



BUILDING A Gartside Pram

Starting out in business as a independent wooden boat builder, Geoff Bowker chose a clinker dinghy as his 'calling card'.

With photographs by the author.

I had been in and around boats of all shapes and sizes most of my life and with my time in the Royal Navy coming to its natural end after 35 years, I needed a second career. I soon found myself at the Boat Building Academy at Lyme Regis on the 38-week Boat Building, Maintenance and Support course from which I graduated in summer 2015. The BBA course with its widely recognised certificate was an extraordinary experience; one I would recommend strongly for anyone with a passion for wooden boats.

I decided to start a build 'on spec' and flicking through W111, I came across Paul Gartside's plans and offsets for two pram dinghies, one 8' and one 10' (2.4 & 3.05m) long. The building notes were very comprehensive but I immediately came across two issues I needed to address: which way up to build her and which materials to use.

The notes suggested the hull should be built upside down on a ladder frame but I wanted to build the clinker hull the traditional British way – the right way up – because working mainly on my own, it would be easier to rivet as each plank went on, rather than riveting the whole hull when fully planked and turned over. I thought long and hard about the possible snags of building the right way up and finally contacted Paul for advice. His kind reply was to build two boats, one upside down and the other the right way up and compare the experiences!

The first step had to be lofting. I chose the smaller hull option simply because it would only need one 8' x 4' (2.4 x 1.2m) sheet of thin MDF. I found melamine coated board takes pencil lines very well but can smudge easily. With two flat transoms instead of at least one stem with a rabbet,



the lofting was relatively straightforward but a second pair of hands was welcome when bending a batten around the curves. The shapes of the three building moulds were taken from the lofting using good quality tracing paper and then transferred to the wood moulds by pricking through with a sharp spike. I found it useful to keep the tracing paper to hand when making the moulds to double check their shapes.

The timbers I chose were oak for the keel, sheerstrakes, transoms, thwarts and timbers and mahogany for the clinker planking and thwart edges.

The two transoms were made by edge and biscuit jointing three 8" x 1" (200 x 25mm) planks. The bow transom was left at 1" thick but the aft transom was thickened down to 3/4" (18mm). The flat oak keelson – hog – was steamed onto a former lifted from the lofted keel profile and then secured on a strongback which raised the bottom of the boat about 18" (0.45m) from the floor as I knew I would need to work beneath the boat to bevel the edges of the hog to take the garboards.

Building moulds were set up on the hog, ensuring they were vertical and square to the centreline by connecting them with battens to a high beam above. The transoms

were set up at the correct angles and checked using a bevel gauge. Two transom knees were made, each from two pieces of oak with halving joints and fitted using PU glue and copper riveted. I thought that fitting the knees at this stage would be much easier than towards the end of the build and would provide some much needed rigidity during planking.

While the inboard shapes of the transoms were very clear on the plans, the outside shapes and therefore the bevels were not given. I was keen to get some of the bevels shaped before lining off for the planking but my brain could not work this out, so I proceeded to line off with thin pine battens tacked to the building moulds.

The first line to find was the top of the uppermost plank, the sheer. The sheer marks had been transferred from the lofting but station 1 and the fore transom would not line up which was very confusing and frustrating. It eventually dawned on me that the forward end of the sheerstrake and fitted transom had dropped somehow. I had removed some of the support between strongback and hog to nail the transom from below and I had not noticed that the keel had flattened out. So with this sorted, the sheer batten looked right and I was pleased it was not too far from the lofting marks.



Above left: The little pram required just three building moulds, set up on the hog and braced from a beam above.

Above centre: Lining off – determining the run of each clinker plank with a batten at every land – is as much art as science.

Nine clinker planks per side were needed, so their top edges and widths were calculated using tick strips and marked onto each mould. I stuck masking tape to the edges of the moulds so that the tape could be removed and I could use the moulds again without the confusion of too many pen marks.

With the lining off battens in place the transom bevels could be calculated and transferred to the forward face using a ruler to measure the gaps and some accurate finger scribing. Much time can be taken by removing the waste wood using hand tools, so I took most of the bevel off with an 80 grit sanding disc in an angle grinder. This made a lot of dust so face and dust masks were necessary.

To get the shape of each plank, a spiling batten was made from two pieces of thin ply held in place with Wilco speed cramps and the marks made for the garboards, the lowest planks. Avoiding edge-set on the spiling batten was obviously crucial; forward of station 1, where the hull closes in on the bow transom at the same time as lifting up quite dramatically, is where edge-set was the

most likely. Despite my best efforts I think I generated some edge-set at the forward end of plank 2 on the port side. I managed to pull it back into shape with the plank above but it was a stressful time.

I had bought mahogany boards 8' long, 16" wide and 1" thick (2.4m x 400mm x 25mm) on which I marked out the planks. Starting with the garboards, I cut out the shape on the bandsaw leaving some generous wiggle room outside the line and then the board went through the bandsaw on edge to produce an identical pair of planks, which were then reduced on the thicknesser to $\frac{5}{16}$ " (8mm) thick.

The bevels the length of the hog were always going to be awkward to plane. And they were: lots of shuffling around on my bottom and planing with the tool above instead of the usual below; lots of checking with wood block; lots of scraping with a wide chisel. A rubber mat on the floor was a godsend for backside and creaky knees.

The usual garboard 'plank on and plank off' game was played, checking marks and ensuring no edge-set anywhere. I also remembered to mark the positions of the timbers, the

steamed frames, along the length of the hog.

Eventually I could fit the pair of planks to the hog using 1" x 14 gauge (25 x 2mm) copper boat nails and riveted over. With the hull upright I was able to drill and rivet the garboards on my own with hammer in one hand and the dolly in the other. Equally pleasing was the knowledge that fitting the garboards would be the most challenging phase and that all the planks above them would be much less physically demanding.

The plank lands, the laps, were left dry although the plank ends were bedded onto the transom bevels with G3 primer, although I could have used old varnish. I subsequently used polyurethane glue, of which I am a real fan. The plank ends were also fixed using blind fragged copper nails driven into pilot holes into the edges of the transoms. Gerald's were cut with the planks on the boat using a saw and chisel; next time I will cut them on the bench using a rebate plane which is undoubtedly quicker.

I really wanted all the planks to be full length strakes but I calculated from my wood stock that the three uppermost planks each side would



Above left: Finding grown crooks takes forever; jointed knees are also stronger.
Below: Fully framed with closely-spaced steamed green oak 'timbers'.



have to be scarfed together with long mating tapers. Feather scarfs were made using a hand plane on the bench at 6:1 and glued with PU glue again. I originally intended that the outside of the hull would be painted so the feather scarfs would not show and I endeavoured to position each scarf line inside the boat where it would be hidden by a timber. I have to say modestly that my scarf lines are quite unobtrusive – the BBA taught me well!

With the planking complete and the oak sheer strake on, I was ready to fit out the interior of the hull. The moulds were removed but the hull was kept upright with braces to the transoms.

Green oak timbers were steamed and bent into place, spaced between the plank rivets and in turn riveted into place. This was clearly a job impossible to complete solo; my arms are simply not long enough for riveting the lower

planks. Cajoling buddies to lay on a cold concrete floor holding the dolly required vast amounts of coffee and biscuits and reckless promises of beer.

To improve the hull rigidity even more, the four quarter knees were then fitted. These knees were made, like the transom knees, each from two pieces of wood using a housing joint and glued. This method avoids the short grain and hence inherent weakness of sawn knees. Holes were drilled through the knees on a pillar drill before fitting to make drilling further through the transoms and sheerstrakes much easier. The knees were fixed in place with long copper rivets.

Next to go in were the inwales and thwart risers. This was relatively straight-forward and I added some style to both by etching a shallow groove along each member just in from the edge using a scratch block – a wood block with a screw inserted in the side and sharpened to make a cutting edge.

Then came the thwarts and to add some interest I edged the oak seats with mahogany strips and routed a quarter roundover. This not only gives colour but possibly adds strength to the edges of the seats. The thwart knees were made like the others from oak and installed using long copper rivets. I had not fully thought this process through and found that driving



long nails from under the thwart was very tricky simply due to the lack of space to swing the hammer. Rowlock pads were made from oak, shaped and fitted to the top of the gunwale using PU glue and blind copper nails.

The boat was now quite solid so it was taken off the strongback, a recognisable boat at last. I made a trolley with castors so I could move it around the workshop easily. Sanding began and it was amazing how many rivets had gone into the boat – all of which all had to be sanded around; the delta orbital sander was a boon.

I recall during the planking phase telling myself to remove pencil marks as I went along, especially those around the roves which would be fiddly to sand away later. They were! I was clearly not as diligent as I should have been; the number of pencil marks remaining was huge and annoying.

With the interior sanding finished the sawdust and debris was removed as much as possible using a powerful vacuum cleaner, followed by an air line to blow the remaining dust from beneath timbers and out from all the other nooks and crannies.

The lovely colours of the woods appeared instantly when I applied the first coats of Deks Olje D1. The D1 is a penetrating wood oil and the instructions on the can say: get as many coats as possible on in one day.

When the D1 had dried the boat was turned over to clean up the outer planking and fit a small skeg and two bilge runners. This was departure from the designer's instructions as it occurred to me that the skeg at the aft end of the keel would help the boat stay in a straight line when being towed and with the addition of bilge runners, the boat would sit on three points on a hard surface. I left the tops of the transoms square at this stage so when turning the boat upside down it would not roll around on the trestles. The topsides below the oak sheer plank were sanded and filled where necessary, then primed, undercoated and glossed using International paints. The rest of the boat, including the exteriors of the transoms, are oiled with D1: in my opinion, it is possible to have too much brightwork on a boat and a block of colour, especially cream on a traditional boat, looks good.

The transom tops were then

Above: *A proper traditional tender. That high bow will help to keep her dry under tow.*

rounded off and a sculling notch incorporated in the stern. The final touches included fitting eyebolts at each end of the boat fastened through the large transom knees for strength, splicing on a bow painter, adding brass and rope rubbing protection and getting her on the water. Finally came the bottom boards, from a pile of cedar waiting in the workshop...

Building the pram has been a joy and an excellent project to consolidate everything I learned at the BBA; I look forward to building another.

CONTACT

www.bowkermarineservices.co.uk

SOURCES

BBA: www.boatbuildingacademy.com

Boat plans: www.gartsideboats.com

Tools: www.yandles.co.uk

Timber: www.dorchester-timber.co.uk

Deks Olje: www.owatroidirect.co.uk