



When **Peter Fletton** volunteered to build another dinghy, he didn't entirely expect to be taken at his word. Here's how he got on with the PBO tender



**I**t was at PBO's Build a Boat event at Boats on Show 2000 (at Pangbourne) that a friend and I spent a very enjoyable long weekend, working alongside other amateur boatbuilders. We were putting together the first version of a sailing tender designed for PBO by Andrew Simpson. Because the show was to run for only four days, the original design had chine stringers to enable the hull panels to be attached quickly with relatively fast-setting Balcotan, a moisture cured polyurethane glue. Epoxy would have cured too slowly, yet it seemed to me at the time that the design was obviously suited to some variation on the stitch-and-tape technique.

I was mulling it over when the phone rang several months later. It was Andrew, from

his desk at PBO. "Didn't I hear you say you wouldn't mind building another one, Pete?" he said. Then, when I admitted I had, he went on: "So, how about tackling the latest version? I've amended the design for epoxy tack-and-tape and added side benches – an idea I shamelessly nicked from Greg Marsh." (Greg had been another participant at Build a Boat.) Andrew must have caught me at a moment of weakness because, the plans arrived a couple of days later.

The concept allows the boat to be sailed, rowed or powered by an outboard motor. I decided I wanted to be able to do all three, so that meant in addition to the basic hull I needed a mast and gaff, a daggerboard and rudder, rowlocks and a strengthened transom to take the thrust from the outboard. I also

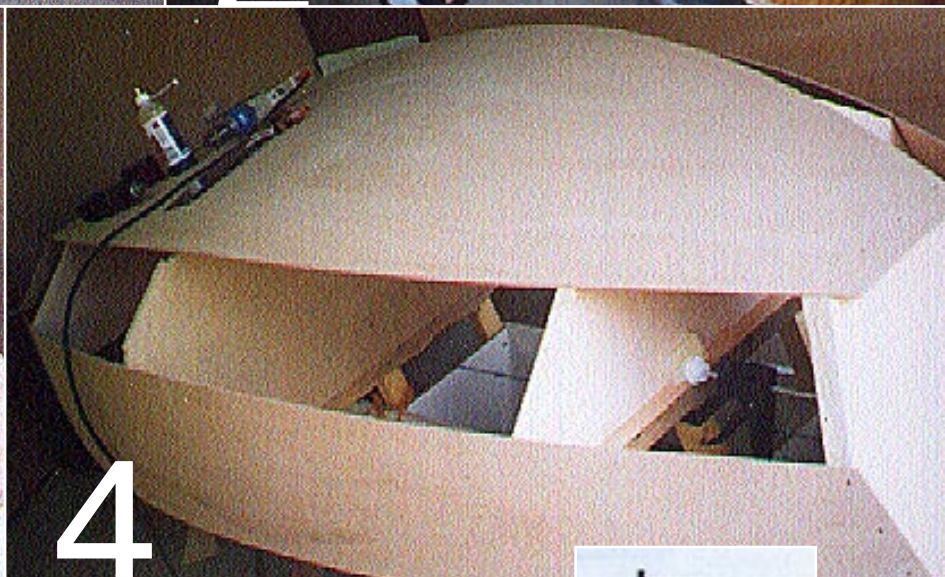
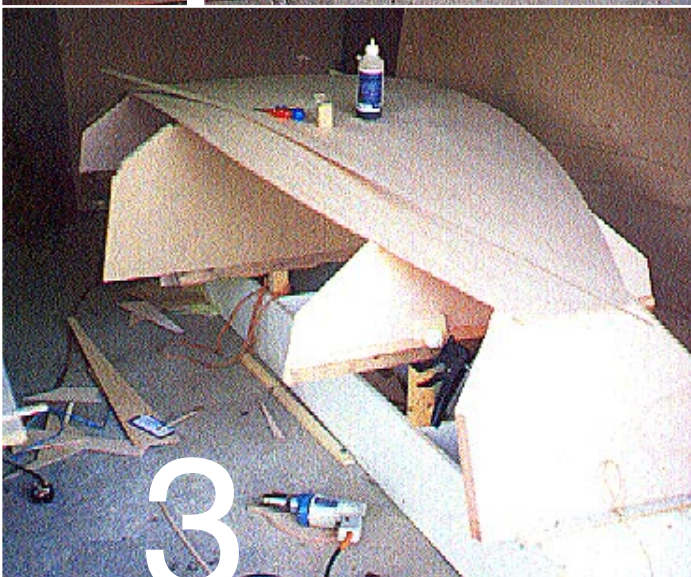
thought rubbing strips would be useful (now included in the basic design) to protect the bottom panel when dragging it up a beach.

### So, down to work

When Robbins Timber (of Bristol) delivered the plywood, I found the sheet lengths to be 2.5m long, so I was able to rearrange the cutting suggestions to provide enough for the thwart (three thicknesses), rudder blade (two thicknesses) and the rubbing strips.

From the dimensions, I marked and cut out the individual parts carefully as I needed them. I found it unnecessary to allow extra for any of the dimensions provided, but I did check the sizes of the various panel spaces before committing myself. The one place

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where a generous overlap was important was with the framing of the bow and transom, so the correct bevels can be cut to enable the plywood panels to land on them flush.

I started by assembling the same jig we used nearly a year before at Pangbourne. It's very simple to build, but must be done carefully for the finished boat to be 'true'.

Actually, for anyone starting on a project such as this, making a jig is a good way to quell those pre-project jitters – a sort of limbering up exercise before the game gets really serious. Although it would be feasible to build the dinghy without it, the jig makes life much easier, and I'm sure saves time in the long run.

With the jig properly aligned, I tackled the work in the following order:

### **Pete's Progress**

- Assemble jig. Use a stretched string to mark the centreline and keep everything square.
- Consult the drawing, mark out the panels, and cut as required. Check and recheck!
- Sand the inside faces – easier now than later – then fix the framing to bulkheads and stiffening strips to bottom panel. Allow enough overlap with the framing to cut the bevels at bow and transom (Photo 2). I cut these with a bandsaw.
- Clamp the fore bulkhead, bow and stern transoms to the building jig, and fix the after bulkhead to the bottom panel (bevel the base stiffening strip to the same angle as shown on the drawing). Lay a long piece of scrap across the framework to check and adjust the bevels.
- Put the bottom panel

assembly into place – check the fit, trimming if necessary – make sure all's square, and that the bevels at each frame are true, then fix in place (Photo 3).

- Offer the side panels to the assembly and trim as necessary before fixing (Photo 4). Again, check that everything's square.
- Lay the chine panels in position and hold while marking carefully from the inside. Trim where necessary and fix at each end. The structure will be fairly stiff, but it may need a few 'tacks' of fast-setting epoxy at the chines.
- Abrade any cured epoxy to provide a key, run masking tape along the inside of the chine joints, then seal the outside joints with resin and glass tape. I did this by brushing resin on to the panels where the tape would go. Then I wetted out the tape on a separate waxed Formica 'bench', rolled it



## On the stocks A project for Peter



**Taping seams can be a messy business but it helps to wet the tape out with resin off the boat (top) before rolling it on to a convenient dowel. Then (bottom) unroll it along the seam and stipple out all the air.**

on to a stick, then unrolled it into position, stippling out any trapped air with a brush (see left). When cured, the surface was abraded and a second, sealing coat of resin applied. The temperature was low, so I made a tent of polythene over the structure and heated overnight with a fan heater.

- I next fitted a gunwale strip, before turning the whole thing over (Photo 5). Once it was supported level, I removed the jig and fitted two more gunwale strips – one inside and a second outside. The beam dimension was maintained by a batten clamped across the gunwale amidships.

- After removing the masking, the inside joints were taped, abrading patches of cured resin where necessary.

- The side supports for bow and stern seats were shaped and fitted.

- Side bench upright panels were cut, trimmed and the positions marked. A batten was fixed to the bottom panel – held in place by wedged sticks from a piece of timber clamped to the boat (Photo 6). The position of the dagger board was marked and cut. The upper edge of the ply panel was stiffened, brass pins were put into the face of the panel before the glue was smeared in place and the panel pinned into position. The uprights for the dagger board case were in place, and the inside faces were given a coat of resin – a thin cloth could be used as well. The outer face of the casing was then carefully glued into place.

- A batten was placed across the after bulkhead and sidebench upright to mark the position of the outer support stringer for the seat top. The support was then shaped and



fitted.

- The seat tops were all shaped and stiffening pieces glued to the undersides.

- All of the joints were now filleted with resin thickened with silica and micro balloons (using a plastic bag in the same way as icing a cake) smoothing with a rounded stick.

- The mast support and foot were shaped and fitted, then the insides of all tanks well varnished (Photo 7), including the seat undersides. When dry, the seat tops were glued into position, and the joints filleted as before. The thwart support pieces were shaped to suit the thwart, which had been laminated from three pieces of ply, edged with hardwood.

- Knees were fitted at the after corners, a bow board, and pads where the rowlock plates would fit.

- Rubbing strips were added in line with the sidebench supports, and a central keel with a skeg at the aft end.

- The hull was then trimmed, rounded, smoothed and sanded, before painting and varnishing.

- The dagger board had been laminated from three pieces of

ply and was now shaped, and a handle fitted. The rudder had also been laminated, and a tiller shaped to suit. Spars could be shaped from douglas fir, aluminium tubing, or found at a boat jumble along with a suitable sail. A new one would be around £200, but I paid £2 for a pair of sailboard sails – one of which I cut down to suit the dinghy.

### So, how did it go?

Building the dinghy took me about 70 hours, working single-handed. This was rather longer than I'd anticipated, but isn't that always the case? The launch went successfully and I was delighted with the way she handled under both sail and oars. But she was particularly responsive with a small outboard motor – a 2.2hp Mercury – leaving an impressively small amount of wake. The design is very forgiving – most errors can be corrected with epoxy and fillers – and the end result is a versatile little tender that will serve you well.

In short a practical project from a practical magazine and well worth giving a go.

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