

building a boat the easy way

From time to time I've been asked the question "I'd love to own a small boat, is it hard to build one?" It's really surprising the looks of doubt when I answer, "No, no, no! If you know what to do and you're willing to invest a little time you can do it easily!" The next questions that usually follow are "How much time?" and "How much will it cost?" Well, generally speaking, that really is the "How long is a piece of string question!" and it can vary quite a bit.

People differ of course, and what may take two or three weekends for one may painstakingly for others, take a couple of months. The short answer is, "It depends how fast you work, but two or three weekends should be average at a rough guess." In 1998 the Wooden Boat Association chose a Dolphin 16 to construct at the 'Down by the River Festival' at Brisbane. In spite of several cases of VB's the boys managed to build a 16' Dolphin (non sailing version) in two afternoons and present it to a lucky prizewinner.

HOW MUCH?

Once again, quite tricky, some folks will splash out on camel hair paintbrushes and six pairs of throwaway overalls and new gloves... already they've spent thirty odd dollars more than the next chap who still has his fist wrapped around his dollars. For the average homebuilder they should be able to construct this boat for approximately \$700.00 to \$1000.00, if they don't take into account their own time. Thirty to forty hours labour should be sufficient to complete this project to a reasonable standard. Remember, cost for materials vary greatly all over the country and this must be taken into consideration!

WHAT SORT OF BOAT IS THIS?

The DOLPHIN 12

Firstly, it's a simple composite epoxy and glass ply boat, just under twelve feet by six feet in beam, big enough for a couple of adults and a motor roughly up to five to seven hp. It's stable, open, has a couple of seats and will take inshore waters in its stride. I prefer to think of it as an open family/fishing craft that can be used in rivers, estuaries and lakes.

The DOLPHIN 16...POWER AND SAILING VERSIONS

This is basically the same as the 12 but is made of 4.5 sheets of 6mm ply and is strengthened more for the sailing version by way of extra glass in the chainplate areas and longitudinal stringers for the floors. There are three rigs to choose from. The 'Batwing Gunter Rig', the 'Balanced Lug Sail' or the 'Standing Lug Rig'. See diagrams. In addition, the sailing version has a 10' x 10" keel that is ballasted by the inclusion of two 35 kilo lead ingots glassed into the keel during construction. Also, there is a rudder constructed of Oregon, coated in glass. Please note that a simpler plywood and glass version can also be built if required. The mast is a solid Oregon piece 12' with an 8' spar for the standing lug rig version.

THE DOLPHIN 19 KETCH

The 19 foot Ketch is the latest addition to the fleet. She also is a frameless boat, an extended Dolphin 16 with a couple of additions. The dimensions are 19 foot by six foot beam and she has a 20 inch freeboard but this can be extended to 22 inches at the expense of the sheer line curve. There is a 5 foot foredeck that leads back to the main mast. This mast is situated immediately behind the bulkhead that the deck itself sits on. There is ample storage under this deck for extra flotation or gear storage as required. Entrance to this area is through the cutout in the bulkhead.

The craft has the choice of two keel configurations, an eighteen inch keel or a twelve inch keel depth that runs approx. two thirds along the boat's length. This is constructed from solid Oregon and provides the strong backbone needed for the frameless design. There is also provision for twin bilge keels that allow easy beaching and use of a slightly more shallow keel, around 9/10 inches. Ballast for the boat is four lead ingots that are built into the keel itself and is approximately 150 lbs in weight. It is envisaged that the boat, ballasted, should be in the area of some 450 lbs (210 kgs) unloaded.

The rig is a twin mast Ketch configuration with a jib area of 19 square feet, the mainsail, 56.5 sq. feet and the mizzen mast, 24 sq. feet in area. This is approx 100 sq. feet total sail area. The rig is a standing lug, boomless with a top spar approximately eight feet long. A gaff rig is also possible for this boat, in fact the first Dolphin 19 customer in South Australia has opted for this rig. The craft is designed to sail with jib and mizzen alone and should provide much more room aboard in this configuration. For any prolonged jib/mizzen configuration a slightly larger jib area would provide better sail balance and power.

The twin masts are either clear Oregon or clear spruce but the spruce alternative would be fairly expensive! They are planed round from four inch square stock and are quick to make if an electric planer is used. They are soaked in epoxy and then finished in anti ultra violet varnish to prevent 'milking' of the epoxy. An unusual feature of this design is the twin galvanized wire stays on each mast. This gives a traditional look but also adds a significant safety factor. The solid Oregon chain plates, placed outboard of the hull provide an attractive old fashioned classic look to this very versatile little sailing craft.

As with all the Dolphin range the hull is beamy and commences with a vee sectioned bow that falls away to a flatter 7 degree hull bottom to provide plenty of beam stability. There is no floor in this design but that is not to say that one could not be easily added if required. The primary reason for not including a floor in the original design was for access to the bilge area for cleaning and to prevent water lying in the boat unseen, a primary cause of damage in boats left unattended for a while.

The boat is designed to take an outboard engine (10-12 hp approx) that could be attached to the transom with an outboard bracket but it is possible to fit an inboard if required. This necessitates the addition of engine beds and a floor and was omitted really because of the extra time and labour required to install.

This craft was designed with intention to provide a versatile easy to build 'proper little boat' for the owner that would like a boat that is a 'no fuss' design that can be built using very simple, easy build techniques that really do away with excess build times. There is nothing more frustrating than hacking way for weeks building complicated frames that must interlock with sophisticated "mortise and tenon joints" and the like, requiring quite advanced woodworking skills that are generally just a bit beyond the average D.I.Y. chap. If you can use a jig saw, tape measure and a sanding machine and mix up epoxy glue, the Dolphin 19 will be an easy project for you. Don't forget that we are only a phone call away and pride ourselves in our after sales 'help line' that is available for advice and help anytime during normal hours!!

The Dolphin 19, with its simple, two page A1 plan and instruction book does away with the need for tiresome lofting and calculations normally required. It really is more like a simple case of 'join the dots' building that the Dolphins are becoming well known for. A hundred and fifty owners can't all be wrong!!

WHAT SORT OF CONSTRUCTION IS IT?

Basically, the 12 footer is built from three sheets and a half sheets of 1220 x 2440 6mm plywood and the 16 footer from four and a half sheets of 1220 x 2440 6mm plywood and the 19 foot Ketch, six sheets of 1220 x 2440. They are built using a simple 'stitch and glue' method using epoxy resin glue thickened with Q-Cells or Microspheres and then layered on the outside with a strong layer of 300 gm biaxial glass cloth and epoxy resin. The instructions contained in the plan fully detail to the last degree every technique that will be needed to build these boats. The plans, known as the 'easybuild' method requires no complicated lofting but a very simple 'join the dots' method that can be drawn directly onto the ply. For example, the whole boat (a 12) can be drawn up in one afternoon and all the shapes cut out. The finished weight, minus motor, is approximately thirty odd kilos depending on the weight of ply, epoxy and glass that you use. The transom is a single piece of ply approximately 20mm in width. Built with these composite materials, it's strong, tough, extremely light and with care will last for years.

SAILS AND SAILING GEAR

All dimensions for the above gear are supplied with the plan and all equipment is available from any local chandlers. The gear required is simple, cheap and easy to build for a first time builder.

WHAT TOOLS WILL I NEED?

Not many. A jigsaw, clamps, an orbital sander, a drill and perhaps an electric planer and a belt sander with a few assorted grade belts would be handy!

Materials - 4 sheets ply for 12'...4.5 sheets for 16'...6 sheets ply for 19'

Plywood sheets 1220mm x 2440mm ply, suitable for boatbuilding. There are many and various makes and grades and I'll not enter into that can of worms, suffice to say that with the use of epoxy composites you will not be restricted necessarily to 'marine ply'.

1 piece 15mm ply 3' x 6'.

Approximately 6 metres 300gm bi-axial fibreglass cloth.

12 litres Epoxy resin.

Q-Cells or Microspheres.

Various assorted widths of Hoop Pine or Meranti 40mm x 10mm for rubbing strakes.

Materials required for the sails and sailing gear will be listed in the plans and can be varied if required upon advice from your rigger or sail maker.

The price of the plans can be found on the website listed below.

NOTE: IF YOU WOULD LIKE TO SEE SOME PICTURES THAT ACCOMPANY THIS ARTICLE GO TO
www.dolphinboatplans.com

About the Author

Terry Buddell, a marine surveyor and boat designer, lives on board his yacht that he designed and built in Australia and has cruised his yacht "The Nicky J Miller" extensively around the coastal waters of Australia. Terry who also writes extensively for boating magazines has designed a range of Easybuild craft that have gained a solid reputation over the years. Some of these craft are being used today by the fishermen of East Timor as their basic fishing boats due to the efforts of the U.N

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