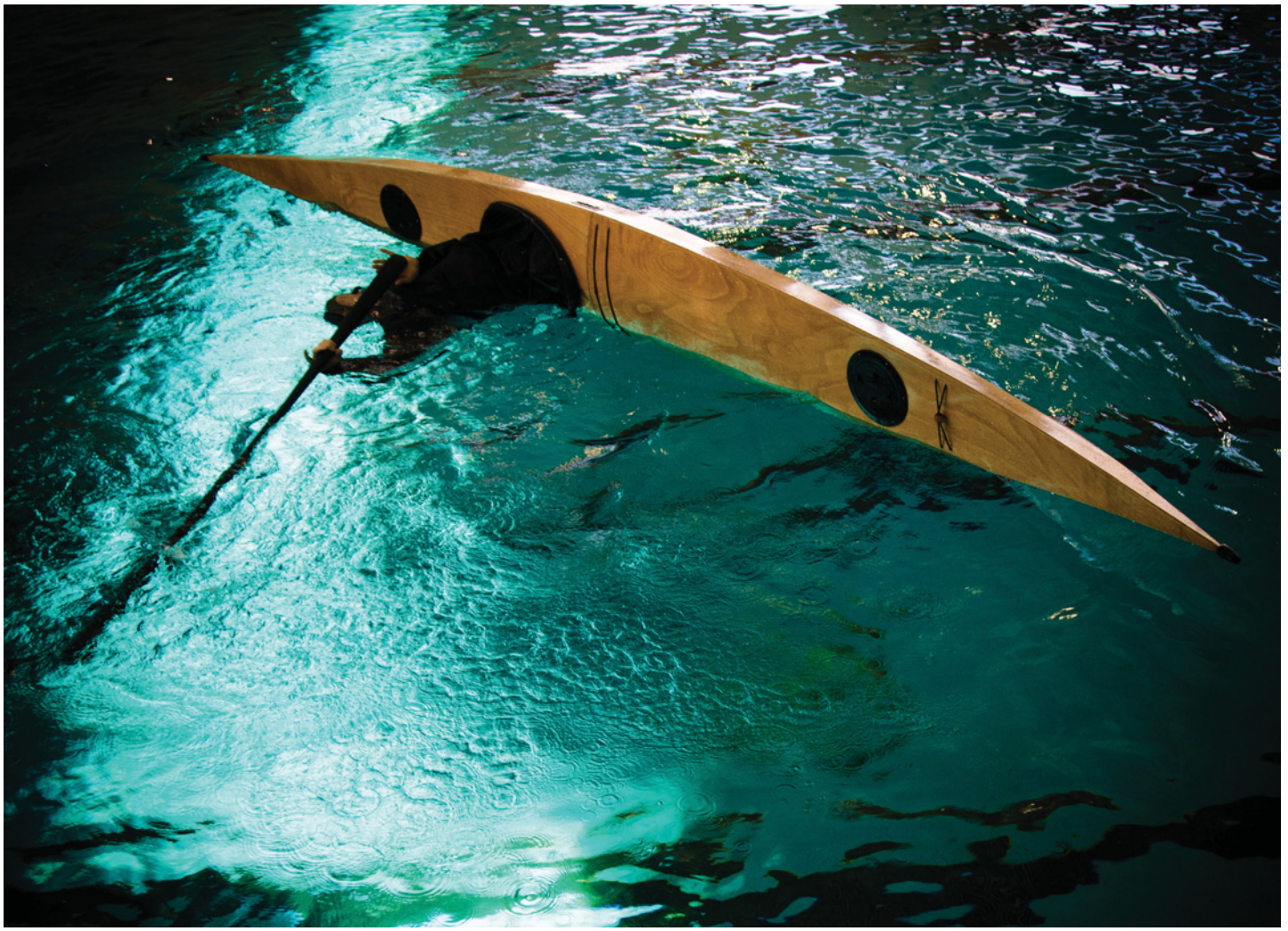
During the past two years I have experimented with numerous kayak construction methods. My first build was a Yost Sea Rover, a skin-on-frame kayak with a twist. The skin was PVC and the frame was aluminium. This Greenland-style folding kayak is awaiting its inaugural Pacific Ocean trip later this year when it will be paddled off the coast of Maui. My second build was featured in the past two editions of this magazine: a traditional-built Alaskan-designed Recovery Kayak, a slight modification on the Retrieval Kayak used for recovering the Alaskan hunters' prey. This build taught me the delights of oak rib bending, of tying the frame together with sinew and stretching and sewing the skin tight across the ribs and stringers.

The build process

It was inevitable that I would become involved in my father's Shrike kayak project. The design is stunning. It echoes the elegant lines of the original Disko Bay qajaq, and marries that design with the safety and usability of modern sea kayaks. Never having built a stitch-and-glue kayak before, I was a good candidate to test out the plans and see how well the design meets its goals of simple construction and low cost.

Part of the project's development has been an extensive build manual that provides an illustrated guide to each step necessary to construct the Shrike. Rather than walk through each step I will highlight some of the more exciting phases and provide you with a taste of the pleasure building one can create.

Unlike any other method of construction there is a point early on in the build where you are rewarded with going from a pile of wood to the revelation of the hull's shape in a matter of minutes. Each panel is stitched to its adjacent mirror image partner, then unfolded like the wings of a butterfly. The stunning hard chine shape emerges and provides the motivation to keep progressing. ▶



Only basic woodworking skills are needed, and no steaming of ribs is necessary! The instructions allow you to progress quickly through the construction. I spent two months of occasional evenings building my kayak, making this a perfect winter project.

The Shrike is designed to allow for adaptation. Variable deck height, freeboard, cockpit shape and size are all considered. I chose to stay close to the original Disko Bay kayak deck in my build, replacing my father's keyhole cockpit with an ocean variety and lowering the foredeck to be more consistent with the original. Both of these modifications are documented and provided with the build manual.

In some ways my design choices made the build easier, and in other ways harder. The lower foredeck reduced the need to bend the plywood into conforming to the curved shape of the deck beams and shear lines. However, my decision to use no screws to interfere with the beauty of the wood meant I had to get creative about how I held the deck panels in place while the epoxy set.

When you look at the daunting task of building a kayak there are so many dimensions you could worry about and fuss with until they are perfect. With the Shrike, the real things to focus on are the hull panels. Once they are done and the carlines are in place, the hull is the hull; you won't be altering its shape, it is done. The only areas that matter 'upstairs' are where you end up sitting and where that places your knees. I focused first on identifying where I would be sitting. I placed the hull on the ground (resting on cushions) and very gently sat inside. By doing this I was able to identify where I wanted the masik (or deck beam). Unlike in the first Shrike, I defined the position of the deck beam based upon my body rather than the size of the plywood. It is possible to do it both ways by using two deck beams – one for the plywood joint and the other for the knee beam (masik) – but I decided it would be simpler to slide the plywood aft to the position of the beam, leaving a small triangle at the bow, rather than attempt to construct and align two curved deck beams.

The Shrike Too

The Shrike Too's masik is substantially lower than the original Shrike design. This caused the foredeck to buckle closer to the cockpit and with a much less-noticeable transition. The first three feet of the foredeck were flat gunwale to gunwale. The flat area was perfect for a nice eight-inch round hatch; I could have fitted an even bigger one. By fitting a foredeck hatch it gave me access to the inside of the forward bulkhead, which allowed me to add even more strength to it with tape around the deck edge. It also allowed me to go a little crazy with my approach to the deck lines.

When I was building Shrike Too I was not convinced that my woodwork skills were good enough for me to keep the hull and deck clear-coated; I had expected to make so many mistakes that I would need to paint over them. Through luck and good fortune, however, I ended up with a hull that I am leaving clear-coated. I decided I wanted to create a very sleek look with only enough deck lines for the purpose of the kayak, basically a rolling-training and weekend-tripping kayak. A couple of people advised me to look into Maroske deck fittings. These deck fittings are much easier to install before you fix the deck in place. It was only possible for me to retrospectively install them because I had a foredeck hatch. The level of effort to do this was high, but I am glad I did it. I recommend you do a web search for Maroske deck fittings, read a bit and watch some videos; they are time-consuming but rewarding. I hope you agree the end result is rather sleek.

The Shrike Too rolls well; the back deck is higher than a dedicated rolling kayak such as the Ivalu or Zegul Greenland, but this doesn't stop her rolling comfortably. I have had limited time in her so far due to the spring thaw being a few months away. The hull has considerable rocker, which makes her turn nicely, although her long bow and stern help her track in a straight line when desired. The addition of the integrated skeg should deal with any weather helm the wind may cause. Her pedigree suggests that she will be like those other Disko Bay derivatives like the Anas Acuta, and be a delight to paddle in waves. I look forward to getting her afloat on Lake Superior this spring and experiencing her in the conditions she is meant to be paddled in.

What are you waiting for?

The Shrike and Shrike Too derivative design and build manuals are available for free download from our website, CNC Kayaks (www.cnckayaks.com). Additionally, we are able to ship full-size paper templates for the hull panels, bulkheads and all other major components of the design, making her a very simple construction project. Remember, I had never previously built any stitch-and-glue designs. The Shrike Too took me two months of occasional evenings to build, a very low level of effort for such a rewarding kayak. As an alternative method of getting hold of the templates, we have made arrangements with some office supply companies in Europe to mail full-size paper plans internationally for a small charge. Details are on the website. We have no financial interest in the Shrike project. You are free to make and market the kayaks, adapt the plans, make and market kits and make money from your efforts. In the first two weeks since the project was launched in March 2014, 150 plans have been downloaded in 30 countries from Argentina to Venezuela.

We would be delighted if you would consider building the Shrike or Shrike Too or deriving your own version from our plans.