

# Brett Murrie's M670 DIY Series

Introducing one of the most interesting DIY craft we've seen for some time - and for once, it is not in aluminium, either. Using the latest 'stitch 'n glue' technique, Gold Coast naval architect Brett Murrie has really challenged the notion that DIY enthusiasts seem to have to settle for second best. Not here - this is a gorgeous hull that is right 'up there' with the best of them - and streets ahead of most others. What makes this so interesting is that Murrie has combined some of the oldest, simplest DIY boatbuilding tricks in the book, together with the very latest materials, and then used computer power to cut out the bits and pieces . . . this is a craft - a technique - that is easily within the scope of the 'Saturday morning, Bunnings trained amateur' and could offer a whole new approach to sensible, economical and safe, family fishing and boating. We asked Brett to create the background . . .



**S**ome time ago, I was approached to design a sport fishing vessel capable of offshore and inshore operation alike.

The prospective client was highly intrigued by the efficiency and simplicity of the panga style longboats of the Pacific Islands and elsewhere, and had a vision of building his own boat using some of the principles of these boats.

The boat also had to be built by an inexperienced boatbuilder using a modern version of the time tested 'stitch and glue' plywood techniques.

Lastly, the boat had to be cost competitive, relatively cheap to build, without sacrificing quality and economical to run with moderate horsepower.

The result of this concept is the M670. A 22 foot (6.7m) modern styled centre console that can be built by anyone with reasonable skill of hand tools and an eye for detail.

## Specifications

Length Overall (inc. outboard)	7.365 m
Length Hull	6.7 m
Beam	2.2 m
Power (Std)	* 1x140 hp (XL Shaft) 175hp Max.
Fuel Capacity	190 litres
Dry Weight **	1200 kg
Transom Deadrise	12 degrees
Deadrise at 25% LWL	37 degrees
Draft Loaded	0.35 m
Top Speed as tested (140HP, 3 Adults & 100L Fuel)	33 knots
Construction	Epoxy/E-glass/Marine Plywood Core Composite

To achieve such goals, the design had to be kept simple, straight forward and honest. Simplicity of design, simplicity of construction and simplicity of layout, are principles that led to a design that has since proven to perform well above expectations.

## The Design

To achieve some degree of the efficiency of the longboats, overall beam

was kept to a minimum at 2.20m overall, and less over the chines. The modest 12° deadrise angle at the transom turns to almost 40° at the forefoot and 51° at entry, to aid ride comfort in a swell.

The end result is a stable, yet easily driven hull which has shown in practice to be up on the plane within a couple of boat lengths and able to put on a good turn of speed with only modest

power requirements.

The design features a fully sealed, positive freeboard, self-draining deck, 190 litre underfloor aluminium fuel tank and a fully customizable enclosed transom outboard well.

Side pockets, and provision for an anchor locker forward are also allowed for.

Should the builder require it, as has been done on hull #01, the addition of a forward casting platform and additional storage is an easy modification to the standard design. Individual builders can add their own measure of customisation in way of the transom well, and the ability to fit items such as kill tanks, bait tanks and additional storage. This makes the M670 a versatile platform.

Naturally, since the design is a kit product, the final finish will be entirely up to the builder of each individual boat, thus giving a personal stamp to each

project.

Designed to be built using well proven stitch and glue techniques, the hull is a Epoxy E-glass marine plywood core composite. All scantlings have been designed to comply with Australian Standard AS4132 Parts 1 & 3 for commercial vessels over 6 metres in length. This makes for an exceptionally stiff, strong and durable structure. The epoxy resins and multiaxial fabrics when combined produce a structure that is far superior in terms of water resistance and strength than the typical polyester resin/chopped strand laminates used in many well known production models.

## The Build

The hull is constructed upside down on a jig consisting of a set of strong backs that provide for precise alignment of the computer cut temporary mdf jig panels and pre-



glassed marine plywood structural parts.

Once the hull shell panels (also computer cut) are scarfed together, they may be fitted to the jig using temporary attachments before the gaps are filled prior to glassing the outside

surfaces.

Hull laminates consist of 100% stitched fabrics and epoxy resins. Each layer of fibreglass, and there are quite a few, is strategically overlapped at both the keel and chine to provide additional wear resistance and strength.

The external surfaces are then faired before turn over, and more fibreglass laminates are added internally - thus turning the marine plywood hull shell into a fully sealed sandwich structure.

From here we see the fitting of the aluminium