

# Building Bob's 8.4m DORY P2

Words by Bob Davis, Photography by Han Jie Davis

Introducing the second leg of perhaps the most unusual DIY series we've ever published in F&B. Written (and built!) by husband & wife team of Bob and Han Jie Davis, it describes how they set about building a comfortable, practical cruising fishing rig they can use in the Whitsundays, around their home state's Far South Coast - powered by a 60hp outboard - and towed by a normal 4WD. Bob is determined to prove it can be done - all up - for less than \$50K - and he wants to share his methodology and thinking to inspire other readers to similar



projects. His theme? 'There has to be another way' - and we all agree that's a concept worth pursuing!



## The Next Stages...

With the basic structure under cover, the next stage was to install the station frames, then the chine logs, keelson, and adjacent longitudinal stringers. After that - installing the bottoms - a double layer of 9mm ply that will be Dynel sheathed, then primed and painted.

## Framing

As the first build of this specific boat design, I got to do a lot of it by eye, by intuition, without the aid of a detailed set of construction plans or instructions based on prior builds. It was very satisfying, to see what evolved. With the long ply panels bent around the widest beam frame, my feeling was that I had a nice shape, with natural curves. My goal in installing station frames was to avoid interrupting those curves.

Early on, I determined the height of the cockpit deck above the bottoms, for the self-draining cockpit, the height of the forward V-berths, and the fore-aft angle of these flat surfaces relative to the rocker in the bottoms. From the likely floating attitude of the hull, from line drawings based on the scale model, I took an 'educated guess', if you will, to determine these levels. My immediate need was a starting point, so that I could build the frames that are to have full ply webs installed, up to likely deck/berth level, to get the webs in place as part of the frame structure. They are a key part of the strength of the structure. Removing a little plywood or adding a timber batten later, to accommodate a change in deck/berth attitude relative to the bottoms is relatively simple to do, if I wish to change it later.

## Measuring for Frames in Situ

Including a solid timber T-frame furthest forward, there are 15 frames between the transom and the stem. With the widest beam frame (#6) already in place that left 14 frames to be done, each one different and to be measured in situ.

Since doing this is fundamental to the 'outside-in' building method, it warrants elaboration.

Here's the method I used. It's quite logical and simple to do. I previously marked the frame station positions on the ply panels, before the panels were connected to stem, transom and widest frame. To determine bottom width of each frame, I laid the actual timber stock to be used for the cross beam across the chines, with an edge positioned exactly on the station position marks.

Using a set square on the timber, against the inner ply edge, I marked the bottom width points. I then measured the



Establishing Width on the Timber stock

width between these marks, and carefully established a centreline point. I used these measurement marks on the plank to mark the width onto the baseline on my lofting

table/workbench.

The topsides vertical flare angle, at each station position, was measured using an adjustable bevel, set against the underside of the timber stock, with the blade eased against the inner topsides ply.

There are slight differences in the shape of the topsides along the hull, in the early stage. I used the bevel to measure the side flare angles of both sides, marked them carefully on



Determining side flare for the frame

a piece of timber from the same point, and then 'averaged' the two angles - by eye. Yeah, it's organic, this process! I then marked that average angle directly onto the timber stock, from the bottom width marks.

After marking these angles, I then laid the actual timber pieces to be used for the side uprights onto the cross beam, carefully put the outer edge to the initially marked angle lines, and then used the inner edge of the upright timber to mark the cut line on the cross beam. I used the bevel to mark the topsides flare angles onto the lofting table, and used a straight edge to extend the lines, to create my lay-out templates, for use when assembling frames. This same topsides flare angle is also marked twice (parallel and 1200mm apart) onto each of the two timbers to be used as the uprights for the frame. This way, the angled cuts on the side pieces of the frame match properly to the cross beam. Dry stuff this - sorry!

Finally, the angle of longitudinal taper of the topsides, relative to the centreline of the boat, needs to be measured at each frame station position. This is required to enable marking of the necessary bevel angle on the outer edge of each frame upright, for flush fit against the topsides ply.



Determining side taper, for bevelling the frame edge

To measure this angle, I placed a straight edge across the chines, positioned it carefully on the station marks on the ply, and used the adjustable bevel to take off the angle. This angle can then be marked onto the two uprights.

In the aft half of the boat, the taper angles are very slight,