

Solitary Island 12



Study Plans

Thank you

for considering the Solitary Island 12 for your next project. We understand that building your own catamaran may be the biggest time, money and emotional investment you will ever make. We want it to be one of the best and most satisfying experiences of your life. There are few pleasures as great as sailing a boat you have built yourself. With this in mind we are dedicated to providing you with the most cost effective and easy to build kit on the market today.

The Solitary Island 12 is the result of many years of trying to get the price of catamarans down by taking advantage of advances in technology. We have achieved this by producing a very efficient kit that is very quick to build for both the amateur and professional using the latest in high tech materials.

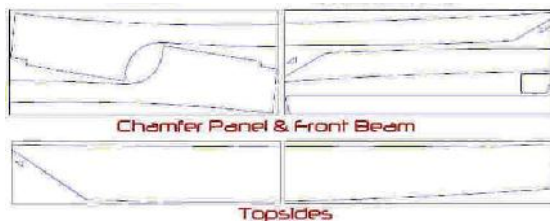
It is accepted that the most costly commodity in the modern society is labour so reducing a boats building time will reduce its final cost. Even when building your own boat a reduction of hours will result in a cheaper boat in the end. Of course there is a balance here. You could buy a readymade factory boat and pay high profit margins for somebody else's hours or at the other end of the scale you can buy a set of plans and build from scratch. The latter may seem like the cheapest option but is it really? How much do you value your time? Can you find a large shed to rent for many, many years; will the boat really get finished? When you finally launch your dreamboat will it still be your dreamboat?

The most cost efficient way to own a modern catamaran is somewhere in between, by building from a well thought out CNC cut kit. This is nothing new of course; kit boats have been available for years. Most are still labour intensive with multi-chines that require difficult fairing, complex deck shapes, large curving seats and compound curves, which require strip planking and still more fairing. In other words they haven't carried the philosophy of saving time as far as it can be taken. Another approach is to build a kit which has large premoulded panels that glue together and although they do save more time they also cost a lot more to buy, and you still have to finish the interior.



With the Solitary Island 12 we feel we have found the best compromise between cost of kit and ease of building. **The new generation kit.** Most kits available today are based on the 8 x 4 balsa sandwich panels joined along their long edge with a thin glass scarf joint. The average 40' kit will supply around 150 panels, which need to be aligned very straight and flat while being glued together. That is well over 100 glued joints before you can even start building. The Pacific 40 kit has its parts CNC routed from large Polycore panels. The panels are around 5.8m x 2.25m, the biggest panel you can fit into a 20 foot container. This significantly reduces the amount of pre gluing and the inevitable

cumulative errors that can creep in when gluing many panels in a row. The longest panel in the kit, the topsides, has only one major join.



Kit parts are CNC cut from large panels

Talk to anyone who has built a boat and they will have many tales about the hassle and expense of dealing with couriers. It has been estimated that 5% of the building cost goes to transportation. With the ongoing concerns of fuel/transportation costs and Co2 emissions ever rising, the kit was designed to fit into one 20ft container or two plus kits in one 40ft container or the equivalent space on one flat bed truck. To do this, the moulded hulls are split into 3 easily handled sections with taping rebates at the joins to make fairing the tapes easy. Alternatively the hulls can be supplied at full length and delivered on a semi. Imagine having everything you need to build a 12m catamaran arrive on one truck!

Polycore

This high quality polypropylene cored product was chosen as we consider it to be far superior to balsa and foam. The use of balsa as a core in boats has always had to endure a reputation as suspect despite plenty of laboratory evidence to suggest it is perfectly OK. Unfortunately, every yachty seems to know someone who had to cut rot out of their balsa cored boat. This may well be due to bad building but why use a core that can rot in the first place? Polycore cannot rot. Foam is the other alternative but its lower shear and peel strength and its very high cost

makes Polycore a more attractive core. The Polycore panels, using quality epoxy/glass are pre-glassed in the factory using vacuum presses producing a very good, consistent volume fraction resulting in the ultimate lightweight panel.



Preglassed Polycore

A catamaran designed around flat panels raises many challenges for the designer. In the early days of multihulls most boats were built using plywood, an excellent material in its day, but they tended to look boxy and soon dated when methods such as cold moulding, strip planking and foam sandwich produced pretty curves. There are still a number of good honest designs around for plywood but they're not for everyone, they look 'old fashioned' and are very labour intensive. Alternatively the more appealing lines of the round bilge boats are expensive to build requiring techniques that involve many hundreds of hours of fairing, an odious task that is purely cosmetic and adds plenty of weight. This left us with the difficult task of designing a boat with all the advantages of flat panels while keeping the look contemporary. The soft knuckle above the waterline helps to break up what would otherwise be huge flat topsides resulting in an up to the minute sleek, modern look.



The Hull

The Pacific 40 makes use of the wine glass shape hull. This allows us to achieve a good performance cruising waterline length/beam ratio of 1 in 12 while retaining a generous internal volume and good semi circular underwater profile with lower wetted surface area. Our hull shape also sheds water and spray easily creating less drag when pressed hard. This shape is difficult for the amateur to build so will be supplied as part of the kit, vacuum moulded under controlled conditions. This will increase your boats resale value as the buyer will feel assured that the part of the hull in the water has been built properly. From 400mm above the waterline up to the gunwales a single flat panel runs from stem to stern. On the inboard side a single chamfer panel also runs all the way from the stem to the stern. What could be easier?

The Bows

The bows have sharp plum stems providing excellent wave cutting ability with less spray and drag when pressing hard. The flared topsides give plenty of reserve buoyancy.

Flat Decks

The decks are made into one large uninterrupted flat panel, including the catwalk, front beam, side decks and rear cabin tops. There are no steps or slopes from the rear cabin to the front beam and the flat deck carries right out to a small radius at the gunwales. This not only makes building far quicker and easier but is a significant safety feature at sea. The large flat decks are a pleasure to lounge around at anchor, will be a pleasure to use at sea and a pleasure to build.

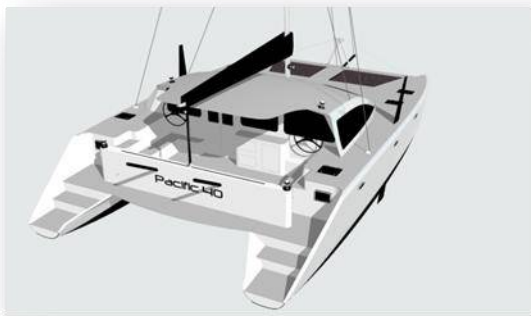
Front Beam, Striker and Tubes

The catamaran front beam can be a daunting task for the first time builder so we have made this one as simple as possible. Our front beam is straight so no strip planking is required and the top of the beam is flat, in fact it is a continuation of the deck. CNC cut moulds are supplied. We will show you how to make composite tubes using pvc pipe as a mould so you can make your own davits, prodger and seagull striker. You will also receive instructions on making composite chainplates, stanchion bases and other fittings so as few as possible stainless steel fixings are

used. You can even make your own composite steering wheels.

Cockpit

The cockpit has been arranged to be simple, spacious and functional. The main cockpit seat has been kept straight as we estimate building a straight seat only takes half the time of a curved one. It is tempting to design in a long sweeping curve in the back seat as they do look nice but are they practical? Have you ever tried taking a nap on a curved seat at sea? They also take up a lot of valuable space and the aft bulkhead usually ends up cutting across the under seat storage area. The seatback is carried across to the transom steps providing an excellent place to grind the shared mainsheet track/spinnaker winch while watching the sails.



Boarding the boat is made easy with large sure-footed steps up the transom with the top step being level with the bridgedeck so no clumsy clambering over the cockpit seats. A washboard or gate can be used across the cockpit entrance if wandering children are a concern.

A swimming platform extends out from the back beam. The dinghy davits are simple, removable stainless steel or carbon tubes, which plug into the rear beam giving clear access to the platform while swimming.

Two wheels are used for steering with good visibility on either tack, the port wheel having access to the navigation table inside via a drop down window and a swing around plotter. A generous storage locker and a wet locker are provided along the bulkhead.

The saloon top extends back over the cockpit providing essential shade in our harsh climate.

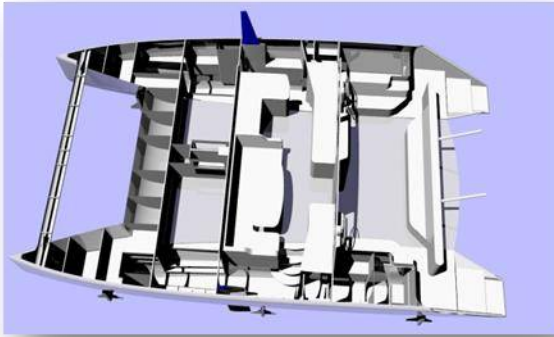
Saloon

The saloon is large, light and airy divided up into a lounge/dining area, a galley up kitchen and navigation. This centralises all the daytime activity and keeps the sleeping quarters down below. Drop down windows and a double door in the main bulkhead allows plenty of ventilation and a sense that the saloon and cockpit are one large area.

The saloon seating is comfortable and large, at the same time practical and easy to build. This seat is often used at sea by an off watch crewmember who can get some sleep but be ready if emergency help is required. Curving seats are not practical for this purpose. Aft of the dining table is the navigation table, which can also house a LCD TV for entertainment.

The galley is on the starboard side along the main bulkhead with a stove and sink and a generous work surface. Forward of this is a huge front opening refrigerator and separate top loading freezer. It has been shown that front loading refrigerators are virtually as efficient as top loaders, are far more practical and the top can be used as a large work surface. Most people prefer the galley up to the galley down as it is more pleasant to use

but in the past this configuration has usually only been considered for day sailing cats as it tends to have inadequate storage and bench space. Not this one. A very large pantry is provided next to the refrigerator with more storage under the sink and stove. This galley is larger than a galley down configuration.



If you prefer the navigation table, engine controls and rear bathroom on starboard side then the boat can be built to a mirror layout. Being a flat panel kit the boat can be built either way. Try doing that with a molded kit.

Head/Shower

The wide flat decks allow a wider than usual saloon so access to the hulls is easy with plenty of head room going down the stairs into the hulls. On the port side aft of the stairs a door leads to a head and then another door leads to a large bathroom with vanity. A full standing, roomy shower cubical is separated by another door.

Cabins

Forward of the head in the port hull are storage lockers both sides leading to the forward cabin. This is a large airy cabin with a queen size bunk and a hanging locker. There is plenty of sitting headroom over the

bunk with opening hatches facing forward and a removable panel leading up into the saloon providing flow through ventilation. A storage locker is supplied under the mast step area for books or personal items. Forward of the master cabin is a large walk in wardrobe, or if preferred, a second ensuite.

The port side has a double cabin aft of the steps. This has full standing headroom and plenty of **storage space**. **Forward of this has more lockers amidships leading to another forward cabin, the master bedroom**. This spacious cabin is similar to the port cabin but with an ensuite with shower, head and vanity.

Sailing

The Solitary Island 12 has been designed with performance cruising in mind. An advantage of the kit built catamaran is that weight can be kept in check resulting in a very light boat giving sparkling performance and good weight carrying ability. With its high aspect main and headsail of 98 sq m and an all up loaded weight of 6 tonnes this boat will be a performer. If you like to race, lightly loaded she will reward you with an exceptional performance. A retractable prodder is used to fly the screacher. Daggerboards have been chosen over mini keels with performance in mind but the more cruising oriented builder can choose the mini keel option.

Back in the cockpit the jib sheet winches can either be mounted on the saloon roof or lead back down to the rear cabin tops. Either position is handy to the helmsman.

Engines

Two 21-30hp diesel saildrives are positioned aft of the aft beam under the transom steps. This keeps the engine out of

the living space and allows easy access for installation and maintenance. Outboard engines were considered for their weight and initial cost advantage but in the spirit of keeping the boat quick and easy to build saildrives were chosen. Modern diesels provide other advantages such as greater efficiency and they are less likely to cavitate when you least want them to, like crossing bars. The large capacity fuel tanks are located in a separate compartment forward of the engine. For performance sailing these are best not filled to the top but it is nice to know you have the range when crossing oceans.

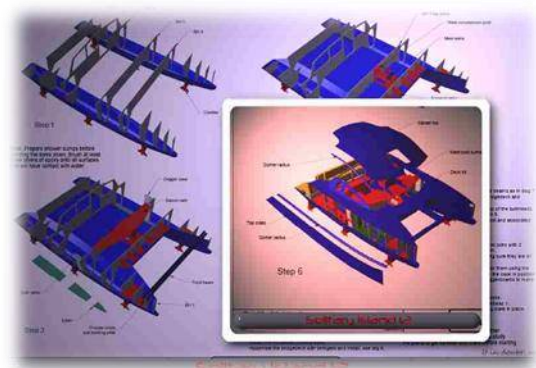
Construction

Ease of building has been a top priority throughout the design of the Solitary Island 12 kit. We are determined to make the job of building a boat as pleasant and rewarding as possible by making it quick and problem free. We have been involved in the development of catamaran kits for longer than most in this country and experience as multihull builders puts us in the unique position to know where time can be saved and processes made easier. A full set of pictorial instructional plans will be supplied explaining each process.

All parts are pre-cut ready to go, even the interior fit out, so that means no tedious marking out and cutting. Everything is flat (except the saloon roof) so you don't have to fair any large areas saving a huge amount of time, sandpaper/consumables, energy and dust. Panels are smooth on both sides, light and kept to a manageable size for easy and safe handling.



The main backbone of the kit are the two factory made hull 'shoes' on which the rest of the boat is built upon 'the right way up' (Remember all those nerve wracking photos of catamarans being suspended with two cranes while being turned over?). Not only is the most difficult part taken care of, but these hulls act like a strong back, another thing you don't have to build. Just sit them in the supplied CNC cut MDF frames and start adding the bulkheads, bridgedeck etc.

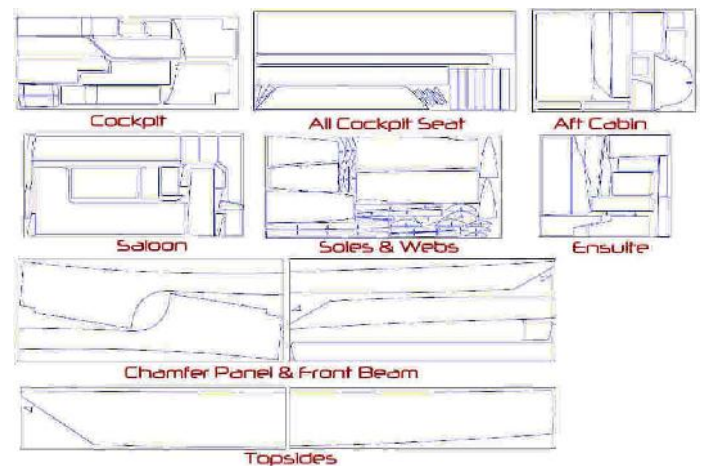


Fitting out can be done before the decks are put in place, in fact most can be done before the topsides are added. This makes access easier and working more pleasant. Even the

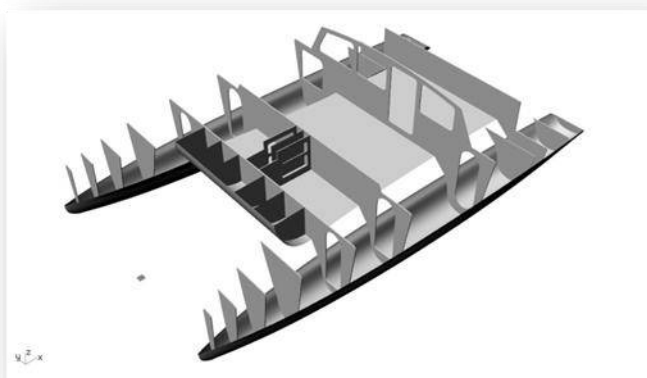
engine and rudder bearings are fitted before the transom steps are installed.

Deck & saloon corner rounds are kept to a sensible radius which can be built easily without the need for strip planking or an expensive deck radius moulding.

The saloon top is the only compound curve you will need to build but being a mild compound it can be built using large Polycore panels over a pre cut MDF frame supplied with the kit. It will require some fairing but you will be working downwards, and being painted in non-skid it doesn't require a mirror finish. Although it would have been good to not have any compounds to build we felt that this is one place where it is worth the effort as a flat panel top always results in an old fashioned boxy look and a compound is stronger over such a large unsupported area.



Here are some samples of random panels from the CNC routed kit. Note that there is a minimum of joining to do with all the nesting done on large 5800mm x 2240mm panels. In fact there are no panel joins on any of the interior fit-out or cockpit kits and with only one or two joins on the larger parts such as the topsides and bulkheads. This could save you weeks of building time (not to mention fairing time) while the integrity of your boat is not compromised by hundreds of joins.



It will take very little time to build to this stage

Solitary Island 12 Specifications:

- Length: 12.2m
- Beam: 7.46m
- Centre Line to Centre Line: 5.8m
- Draft Board Up: 500mm
- Draft Board Down: 1900mm (Mini Keel option available)
- Sail Area Performance Cruiser: 98sqm Main & Genoa
- Mast Height: 17.3m
- Displacement Light Ship: Approx 4Tonnes
- Displacement Loaded: 6Tonnes (Payload 2Tonnes)
- Engines: 21 -30 HP Sail Drives
- WL Length/Beam Ratio: 12:1
- Headroom Hulls: 2m
- Headroom Saloon: 2m
- Bridgedeck Clearance: 750mm (Fully Loaded)
- Fuel: 300ltrs +
- Water: 600ltrs
- Motor: 7.5 to 10 Knots Cruise
- Sail: 0-20+ Knots

Solitary Island 12 Key Features

- Moulded Hulls
- Flat precut panel construction
- Built right way up, no strongback to build.
- Large kit panels requiring very little prejoining.
- Polypropylene honeycomb core that will not rot.
- Epoxy Composite for superior strength, longevity and excellent resale value
- Well thought out & detailed CNC cut kit
- Highly detailed instructional plans
- Wine glass hulls with soft knuckle for better internal volume and performance
- Twin or Single Helm
- Motors isolated from cabins
- Births: 2 Queen Cabins, 1 Double Cabin
- Galley Up with plenty of storage
- Flat decks for safety at sea and ease of building
- Fine bows for excellent wave cutting ability
- Please note: The above specifications are subject to change without notice.

For Further Information.

Please contact:

Mark Stephens- 0431 486814

Mark Giles- 0427 001663

E: enquiries@australiancompositepanels.com.au