



Spirited 380

S T U D Y P L A N S

Spirited 380

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Introduction

Spirited Designs is a young multihull design company founded by Craig and Marina Schionning, located on the shores of picturesque Port Stephens.

Craig grew up living full time on boats from an early age and from here his passion for boats was kindled. With over 15 years of multihull building experience and 4 years in multihull power and sailing design, Craig is very excited about the future of Spirited Designs.

Spirited Designs specializes in pre-cut kit assembly using cad-assisted technology. To design cutting-edge multihulls you need to use cutting-edge technology and software. Craig's practical building background combined with a good eye for modern flowing lines creates a good sound basis for not only a modern, safe good-looking boat but an easy to build assembly process using the best choice in modern materials available.

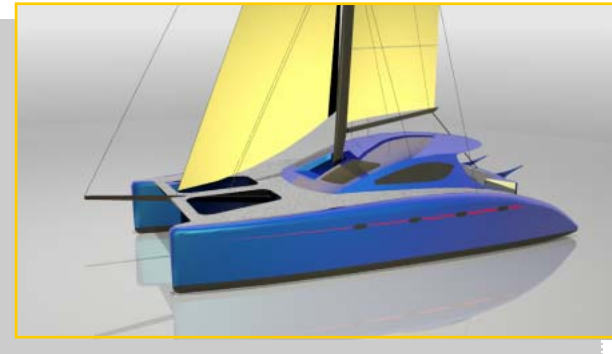
The Spirited Design team work well together in many areas to bring you the best possible product and service, from building and supplying your kit, to helping you assemble and finish your dream boat, we are there to help.

We like to refer to our factory/office premises as our design studio. Our focus is on quality not so much quantity, this way you the client will always have personalized service throughout their dealings with us.

We are striving for the best possible quality parts and products to be supplied by our company. Having an office/factory environment means that the best of both worlds can be achieved, the theory/design part of the job can be done in-house with the practical/hands-on part done on the factory floor close-by. This ideal situation allows any research and development to be achieved in-house. Another advantage is that all components are built under full supervision and quality controlled, with kit contents checked off as they are dispatched.

We hope you can appreciate our product and look forward to working with you in the future. If you have any other questions or queries regarding our products, please feel free to contact us at any time. Thank you for your interest in our designs and best wishes for your chosen project.





SPIRITED 380

SPECIFICATIONS

The Spirited 380 is a good balance of fresh modern styling, excellent sailing performance and a generous amount of internal volume for a good functional layout. With good bridgedeck clearance of 700mm, she will not pound underway. Built using lightweight materials will help with bridgedeck slamming and improve motion at sea, the boat will lift easily over waves without that sluggish momentum often experienced on heavy cats.

Flat side and forward decks, give clean lines and a more practical surface to walk on surrounding the tramps. Incorporated into the forebeam is a composite prodder, this is fixed or hinged and is designed to carry the inner forestay, main forestay and screecher which can all be kept in place on furlers, creating a 'gearbox' type effect when performance sailing, from the bigger sails down to the smaller.

The storm jib, which can be carried on a furler is fitted to the inner forestay. This is anchored to the catwalk with extra support from the composite prodder below, giving a good slot between the inner and main forestay for easily tacking the Genoa around. Having the storm jib on a furler means it can be used at any time as an upwind heavy air blade jib when reefed down or for extra sail area when cruising downwind, if needed.

LOA	11.7m / 38 ft
BOA	6.53m / 21ft 4"
DRAFT	500mm / 1ft 6"
DISPLACEMENT	5200kgs / 11464 pounds
BRIDGEDECK CLEARANCE	700mm / 2 ft 3"
SAIL AREA	96sq m / 1033 sq ft
MAST HEIGHT	16.45m / 53 ft 9"
PAYLOAD	1800kgs / 3970 pounds
MOTOR SPEED	7.5knots (cruise)
SAIL SPEED	11-12knots (cruise)
HEADROOM	2.09m in Saloon
MOTORS	2x21hp Saildrive Diesels
FUEL CAPACITY	200Litres
FRESH WATER	400Litres
WL BEAM TO LENGTH RATIO	13:1
BERTHS	3x Private Double Cabins
ESTIMATED BUILD HOURS	4000 (basic standard finish)
ESTIMATED COST OF MATERIALS	
TO SAILAWAY (basic standard finish)	AUS \$ 185,000 incl. gst

At the same height on the mast as the inner forestay are the lower shrouds running down to the edge of the cabin top, keeping the mid panel of the mast well supported and also the walkway on the sidedeck clear.

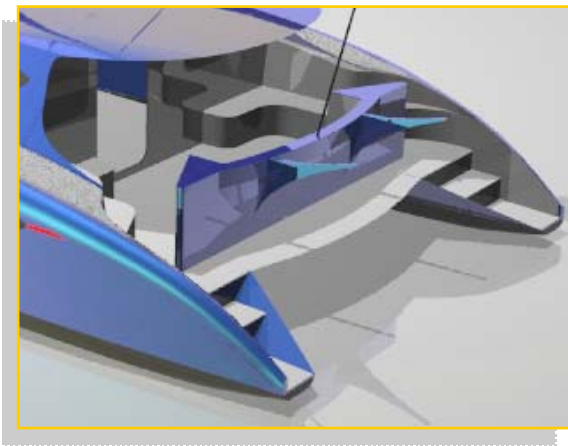
A carbon mast is recommended and combined with this well-stayed design; this is a 'bulletproof' rig. The rig size is in the 'performance' bracket rather than being conservative, which means it will come in handy in light airs but will have plenty of power when the wind picks up. Reefing early is always a good option to take if the crew is inexperienced or short-handed. A flat area at the

Design Brief

base of the mast on deck gives good footing for reefing and sail handling. This area also creates a vertical surface to mount opening hatches or windows leading into the saloon and forward bunks, great for vision and ventilation.

COCKPIT

Walkthrough transoms Port and Starboard lead into the cockpit. Behind the cockpit is a swimming platform/duckboard area that runs the entire width of the boat. As you come up the aft hull steps you step onto the last step that is on cockpit floor level, and can either lead into the cockpit or onto the swimming platform.



Stylish composite dinghy davits are mounted to the main aft bulkhead and mainsheet traveller base, these are hinged and swing out of the way when the swimming platform is in use. In the cockpit there is plenty of seating, with a wide radial seat aft with a central table. There is corner seating either side forward directly behind the saloon bulkhead, which double as steering stations. A bench area against the saloon BH can be used for an outdoor basin or BBQ area with a slide out rubbish bin underneath. The extended saloon cabin top provides an excellent shade top for the cockpit with good headroom clearance below, and creates attractive clean lines.

SALOON

A large single door off-center portside provides access into the saloon. Big windows in the bulkhead create good flow-through between the saloon and cockpit areas. An 'L' shaped galley against the aft bulkhead on the starboard side makes sure the cook is included in the conversation both in the saloon or in the cockpit via a drop-down window in the aft bulkhead adjacent to the galley. Hot meals can be simply passed out through the window onto to the bench in the cockpit. The sweeping saloon seating has two areas, a dining area opposite the galley, and also a lounge area with a low 'coffee' table further outboard on the port side. On the end of the galley module is an entertainment unit set up for the TV facing the lounge area. On the starboard end of the saloon/dining seating is a bench area housing the fridge/freezer. This is directly opposite the galley, making this area very easy to get to. This also keeps this weight central for the trim of the boat.

STARBOARD HULL

Access into the starboard hull is forward of the galley return, creating a large private aft double cabin with a generous open floor area. Forward of the hull steps of the midship section of the hull is an office or navigation area. Further forward in the hull is the forward double cabin, the double bunk is on the bridgedeck with steps leading up to it. At the inboard end of the bunk are optional opening deck hatches set on the horizontal surface surrounding the mast. This creates a very airy open atmosphere, usually this can be a very claustrophobic area in other cats.

An optional opening hatch in the dashboard above the bunk gives extra airflow on those balmy tropical nights or to keep an eye on the

Design Brief

young ones from the saloon. Forward of the front double cabin is the option of a walk-in-robe or an ensuite in this area of the hull. Usually this hull would have the ensuite and would be considered the 'owners cabin'.

PORT HULL

Access into the port hull is alongside the saloon bulkhead, entering into the midship section of the hull. In the aft area in the aft cabin is the head, aft of the head is a separate shower cubical. Moving forward into the midship area, there is bench space inboard and lockers on the outboard side. This area could be utilized also as a bigger office/navigation station. The forward cabin is a mirror image of the starboard hull with a selection of either a walk-in-robe or ensuite as in the starboard hull.

ON-DECK STORAGE

Storage areas on deck are in the nose-cone section forward of the cabin, these are easy to access, with one each side of centerline. Also on the foredeck is a large sail locker in each hull. In the cockpit there is plenty of storage space under the seats.

MOTOR OPTIONS

The recommended motors are 21hp Nanni sail drive Diesels installed just aft of the main aft BH below the aft hull steps. This particular motor works well for a few reasons: Firstly it has one of the best power to weight ratios available, for 21 hp it weighs in at only 113kg's per motor, it is also very compact and fits well into the area specified under the aft steps in the 380. Nanni's also have a good name and being based on a Kubota engine parts are easily acquired. If Shaft driven Diesels are preferred the only change is to the head and shower

area, unfortunately the separate shower cubical must go.

For outboards, the walk-through transom design is not possible and the enclosed cockpit design must be chosen.

DAGGERBOARDS

The daggerboards can be built using E-glass or Carbon-fibre for weight saving with a chord length of 750mm. This board will be very efficient up-wind and means that they don't have to be as deep in the water, reducing the over-all draft of the boat. Being built using 80kg/m structural foam, they are light and forgiving if a collision were to take place, damaging the board rather than the hull is always the preferred outcome. All Spirited boards have a sacrificial bottom end to avoid not only damage to the hull but also to the board.

PAYLOAD

The payload includes anything non-essential to the operation of the boat. A boat without it's payload would be in lightship trim and retain only enough fuel & water for basic operation. If the payload weight is kept to a minimum the difference will allow for a lighter boat.

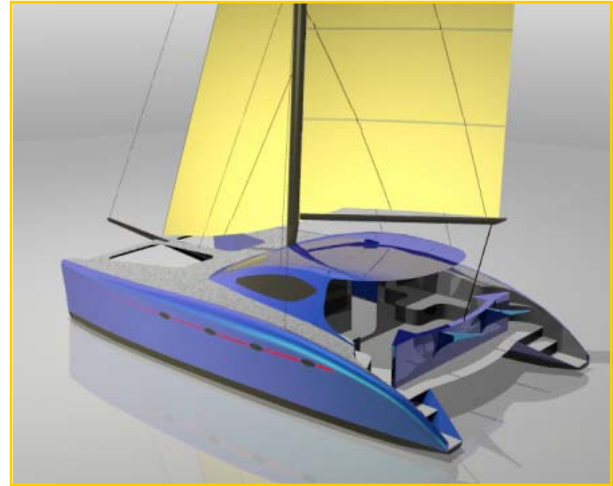
ITEMISED PAYLOAD	KG's
CREW 4 X 80kg	320
WATER	400
FUEL	160
FOOD & BEVERAGES	60
PERSONAL GEAR	60
HOLDING FLUID	50
SPARE ANCHOR & WARP	20
DIVE GEAR	25
SPARES ASSORTED	10
PARACHUTE ANCHOR	10
DROGUES	10
SPARE SAILS, SPINNAKER & SCREECHER	50



Plans & Documentation

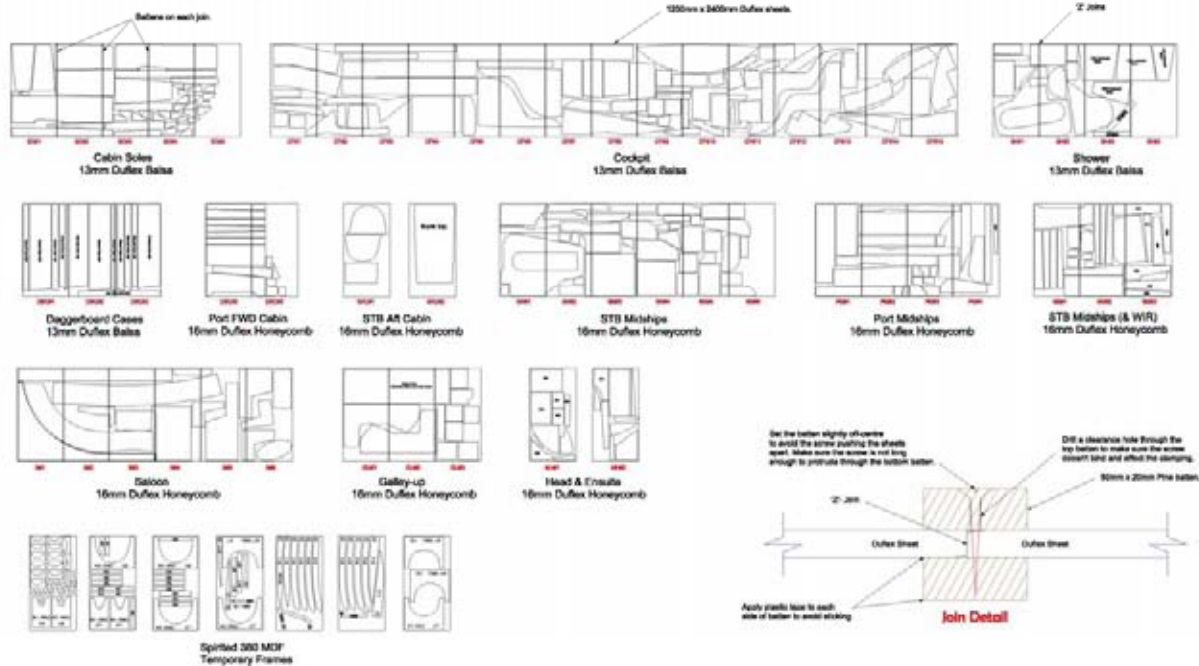
Cad-drawn colour construction plans are supplied in an A3 sized booklet of high detail specifically suited to amateur building. A common sense approach is used backed up with over 15 years of boatbuilding experience for the technical plans. The plans reflect a combination of the designer's sailing and building experience, the result being a safe, functional and user-friendly boat that looks great too.

Continual updates are being done to the plans with constant contact kept with the builders for feedback on ideas and refinement from their point of view. .



Procedure:

- 1) When unpacking your pre-cut sheets, they should be in order as they come off the CNC router machine, if not use the below numbering system to align your sheets. If you have to end your joining schedule, which is usually quite normal due to space restrictions, try to pick an area between parts. (see example on Main BH schedule) This can be cut through the sheet so that the excess will then become the first panel of your next joining schedule.
- 2) Lay the sheets on a level surface with the joining battens laid down first, remember to lay intermediate battens between the joins for alignment, it is critical to ensure the sheets join fairly (without a kink), you will notice this when fairing, spend the time now to get it right as it will save countless hours fairing this out, not to mention inaccuracy when assembling the kit. If you have some long straight lengths of timber, they could be laid down on the ground to fix sheets to, this is not essential but makes things easier.
- 3) When you have all the sheets laid out in position, set up a stringline along one edge to check the overall straightness of the sheets, usually the machined edges of the sheets align naturally. If adjustment is needed, you may need to slip one side of the sheet a few millimeters until aligned.
- 4) Once satisfied with alignment, remove every alternate sheet one at a time, this sheet should be machined with the join lap above on each and making it possible to be lifted out, apply a runny mix of high density glue to each surface of the 'Z' join and screw the top batten down into the bottom one to apply pressure to the join, space the screws approx. every 300mm. (see examples in the bottom right-hand corner below) Try to keep the remaining sheets secure so not to alter alignment. The next layer can then be laid on top noting to keep the joins directly above the previous batten, this way the top batten can screw into the one underneath. Provided your sheets are still fair and well-aligned, you can stack as many joined sheets as you like in the space of one working day.



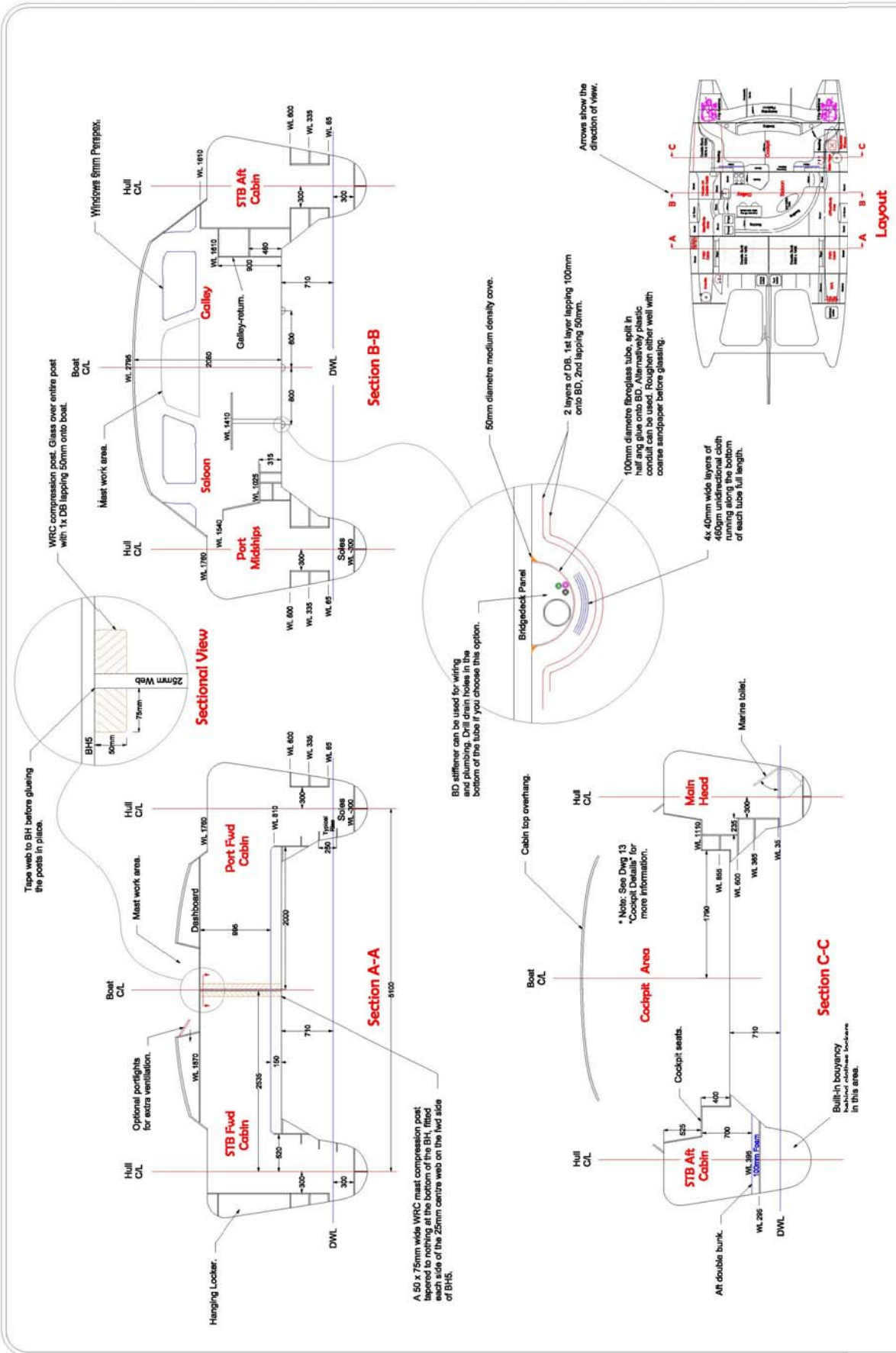
Drawing No. B2	Intellectual property protected by copyright (c)	Drawn By: Craig Schionning These plans are supplied for the construction of one boat only.	Date: 7th of November 2005	Contact Details Ph: +61 249625731 Fax: +61 249625741 Email: info@spiritedesigns.com.au	"Spirited 300" Pre-Cut Kit Layout 2	Spirited Designs Pty Ltd Australia
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Example of technical drawing.

Plans & Documentation



Plans & Documentation



Spirited Designs Pty Ltd
Australia

**"Spirited 380"
Cross Sections**

Contact Details:
Ph: +61 249825731
Fac: +61 249825741
Email: info@spiritedesigns.com.au

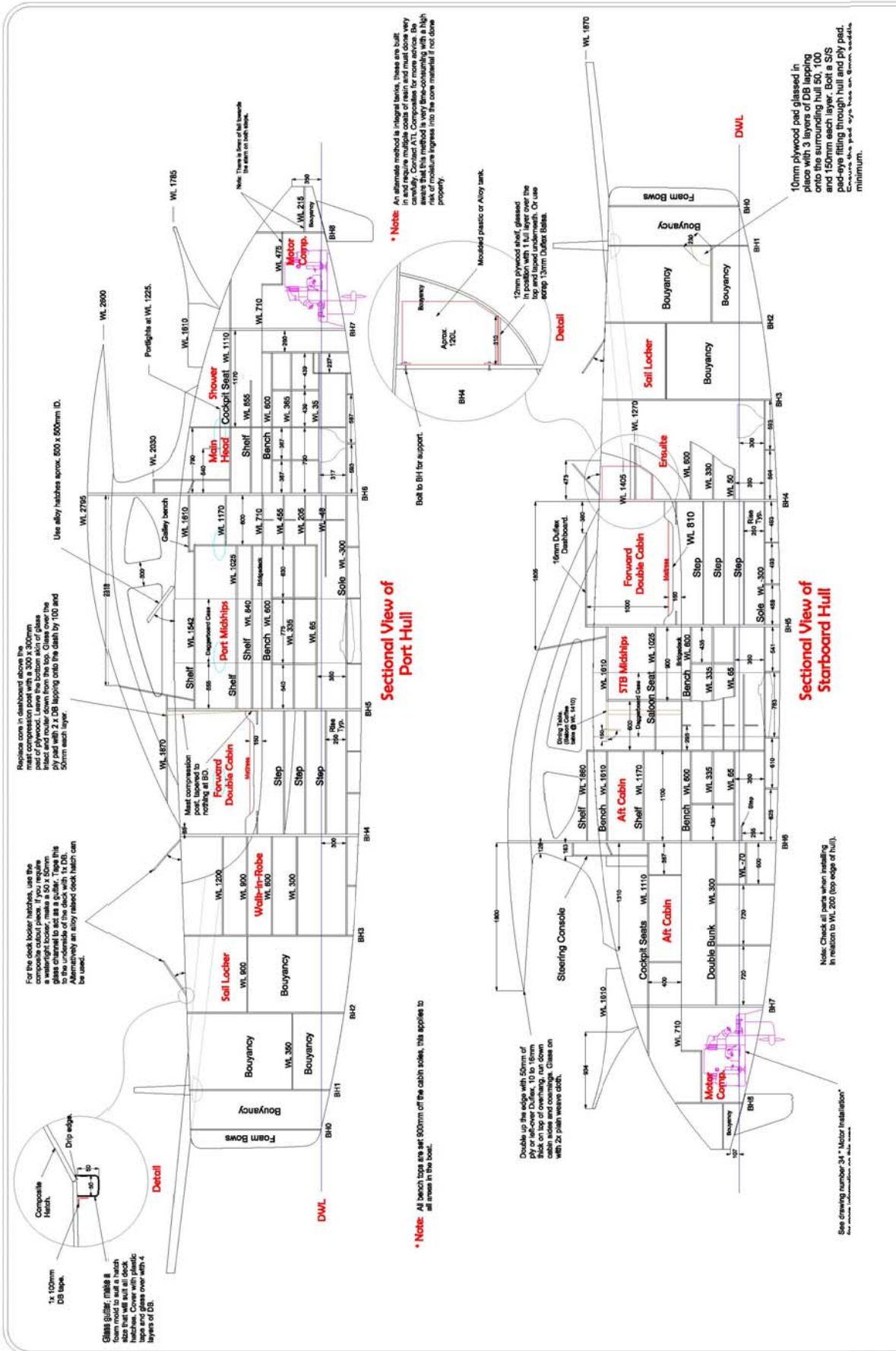
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Drawing No. 4

Plans & Documentation



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"Spirited 380"
Longitudinal Sections

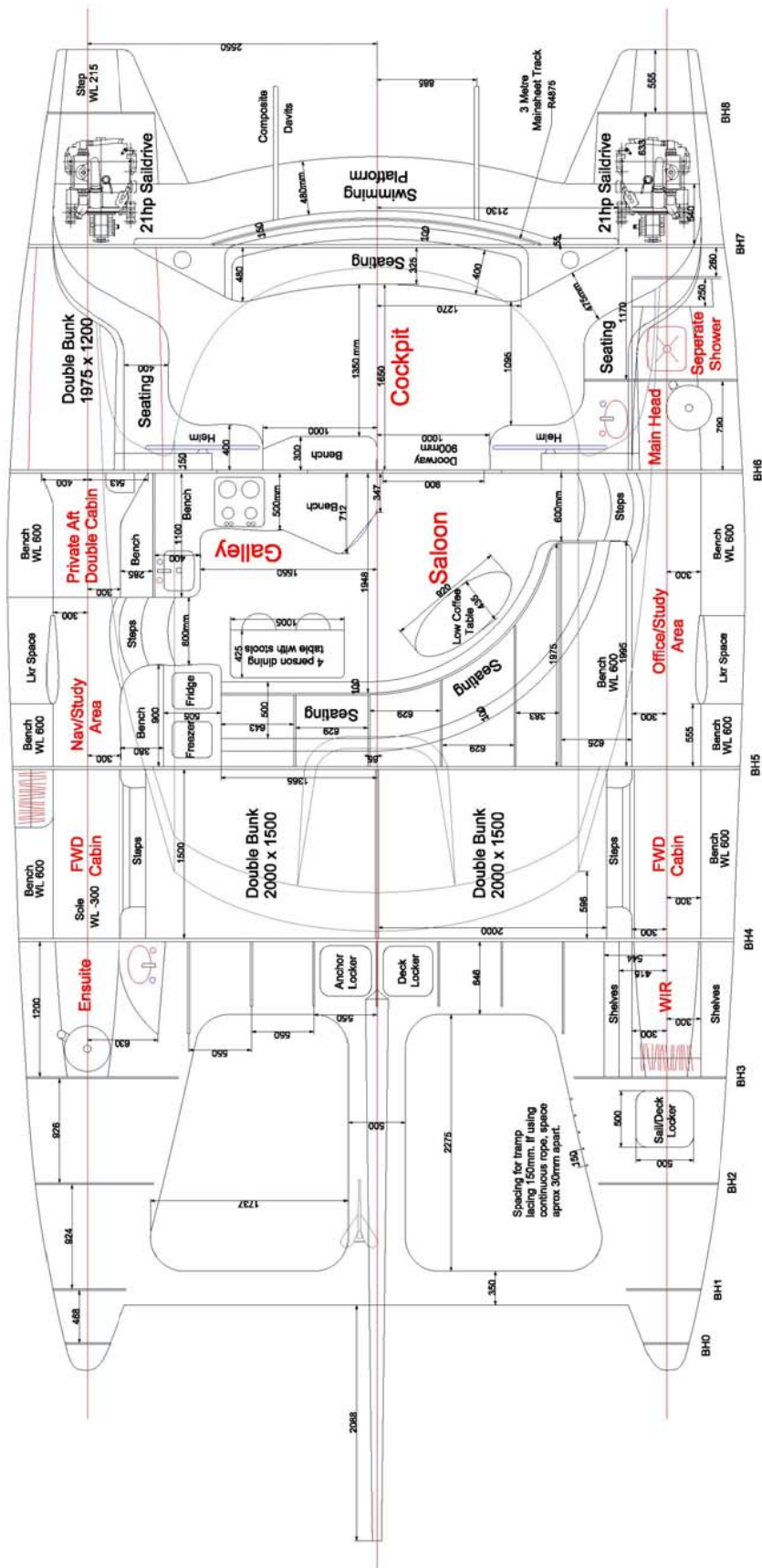
Contact Details:
P: +61 2 4882 2788
F: +61 2 4882 2787
E: info@spiritedesigns.com.au

Dated:
8th of September 2006

Drawn By: Craig Schonning
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Drawing No. 5



Spirited Designs Pty Ltd
Australia

"Spirited 380"
Layout Dimensions

Contact Details:
P: +61 2 4982 2788
F: +61 2 4982 2787
E: info@spiritedesigns.com.au

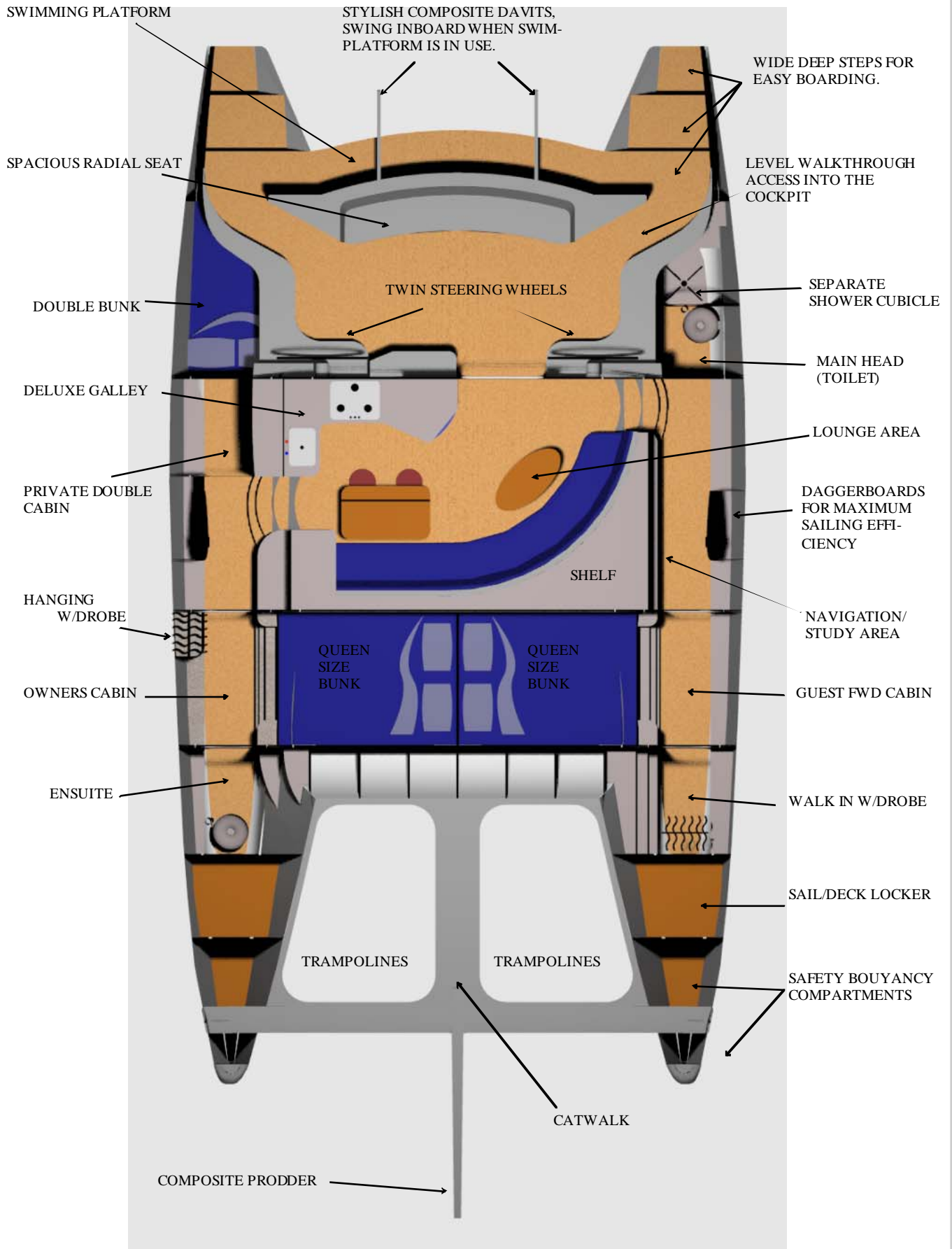
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Drawing No.
3

Plans & Documentation



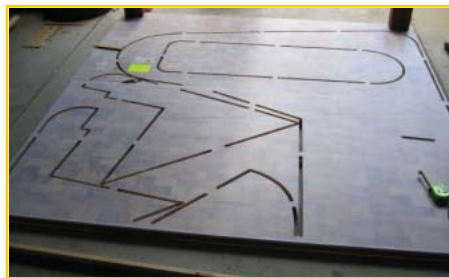
Kit Assembly Brief

In our opinion, this is one of the easiest and most well thought-out assembly systems on the market. Time and effort is saved wherever possible, building methods are simplified and pre-made parts are supplied to make this system even easier.

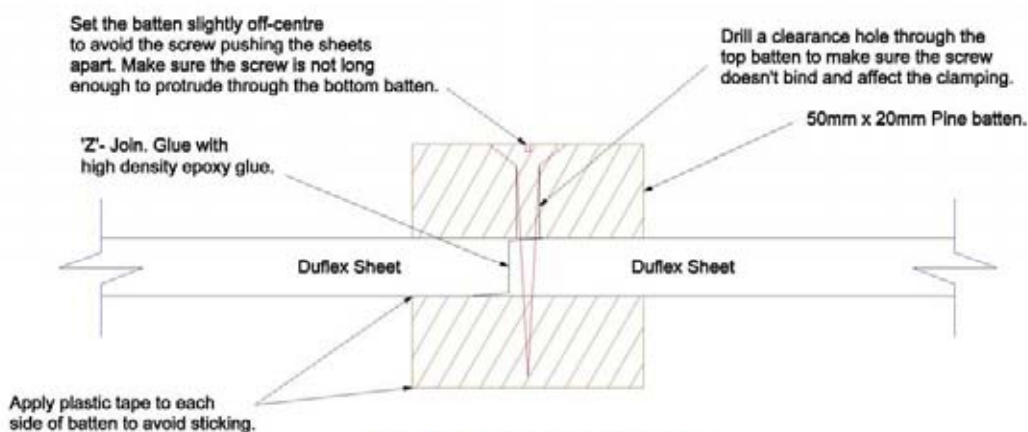
The pre-cut Duflex panels are supplied by ATL Composites, these materials are of the highest quality using end-grain Balsa, foam and paper honeycomb cores pre-laminated with specially formulated epoxy resin systems, pressed under pressure and heat at the optimum fibre/resin ratio. The combination of these different materials are used to optimize the engineered

strength of the 380's structure.

ATL use a unique joining system to enable the panels to be expandable to almost any size. The pre-machined joints are called Z-joints, and are supplied in your kit ready to join straight out of the crate, the panels are in order as they come off the stack, simply join one to the next. These joints don't need any further reinforcement and once pressed together between two battens, require little to no fairing.



Join Separated



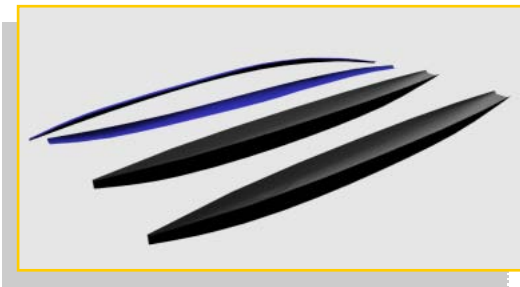
Join Clamped and Glued

Kit Assembly Brief

WHAT IS IN THE KIT?

Hulls & Decks:

Pre-made molded hulls (to 200mm above waterline) and corner decks are made in a female mold using end-grain balsa core and high quality epoxy laminates. The components are supplied in white epoxy finish which requires priming only before final painting, no fairing.



Flat Pack:

Pre-cut structural and furniture 'flat pack': These are 2400mm x 1200mm Duflex sheets built to factory standards from high quality multi-axial knitted fiberglass fabrics and epoxy resin. The structural sheets are all end-grain balsa cored and the furniture panels are paper honeycomb cored, all sheets are pre-scarfed with a 'Z-join' and ready to join together. For weight-saving and better insulation, the saloon top is pre-cut from un-glassed foam sheets, maximizing ease of installation and time saving with a usually complex compound-shaped part.



WHAT ELSE?

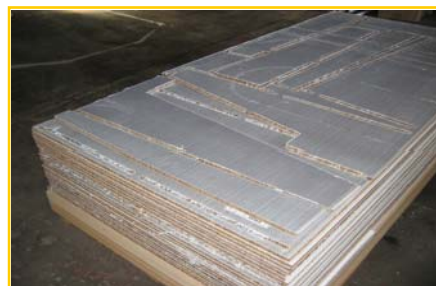
Includes:

- All epoxy resins and hardeners to complete the structural assembly and outer fairing.
- All modifiers/powders added to the resin to make glues and fillers.
- All fiberglass cloths required for laminating.
- All pre-cut fiberglass tapes used to tape kit parts together.
- 2400mm lengths of fiberglass pre-made 90 degree bonding angle used to tape in areas that are hidden or just to speed up taping/assembly.
- Pre-machined/extruded fiberglass poltrusion rod, used for the main cross bulkhead reinforcement caps.
- 40mm foam sheets for daggerboard and rudder construction.
- Pre-cut temporary frames, hull cradles and full-size templates. Supplied pre-cut from 2400mm x 1200mm MDF sheets.
- Lightweight marine grade Gaboon plywood sheets, used for general structural reinforcement.

Western Red Cedar timber, supplied as strip-planking and solid. Used for the fore-beam and also general reinforcement.

Note: All parts and materials mentioned above and in the material list following, is the required amount to take you to a faired structural shell.

See itemized kit material list over the page.



Kit Assembly Brief

SPIRITED 380 MATERIALS LIST

	SIZE	QUANTITY
DUFLEX SHEETS (All CNC-CUT)		
Duflex Balsa (8'x4', 1200 x 2400mm)	13mm	70
Duflex Balsa (8'x4', 1200 x 2400mm)	16mm	4
Duflex Balsa (8'x4', 1200 x 2400mm)	19mm	11
Duflex Balsa (8'x4', 1200 x 2400mm)	25mm	16
Duflex Honeycomb (8'x4', 1200 x 2400mm)	16mm	28
TEMPORARY FRAMES etc (All CNC-CUT)		
MDF	16mm	7
FOAM SHEETS (25mm CNC-CUT)		
80kg Foam (un-glassed) 2180x1020	25mm	12
80kg Foam (un-glassed) 1200x2400	40mm	4
RESINS/HARDNER		
West R105 resin	200L	1
West Hardener	20L	2
246TX Laminating Resin	192kg	1
H160 Laminating Hardener (med)	24kg	2
POWDER/MODIFIERS		
Medium Density	20L	10
High Density	20L	6
Microlight (410)	170L	1
FIBREGLASS CLOTH		
450 gm Double Bias	Roll	1
461 gm Unidirectional	Roll	1
FIBREGLASS TAPES		
450gm Double Bias 100mm	Roll	13
450gm Double Bias 150mm	Roll	15
450gm Double Bias 200mm	Roll	5
461gm Uni tapes 50mm	Roll	1
Plain Weave 75mm	Roll	2
WRC		
10mm x 40mm Strips	1m	85
50mm x 150mm Planks	1m	6
PLYWOOD		
Gaboon 1200x2400	4.5mm	2
Gaboon 1200x2400	10mm	2
Gaboon 1200x2400	12mm	1
FIBREGLASS POLTRUSION		
10mm x 15mm Solid Square	1m	71.5
BONDING ANGLE		
50mm x 50mm Right Angle (2400mm length)	Length	20
ROUTING		
Structural Parts: (per sheet)	p/sheet	117
Furniture: (per sheet)	p/sheet	31
SCARFING		
Structural Parts: (per scarf long side)	scarf	178
Furniture: (per scarf long side)	scarf	40

"The quantities in this list are an estimate only, based on our experience and knowledge to the best of our ability, and does not cover excessive wastage."

Kit Assembly Brief

MOLDING PARTS



Hull Mold.



Deck Mold.



Fitting End grain Balsa Core.



Vacuum-bagging the Balsa Core in.



Decks being laminated.



Hull being laminated.

MOLDING PARTS



Hull being lifted form mold.



Deck parts released from molds.



Hull with support bulkheads, ready for dispatch.



A full order complete.



Packed securely into truck.

ADVANTAGES OF THE “SPIRITED ASSEMBLY SYSTEM” (SAS)

1. The molded hulls and decks will make kit assembly *much quicker and easier*. Initial set-up of assembly will put you ahead because you will be ‘assembling’ not ‘building’ from day one. All extra laminate reinforcement is already in place in the part.
2. No time-consuming *strip-planking* required at all, other than a small amount on the composite forebeam.
3. A *strongback* (building frame) is *not required*, saving time usually spent building, leveling and setting up all bulkheads and frames.
4. *Boat built the right way up*, no turning of the hulls usually requiring many hands to help.
5. *Minimal fairing* of the outside of the hulls and decks with the inclusion of the ‘recessed’ joining system. Yes! *Dreaded fairing* reduced to a *minimum!!*
6. The bulkheads can be worked on while fully assembled, on the ground, enabling all the finishing work to be done more easily and quickly. Main bulkheads can be more accurately installed into the hulls without the problems of aligning and joining multiple sections together.
7. The outer *hull side-panel* can be *left off* until later, for easy access, *visibility* and *ventilation*. Areas of the boat that are usually difficult to get to and work on can be worked on from outside the boat. Task’s such as sail-drive installation, steering gear, buoyancy compartment taping, sealing and reinforcement can be done while standing on the shed floor.
8. The *bridgedeck* panel is *fully pre-cut* only requiring the forward curved section to be kerfed.
9. The *saloon top* is *fully pre-cut* using sheet foam, avoiding strip-planking.
10. All side decks pre-cut including trampoline lacing surround and daggerboard case cut-outs.
11. *Cabin sides* are *pre-cut* including windows, as well as the pillar to laminate the lower shroud chainplate to.
12. *Main bulkhead* reinforcement uni-caps are supplied as *solid poltrusion rod*, ready to glue into bulkheads. Supplied standard inductive in the kit.
13. All *MDF frames*, hull support cradles and full size templates to shape daggerboards and rudders are supplied *pre-cut*.
14. A *composite pre-cut prodder* is supplied standard.
15. *Pre-cut bow stems* make shaping the foam bows much easier.
16. Pre-cut *Duflex catwalk*, usually either plywood or solid timber slats etc.
17. Pre-cut *work area* surrounding the *mast*.
18. Pre-cut *Duflex daggerboard cases*, usually strip-planked or plywood etc.
19. Pre-cut *stylish Duflex composite davits*. Huge saving in time, cost and weight compared with a traditional targa bar or s/steel davits.
20. Any required *stiffeners* are *pre-cut* and ready to assemble.
21. Parts are *pre-cut to account for coved and taped corners*, saving the builder time fitting.

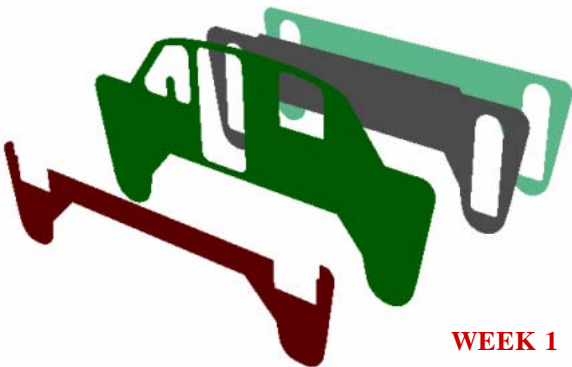
Kit Assembly Brief

A critical and essential part of any assembly system is the *plans and documentation*. These are *purpose-drawn*, there are no 'generic' or 'multi-purpose' drawings, each drawing is *drawn specifically to suit this design*. The level of *detail* shown is *very high*, to suit the amateur builder.

STEP BY STEP ASSEMBLY SEQUENCE

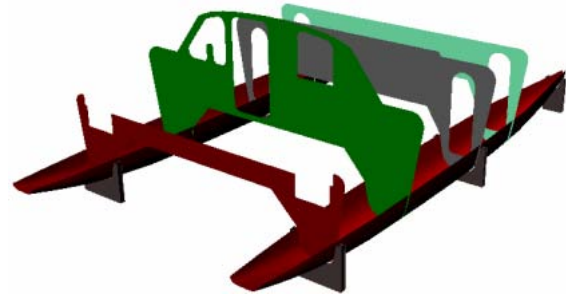


Step 1: Set up the two hulls in the cradles at the correct spacing. Measure from CL (centerline) to CL on each hull front and back, also check the diagonal distance ie: from Port bow CL to STB (starboard) stern CL.

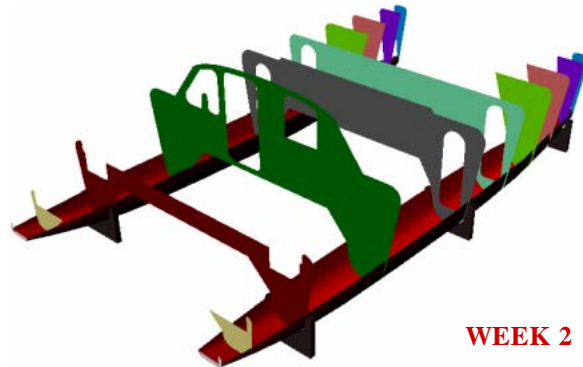


WEEK 1

Step 2: Join main BH's together and while loose and easily worked on, take the opportunity to do the backfilling required for the doorways and windows, any extra reinforcement such as uni-troughs etc. Squeegee resin coating and even fairing can also be done at this stage.

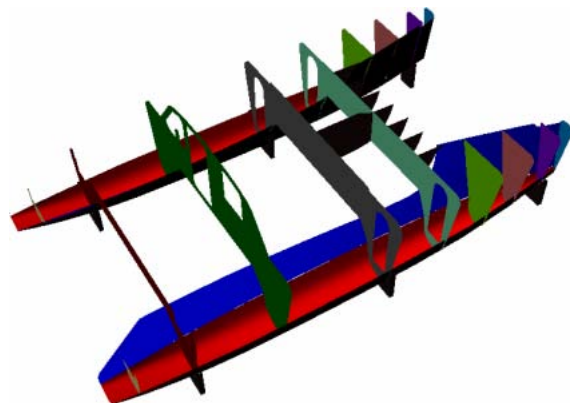


Step 3: Once the main BH's are ready to install, place each one in it's correct position. Remember this is extremely critical for the positioning of the rest of the pre-cut kit parts. Make sure the BH's are level and the same distance back in each hull working back from the fwd face of BH0, bracing will be needed until the glue has cured.



WEEK 2

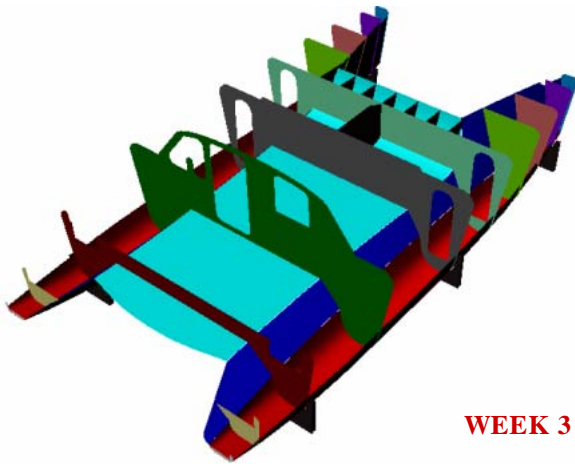
Step 4: Once the main BH's have been bonded securely into the hulls, install the hull BH's. Glue in position with high-density epoxy glue. Tape in all the BH's as per the instructions in the plans.



Step 5: To help brace the BH's use battens onto the hulls, shed or each other to keep secure and accurate. Glue the main fore and aft web just

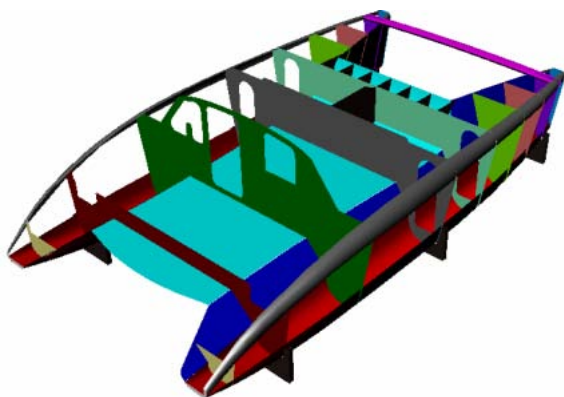
Kit Assembly Brief

fwd of the mast into position between BH4 and 5, and also the 'D' webs on the fwd face of BH4. Install the chamfer panels, be careful not to affect the BH set-up, check BH's as you go.



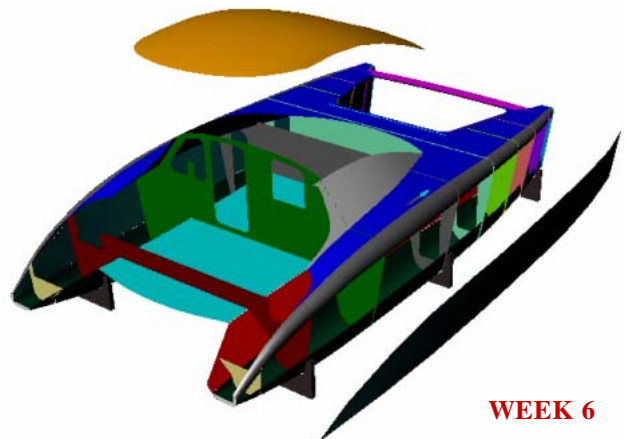
WEEK 3

Step 6: The bridgedeck can now be lifted into position. Use drums or similar to prop the BD panel up to the underside of the BH's. Remember to support the kerfed area forward until ready to install. When ready to glue the bridgedeck into position, lower just enough to apply the high-density glue.



WEEK 4

Step 8: Install the flat side decks carefully, ensuring they are in their correct position, if not this could affect the daggerboard case and cabin positions. Bonding angle can be used wherever possible to avoid taping over-head. Tabs will be needed along the joins for alignment.



WEEK 6

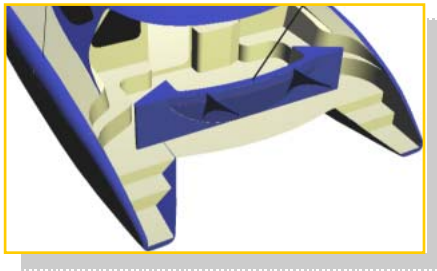
Step 7: Install the pre-made rounded decks at this stage to help support the BH's. The hull sides could also be installed at this stage if required but you will lose the advantage of easy access/ventilation while fitting out.

Step 9: Position and install the cabin sides, these will need tabs to align the bottom join. Prop the side deck from inside for support while working in this area. Once the cabin sides are taped to the deck, fix in place the pre-cut saloon-top frames, this will give you support framework for the foam saloon top.

SELECTED KEY DESIGN FEATURES

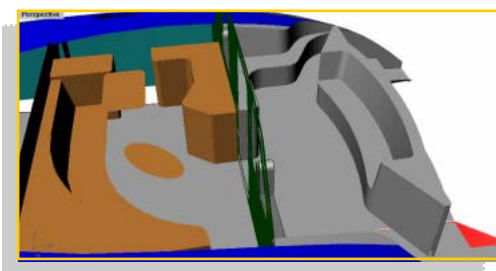
WALK-THROUGH TRANSOMS & AFT STEPS

Access onto any boat is very important, not only for functionality but also for safety. The 380 design has easily accessible walk-through entry into the cockpit, this is at bridgedeck/cockpit floor level and has a generously wide walkway. The steps leading up the back of the hull to this area are also well thought out and spacious, leading onto the swimming platform. This aft area of the boat is ideal for recreational usability when at anchor in that picturesque bay.



GALLEY-UP IN SALOON

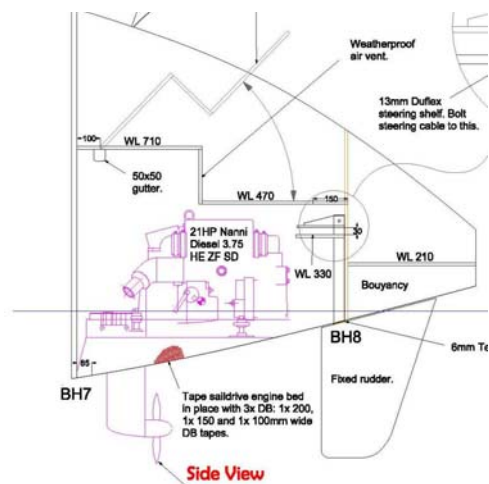
The galley-up or down debate has long been argued. Galley-up is standard on the 380 and we see it as more suitable to the modern-day family. The layout design of the 380 was aimed to create one central social/family area on the bridgedeck of the boat. You will find the galley to be very central to the saloon and cockpit area's, with not much to separate these two area's courtesy of a big open doorway and good-sized windows, recommended to be opening in the main bulkhead between keeping these area's almost as one.



SAILDRIVE DIESELS OUTSIDE OF THE ACCOMMODATION AREA

The recommended motors are 21hp Nanni sail drive Diesels installed just aft of the main aft BH below the aft hull steps. This particular motor works well for a few reasons: Firstly it has one of the best power to weight ratios available, for 21 hp it weighs in at only 113kg's per motor, it is also very compact and fits well into the area specified under the aft steps in the 380.

Nanni's also have a good name and being based on a Kubota engine parts are easily ac-



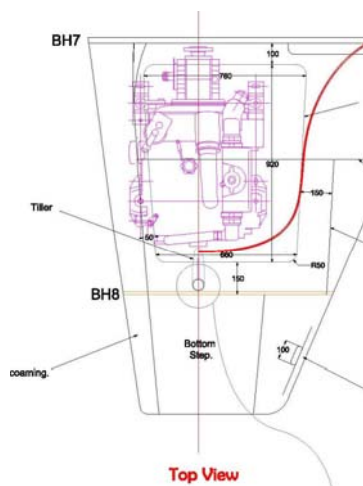
quired. Saildrive diesels have many advantages, firstly they are compact and can be fitted very easily by even amateur builders. They usually run smoother with less vibration transferred through the boat, this means they are usually quieter too.

An advantage with the way they have been positioned on the 380 is that the saildrive leg is on a similar level to the belly of the hull and the rudder, therefore not encroaching on the draft and making beaching much easier and safer. Remembering that when a boat is beached,

Design Features

most of the weight is carried by the belly of the hulls, the rudders and saildrive legs are merely balancing the boat, between them they are more than adequate to do this.

Having folding propellers fitted to the already well-shaped saildrive legs will minimize the amount of drag experienced. A huge advantage to this installation design is having the motors outside of the accommodation area, giving you a dedicated motor compartment and eliminating any of the usual associated smells and heat transfer from the cabin area. Engine noise will be reduced greatly also. A large hinged 'bonnet' type motor hatch incorporates the back steps into the hatch, giving excellent access to every part of the motor.



STEERING

The recommended steering system is the Edson chain and cable combined with separate Morse cables run to the tillers. This product uses a self-aligning steering shaft bearing, making it simple to install. This system gives good direct feedback to the helm, enabling the helmsperson to have a good feel of how the boat is balanced and is handling. Having fixed rudders in conjunction with the saildrive's, means the rudder assembly is very simple, and using a removable

tiller pinned with a s/s bolt, enables the position and angle of the tiller to be customized if necessary to suit different steering systems. As steering systems go, this is easy to build/install by an amateur builder.

COMPOSITE DAVITS & PRODDER

Composite fittings and integral built-in parts are far superior to a fitting or part bolted onto a composite boat. Fittings that are built into the boat have no localized pressure points as the loads are distributed into the surrounding area more evenly. There are no dissimilar materials such as stainless bolts, unsightly nuts inside and best of all no leaks or chance of water ingress into the core material.

The composite davits and prodder both have additional glass reinforcement to cope with the extra loads experienced. Both have a composite hinging system to make them more functional with the every day use of the boat, the prodder can fold upwards if berthed in a confined area and the davits need to swing inboard to have the full use of the swimming platform when at anchor, in which case the dinghy is mostly off the davits and being used.

Composite fittings are faired and painted just like the rest of the boat, making them look more part of the boat and much more attractive.

FLAT WORK AREA AT THE MAST

A lot of time can be spent at the base of the mast, hoisting and lowering the sails, reefing, making adjustments to the outhaul, halyards etc, with this in mind it makes good sense to have a practical, safe area to work. Good footing can make all the difference in rough

Design Features

conditions when the decks are wet and the boat's movement is unpredictable.

With a larger main sail, it is far easier to haul this up by simply using your body weight on the hal-yard, pulling it most of the way up with a 1 to 1 purchase directly below it, and use the winch to nip it up the final bit depending on type of batten car system on the mast.

Too many turns and pulleys leading back to the cockpit can make it far more difficult to hoist, resulting in a winch being used for most of the hoist and the job taking much longer, when you could already be sailing! Normally the genoa/jib would be on a furler, leaving the main to be the biggest job of the day. This flat area also creates a good position to mount a deck hatch directly above the end of the forward queen sized bunk port and starboard, ventilating usually a 'dead' area at the end of the bunk. The vertical surface behind the mast is ideal for fitting an opening hatch, positioned directly forward of the saloon and galley area's, creating good through-flow ventilation as well as more vision in this area.

TRAMPOLINE LACING SURROUND

Trampolines can be a complicated and tedious job, often ending up looking messy or being unsafe to walk on. Because this area is pre-cut as part of the kit, a lot of the tedious design work has already been done for you.

Everyone has different preferences but to suit this design there are only a couple of options:

Firstly, continuous rope, which requires more time than money but it gives a good result. Simply put, the rope is fed from one side to the other, criss-crossing the other strands.

Second method, is a stainless rim made

smaller evenly than the surrounds, the tramp is made to lace onto this rim and then the rim and tramp are laced to the boat. The continuous rope method is more uniform and with no gaps or hard stainless objects. The rope method also has a more open weave to let water through, a good safety feature at sea.

INNER FORESTAY

An inner forestay permanently installed at the position designed on the 380 has good safety and structural advantages. Apart from providing extra support to the mast, having it permanently in position means that the storm jib can be hoisted momentarily or if on a furler can be flown instantly.

Being positioned midway on the catwalk it doesn't restrict the tacking of the genoa and keeps the storm jib compact and close to the mast to maximize the reefed down 'triangle' when combined with the fully reefed main. Again, a composite fitting acting as the deck chainplate connected to the inner forestay, is incorporated into the catwalk and prodder assembly below creating a very strong attachment point.

LOWER SHROUD CHAINPLATES

These finish the lower triangle when combined with the inner forestay. They are a composite fitting also, with the connection allowed for between the side saloon windows when pre-cut. With the lowers positioned here, it creates a clear path down the side deck either side of the cabin, even better with a handhold now each side for support courtesy of the stays.

PERFORMANCE & SAFETY

Together with the number of great usability and lifestyle features on board the 380, there must also be good performance and uncompromised safety aspects included. If compared to other designs in it's class and size, you need to look at some *important specifications*:

1. Firstly check the overall weight of the boat, usually referred to as *displacement*. Make sure the *payload* figure is included in this weight (as is on the 380) or it must be added. If the boat is much heavier, then the odds are that it will have a poor *power to weight ratio* (sometimes referred to as a Bruce Number) and will not perform well. If a similar sized boat is much lighter then there will be a good reason for this too, for instance,

a) it could be an exotic racer built using super strong but super expensive materials and may not suit your application,

b) the displacement weight doesn't include the payload amount or simply is a very low volume boat with not much allowance made for payload. The compromise must be struck between displacement and payload, this is where the structural weight of the boat comes into play. If heavy materials are being used to build the structure then the displacement is forced to rise to accommodate a realistic amount of payload for this sized boat.

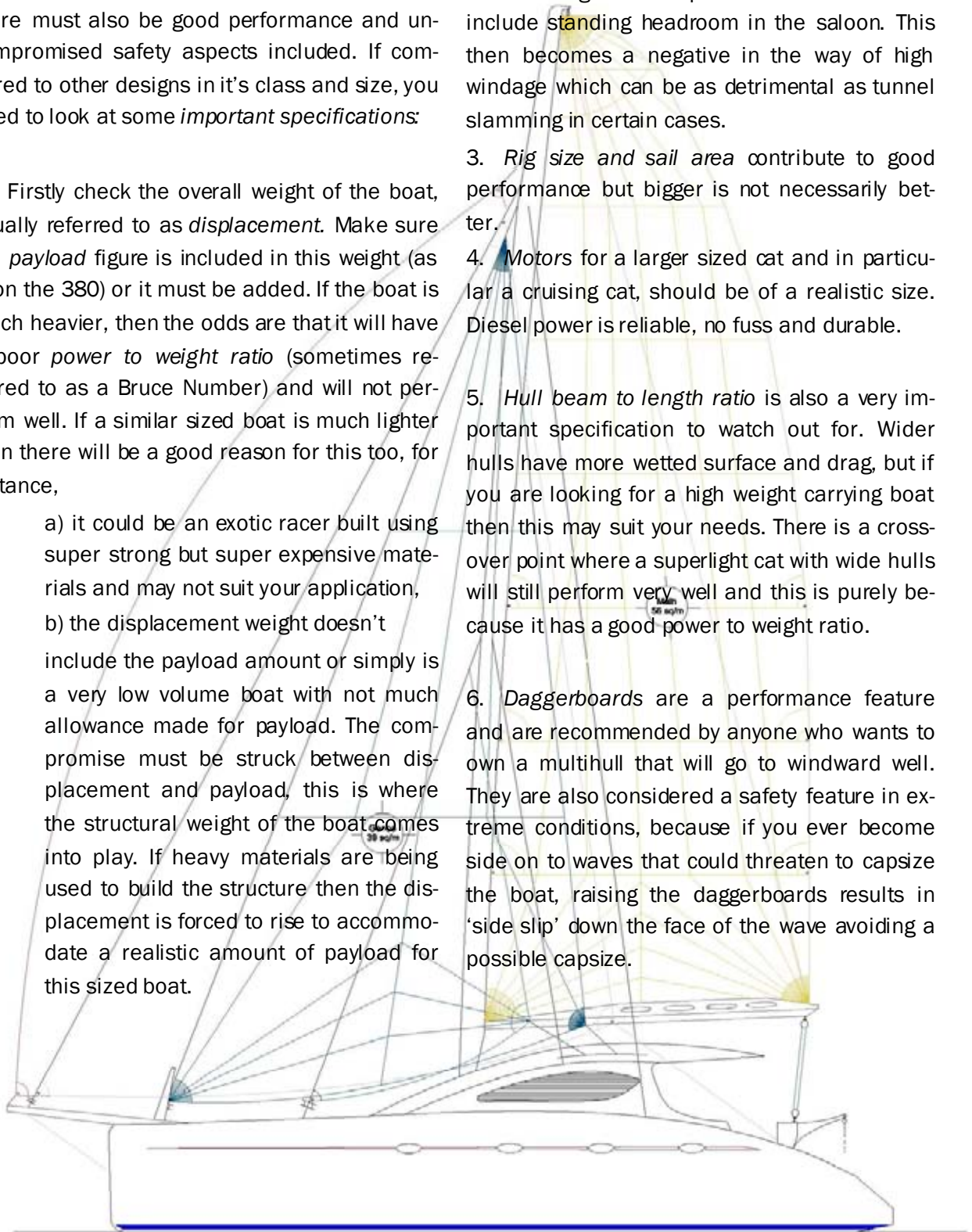
2. *Bridgedeck clearance* is also very important in the design of a seaworthy cat. This too is a compromise, as the higher the bridgedeck clearance the higher the superstructure has to be to include *standing headroom* in the saloon. This then becomes a negative in the way of high windage which can be as detrimental as tunnel slamming in certain cases.

3. *Rig size and sail area* contribute to good performance but bigger is not necessarily better.

4. *Motors* for a larger sized cat and in particular a cruising cat, should be of a realistic size. Diesel power is reliable, no fuss and durable.

5. *Hull beam to length ratio* is also a very important specification to watch out for. Wider hulls have more wetted surface and drag, but if you are looking for a high weight carrying boat then this may suit your needs. There is a cross-over point where a superlight cat with wide hulls will still perform very well and this is purely because it has a good power to weight ratio.

6. *Daggerboards* are a performance feature and are recommended by anyone who wants to own a multihull that will go to windward well. They are also considered a safety feature in extreme conditions, because if you ever become side on to waves that could threaten to capsize the boat, raising the daggerboards results in 'side slip' down the face of the wave avoiding a possible capsize.





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SPIRITED 380 PLANS, KIT & COMPONENTS

PLANS	<input type="checkbox"/>	AUS\$	8,800.00*	
KIT	<input type="checkbox"/>	AUS\$	80,680.00*	
MOLDED HULL & DECKS	<input type="checkbox"/>	AUS\$	17,000.00*	
TOTAL		AUS\$	106,480.00*	(prices incl. gst, however do not incl. freight)

* prices subject to change, please contact us close to your order date to confirm.

How many boats will you be constructing from these plans? (PLEASE ADD NUMBER)

If you will be using a builder, please provide their details for us to add to your file and refer to, (in light of back up support).

This agreement is entered into in accordance with the terms and conditions contained on the following page. By signing below you acknowledge that the terms and conditions have been read and accepted.

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Insurance is not included on goods, please let us know if you require a quote.

CONTACT DETAILS

P.O. Box 91, Salamander Bay NSW 2317 AUSTRALIA

Ph +61 2 4982 2788 Fx +61 2 4982 2787

Email info@spiriteddesigns.com.au

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We appreciate your interest in our designs
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***Performance and reliable open ocean capabilities, balanced with
luxury cruising appointments & generous cabin space,
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