AMATEUR BOAT BUILDERS' ASSOCIATION

Nov/Dec 08

Mick O'Shea's team launch at the Toolbox visit to his workshop

A HANDS-ON TECHNICAL MEETING

For the September Tech. Meeting we had both a change of venue and date, but attendance was, if anything, better than usual. We met at Bill Leonard's Maritime Museum Workshop in Fremantle on the Thursday to hear him talk about taking lines off existing boats, one of his historical recording duties for the museum.

Present museum funding only covers two people in the workshop at the moment, they being Bill and one other chap chiefly employed on making stands for the collection's boats and other similar jobs such as gear guards for the SS Perth engine, etc.

Very sensibly, Bill first set out to explain lines drawings in some detail, since these are not clearly understood by everyone. He carefully described half-breadth plans (looking down on the deck), sheer plans (from the side) and body plans (looking from ahead and astern). All three views are necessary for construction, with the latter being perhaps the most important in the end. Each plan is divided up by cross-sections known as waterlines, buttock lines and sections respectively so that the shape of a boat through any given plane can be plotted. Waterlines are parallel to the actual waterline, buttock lines are vertical and parallel to the centreline and stations are vertical at right angles to the centreline.

Bill had a small, solid model of a boat cut up in two ways to show waterlines and buttocks. The starboard half was cut up into half a dozen horizontal slices to expose the waterlines, while the port side was sliced vertically to show the various buttock lines – very neat. He also explained why documentation of existing boats takes place; briefly that drawings properly stored will last a lot longer than the actual boats, although the Museum's intention is to preserve the boats as long as possible.

When it comes to actually taking the lines, description gets difficult (ever tried describing a spiral staircase with your hands in your pockets?), but basically it comes down to measuring or calculating the half-width of the hull at each station (usually ten along the length) at the heights of the aforementioned waterlines. The points thus acquired are joined into curves using timber, or better still, plastic, battens. Bill had at least three ways of taking these measurements, from a laser guided computer theodolite to basic joggle sticks and the measurements are usually, but not always, taken from the outside.

The laser needs to be set up carefully level with a station and reads off a distance to the hull at a certain point, this is then recorded and the laser moved up or down to the next waterline, etc, before being moved along to the next station for a repeat of the process. A much more basic and mechanical approach to the same system involved an aluminium ladder with hollow rungs and a length of dowel. The ladder is set up vertical in two planes, using two taped-on spirit levels, directly out from a station and the dowel slid through a hollow rung to contact the hull and a measurement taken along it – simple! The largish launch, Ti-Tu, made an ideal example for this technique.

Joggle sticks were an entirely different thing. They are plywood of varying lengths with a point at one end and identifying notches cut along one edge. The length only needs to vary depending on the amount of space available. A ply backing piece is mounted vertical level with a station (inside or out) and the joggle stick held against it so that the point contacts the hull and some of the notches lie across the backing piece. The notches are then traced onto the backing piece. This can proceed right around the hull at any given station. With one station complete the backing piece is laid flat over a bigger sheet of ply on the floor and the joggle stick applied to the traced notches. When this is done the joggle stick point accurately picks out the hull point originally contacted. A 16' carvel fishing boat proved ideal to demonstrate this. Bill pointed out that clinker built boats are usually measured from the inside, all others from the outside. Joggle sticks are also invaluable when measuring inside new builds to fit furniture, bulkheads, etc. No lineal measurements need to be taken.

A simple gadget he had for marking out waterlines on a hull was a wooden stanchion, vertical, on a base, cut originally long enough to reach the highest waterline and traced around the hull. Once done the stanchion was shortened by the gap to the next waterline down and used again and so on, the hull being set up truly level to start with, of course. At the same time the actual curve of the waterline can be translated onto the floor (or a sheet of plywood over it) by marking at the base of the stanchion.

Bill then went on and showed us completed drawings, inked on tracing film, of some that he had recently done. In particular he had the full drawings for a double-ended fishing boat, the Ivy May Geary, held at Albany. These included not just the lines but full construction plans as well. Briefly he'd spent two days taking the lines, eight days on the drawings and finally two or three weeks on

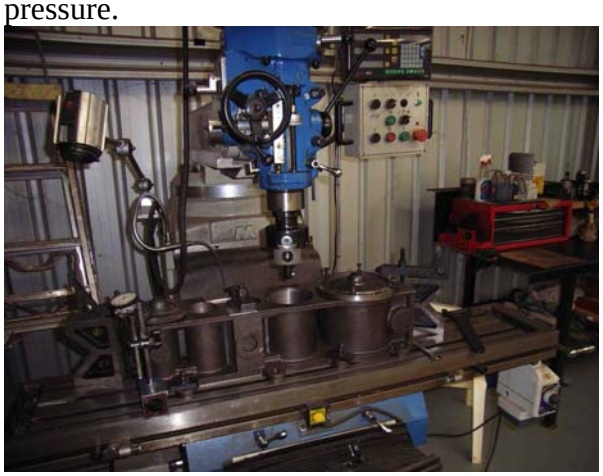
the construction drawings – a very thorough job.

All in all it was a highly successful evening, due in large part to Bill's extensive preparation. The fact that he did it on short notice as well was marvellous. Many thanks, Bill.

A WORKSHOP TO DIE FOR

The Toolbox Visit to Mick O'Shea's workshop in Henley Brook on Saturday, 11th October was a real eye-opener. Talk about how the other half lives! I think Mick admitted to having 480 square metres of space under cover – an enormous area. In it he's working on a quarter-scale traction engine, a triple expansion marine engine and a 23 foot, 1900's fantail launch – all at once. And all of that only occupies about a third of the available space; much of the rest is taken up with earlier projects. This man knows how to play seriously hard.

The traction engine was perhaps the earliest project, but the least developed. The cylinder block was complete on a side bench and drawings of the complete item were on display, but that was all. Next came the triple expansion engine, later followed by the launch itself. The castings etc were purchased from the Elliott Bay Steam Launch Company (headed by one, Pat Spurlock) in Oregon, USA, because Mick is basically a steam nut. A triple expansion engine is one in which the steam is used three times, in progressively larger cylinders to get maximum work out of the available steam pressure.



Consequently the cylinder block, and the whole engine, can be quite long. The cylinder block was clamped beneath a milling/boring machine for machining the cylinders on the day of our visit.

Two side tables displayed all the other, lesser parts, apart from the bedplate. Many of these were castings of small items such as eccentrics, eccentric straps, reversing gears, etc, but included several items Mick has had to make up from scratch. Perhaps the trickiest of these so far has been the crankshaft which was basically complete. It involved machining up all the journals and crankwebs and assembling them with heat-shrinking techniques to the correct 120 degree throws. Then in a belt and braces approach to security Mick added keys in keyways to be sure nothing would slip out of place later. Incidentally, although Mick had two or three milling and drilling machines in the workshop, I didn't actually notice a lathe. Still he must have one somewhere.

Although the engine kit included spun copper boiler and funnel tops, the boiler itself was nowhere to be seen. Mick is actually getting that item welded out, rather than do it himself. When complete it will be steamed at about 160 psi. This sounded a bit high to me, considering that Mike Rogers steams Platypus at only around 50, but of course a fair bit of pressure is needed to reach the third and largest (low pressure) cylinder.

Then it was on to the hull itself. Mick's original aim was the construction of the engine for its own sake but after he got going on it he decided that a decent boat would be needed to exercise it. And he found it in the Elliott Bay Launch itself. Now quite a few steam enthusiasts don't seem to care what sort of a boat they put their marine engines into, as long as they float, but the EBL is something else. It's 23 feet of sheer elegance, dating to the 1900's. It's narrow (under six feet) and very easily driven, as the underpowered launches of those days had to be, and the 10 hp or so of the present triple expansion engine should shunt it along at about six knots easily.

Mind you, it is a boat for enclosed waters – big waves would have it rolling a fair bit, even though it may not ship raw water over the deck. The English called their versions "river launches" and they were common on the Thames, Lake Windermere and so forth. America is similarly blessed with lots of lakes and rivers. As you can see from the photographs, the counter stern or "fantail" is really elegant.

The hull arrived from the US in a very complete state. The shell is an end-grain balsa core sandwich in fibreglass and is beautifully moulded and includes bearers for the boiler and engine, as well as sub-floors for the floor boards.

The deck, with its long open cockpit, was already bonded in place and a very neat job, too. To avoid scratching against jetties, etc, Mick will add a timber rubbing strip around the deck line. Also planned is a full length canvas awning for that capacious cockpit. Hardware with the hull included the prop, prop shaft and bearings and the rudder, its shaft and bearings. None of these were in place so Mick has already done a neat job of fitting them all. He also plans to box in the cockpit from the coaming downwards to hide the balsa core – something I was too lazy to do when I built a similar launch, but then I did have a timber hull to start with. It looks as if wheel steering will be fitted but whether at the side, like Mike Rogers, or dead ahead, I didn't find out. I only used a tiller on mine, but that forced one to sit well astern.

Mick originally had a launch date in mind of Xmas ('08, think) but he'll be battling. Anyway, getting there is more than half the fun, what's the rush? But sometime next year should see him steaming along the Swan, the Canning, the Murray or even the Blackwood and Kalgan Rivers. We're a bit light on for lakes but the rivers are fine. We are indebted to Mick for inviting us out to his place at Grandis Cottages, and for the wonderful afternoon tea as well. We hope this project continues to go as well as it's started.

ADMINISTRATION NOTES

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TECHNICAL MEETING

This evening meeting will be held on Wednesday, Nov 26, 7.30 for 8pm. For guest speaker we have Craig Wilson back, talking on regular maintenance. This time he will allow more time for questions as his previous talk about a year ago generated a lot of interest and is sure to do so again. This talk has been held over from our previous meeting because Craig was, at that time, delivering a large catamaran to Thailand. Don't forget the club's evening meal if it suits your timetable.

TOOLBOX VISIT

The December Toolbox Visit will see us back at Harry Speight's Hovea workshop to check progress on his strip-planked trimaran. This is a Farrier F82 folding flying machine which Harry has been working on for some time now. In fact we've made two visits in the past, the last being in August '04 but at that time Harry was still solving problems like folding hinges and so on. He should be a lot further down the track now. Harry's at Lot 4 (No. 305) Hedges Rd, Hovea. Approach from the west (Oxley Rd end). That'll be from about 2pm. See you there.

THE FREMANTLE BOAT SHOW

This project has come along a fair bit since the last newsletter and it will definitely be held from 27th to 29th of March, 2009, between Challenger Harbour and the Fremantle Esplanade, with the Fishing Boat Harbour taking commercial exhibits.

Registration forms are now available and have also been emailed to members by Paul Thompson. However, insurance details may necessitate a modification to it. ABBA will pay a fee of $125 to insure against litigation against the group, but a fee of $75 per exhibitor will also be necessary to protect against individual court cases.

Unfortunately this is not voluntary, it's a requirement. It would be a shame if this were to reduce the size of our exhibit so we'd better be prepared to discuss it at the Technical Meeting on Nov 26. Now we urgently want to register as many members' boats for display as soon as possible, whether finished or not. In fact it would look better if some part completed projects were on view anyway.

The hardstanding on the Esplanade will be supervised at night by paid guards but since it's a three day show we'll need to roster members to man the exhibits during each of the days so we'll need to call on members who may not be exhibiting for help in this regard. On-the-water exhibits in Challenger Harbour (if we have any) will be secure at night anyway, but we'll need to plan day time supervision there again.

Members are asked to register their boats with the organiser, Richard Pyett by fax (9476 9466). He can be phoned on 9476 9423 or emailed at boating@exibit.info (note there's no H in exibit). At the same time please let Paul know you've done it. His phone is 0419 193 605 and email is hunter@artonthemove.com.au although the show is not till March, we are anxious to get a good list of registrations well before then so please don't leave it too late!

MEMBERSHIP

With the AGM now over, it's time to call for membership subscriptions again. The fee is unchanged at $20 with electronic newsletter or $30 with hard copy. Cheques or cash will be readily accepted by Chris Davis at the November meeting or you can post to him at 5 Johnson St, WEMBLEY, 6014. Let's hope we can get all fees in promptly again this year. Many thanks.

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