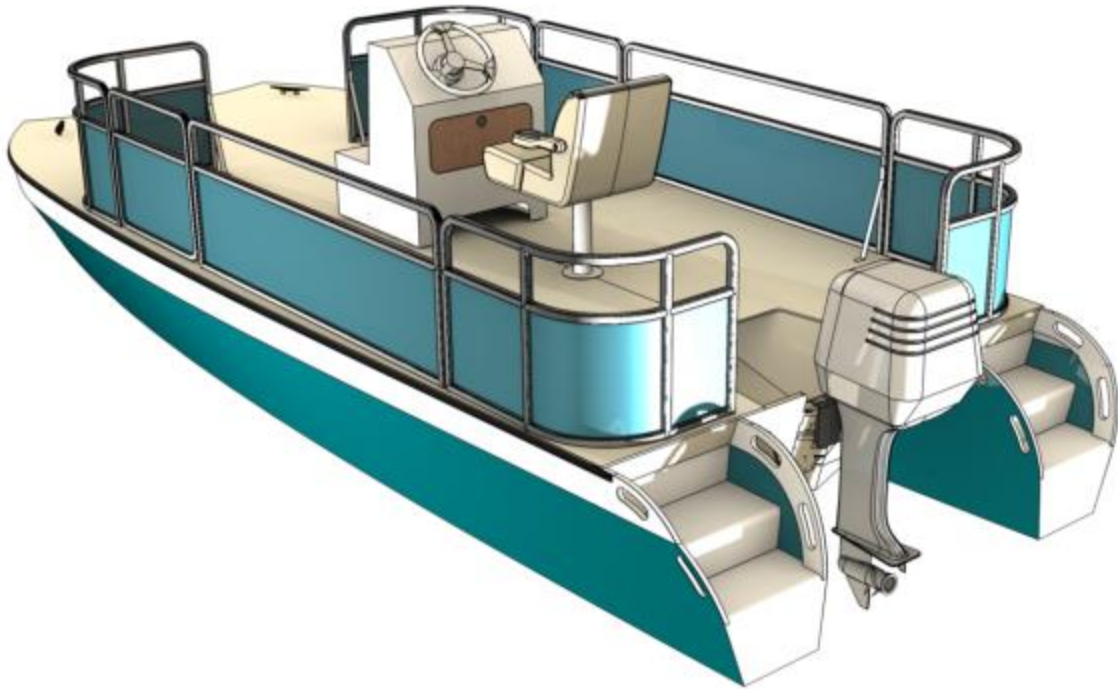
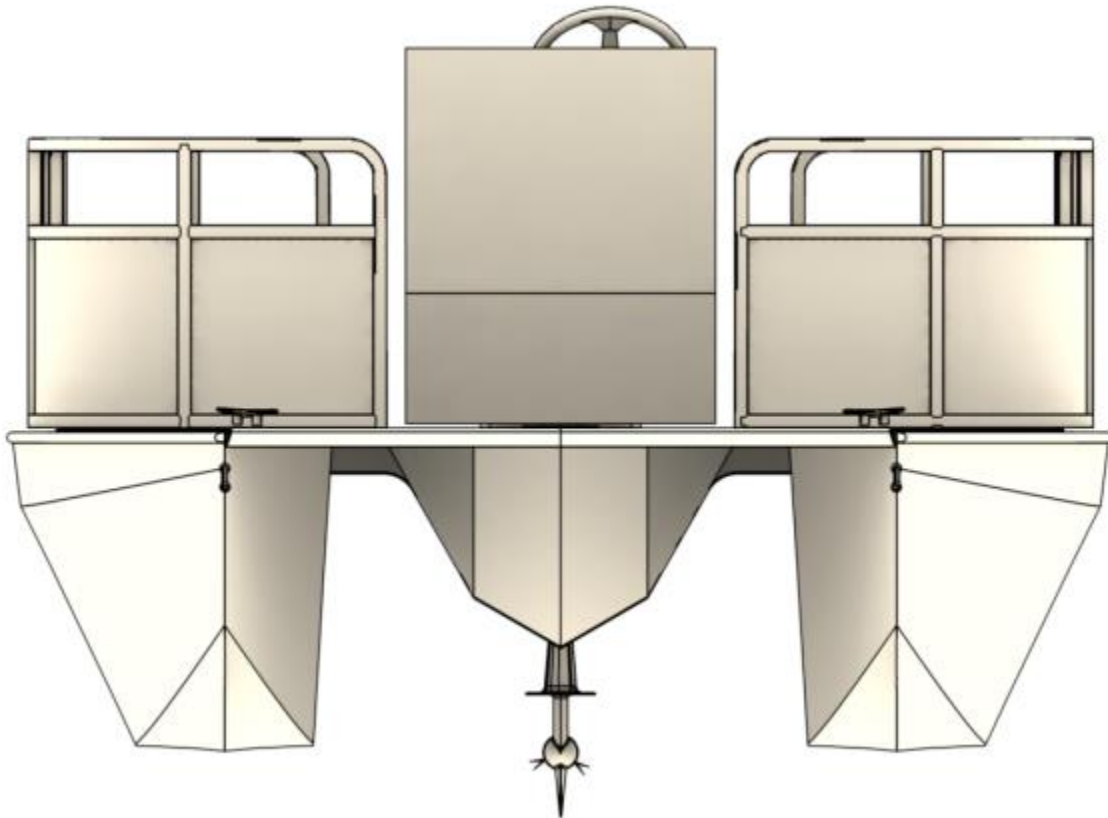


Specifications:		
LOA:	20'	6.1 m
Max. Beam:	8'6"	2,40 to 3 m
Hull draft (2000 lb):	8"	20 cm
Displacement at DWL:	2000 lbs	900 liters
PPI at DWL:	250 lbs/in	45 KG/cm
Fuel:	20 gallons	80 Liters
Recommended engine	10 to 50 HP	7.5 to 40
Material:	Plywood cored epoxy composite	

Except for the program: family day cruise, protected waters fishing or party boat, the PC20 has little to do with the pontoon boats based on aluminum tubes. The easily driven PC20 hulls are much more efficient than plain cylinders, much quieter and not subject to corrosion.



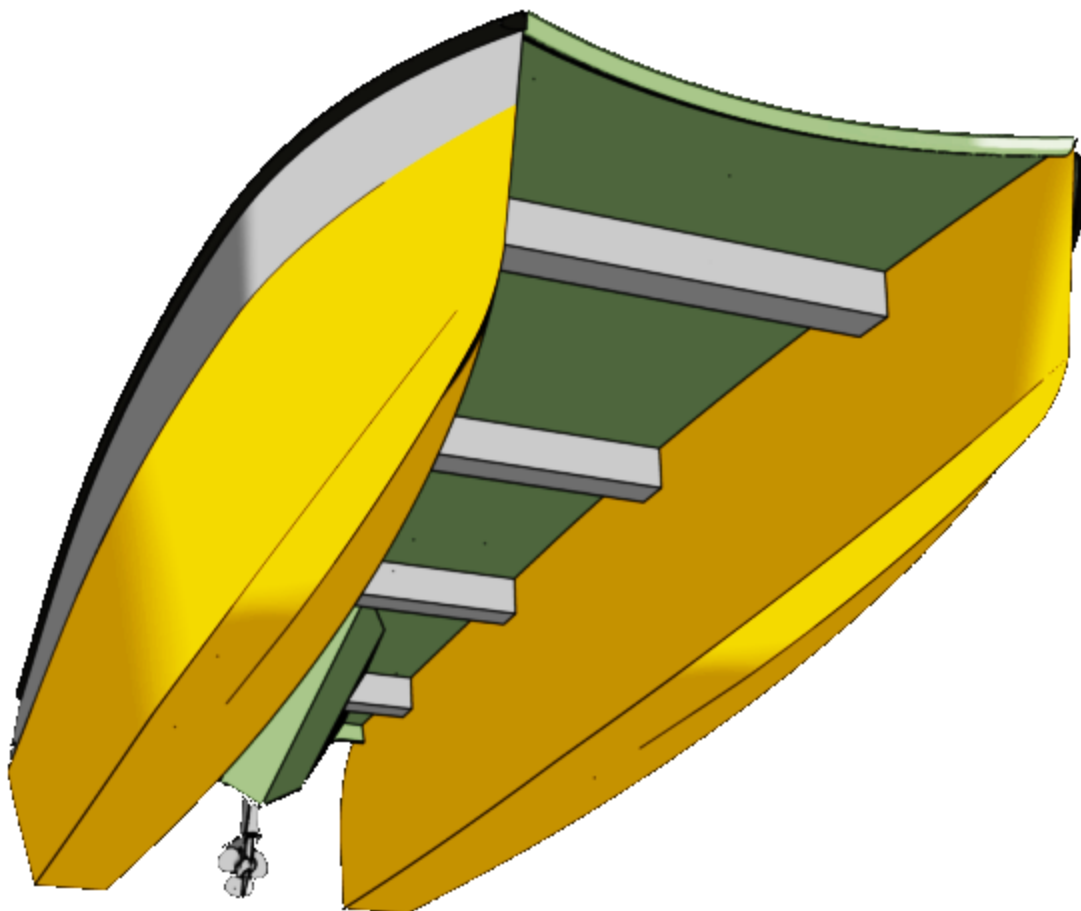
The fine hulls allow this boat to move relatively fast with a small outboard, much faster than a monohull of the same length. With a larger engine, the boat will get on plane without having to push through a steep bow wave: the boat is comfortable at any speed in between. Compared to cylindrical pontoons, the asymmetrical catamaran hulls result in a better water flow between the hulls with less restrictions or wasteful turbulence.



The Pontoon Catamaran is not a typical wood or plywood boat. Like most of our designs in that size, the standard Pontoon Cat is a plywood cored composite boat. Plywood is sandwiched between multiple layers of fiberglass on the outside and inside. That composite panel is very strong but light and requires less or the same maintenance than a fiberglass boat. The fiberglass is not used solely to cover the plywood, it is an essential part of the structure and all the taping and overlaps are important.

The Pontoon Catamarans structure is monocoque: much more rigid than an aluminum pontoon boat.

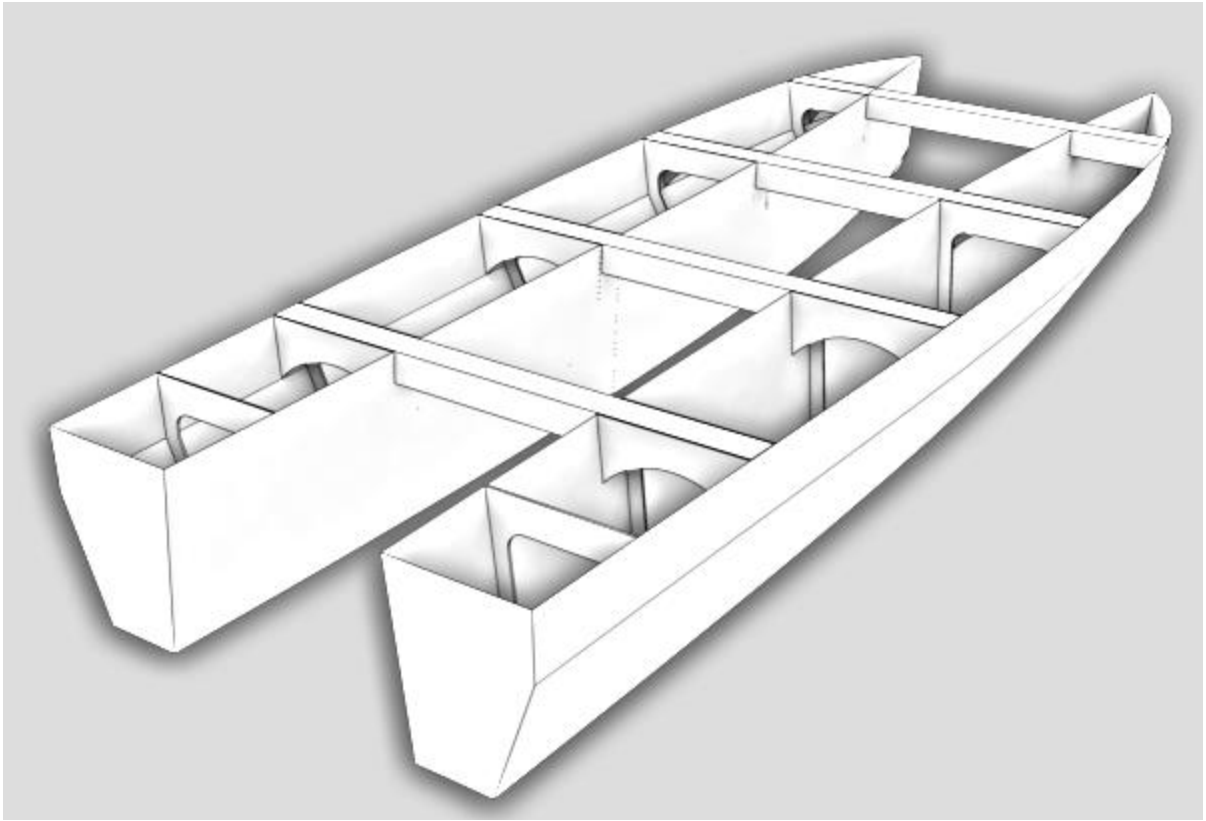
The single outboard fits on an engine pod epoxy welded to the cross beams and deck.



May 2015: the first performance reports are in. A PC24 was launched and fitted with a 15 HP, reached 13 knots (15 mph), a very respectable speed for such a small engine.

Building method:

The Pontoon Cats are built in 3 or 4 parts: the hulls are built one or two at a time, the beams and the outboard pod are built separately from the hulls. After completion of those parts, the hulls are joined by the cross beams, the pod is installed on the cross beam and the whole assembly is fitted with a deck. The engine pod is a plywood-epoxy shell (all panel dimensions on the plans). The cross beams are made from plywood, 1x3 boards and glass/epoxy.



Skill Level:

The Pontoon Catamarans can be built by a first time builder but experience with our method will save labor and materials. That experience can be acquired by building a small canoe from our free plans. The Pontoon Catamaran is made of simple parts that are each easy to build: straight edges, no tight bending of the plywood.

Options:

There are too many options to list! The first option is the over all beam. The plans show a standard beam of 8' 6" (260 cm) but the boats can be built with any beam between 8' (240 cm) and 10' (300 cm) by simply changing the length of the cross beams. The narrower boat will conform to European towing limits and the widest one will have the best deck space and performance: less wave drag, less interference between the hulls and the prop runs in cleaner water. The beam is not adjustable once the boat is built.

Deck options are limited only by the weight. The builder should keep the boat reasonably light and weights centered but otherwise has complete freedom to have any deck layout he wants.

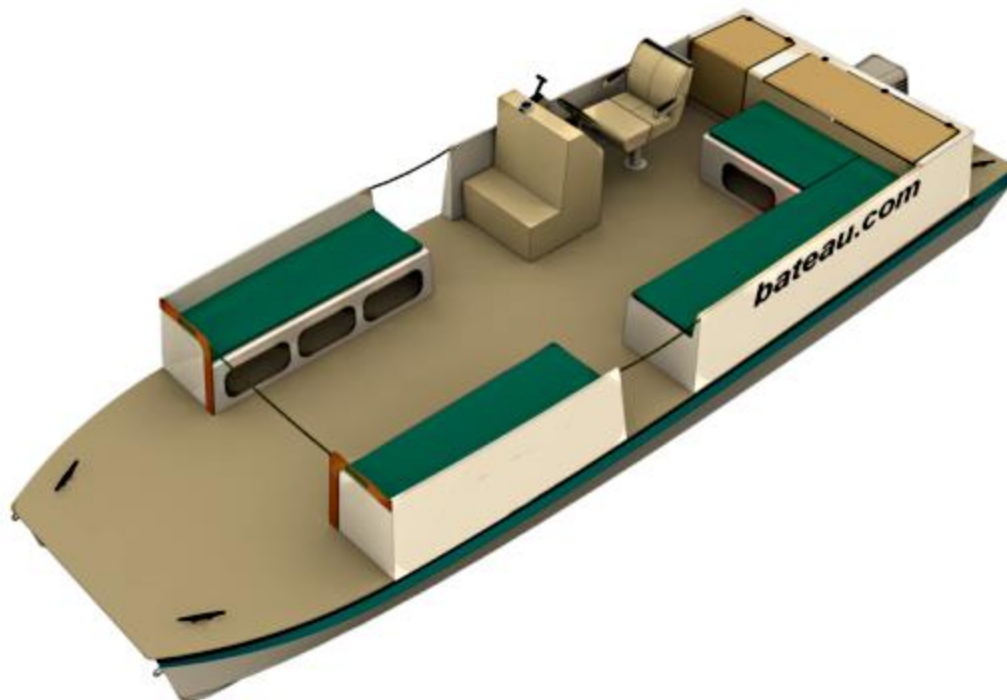


The plans show 3 typical layouts to use as starting points:

- a center console version surrounded by two longitudinal benches
- a classic pontoon boat layout with lots of seating and storage, even a changing room, gas tank and engine cover
- an example of typical pontoon boat Aluminum railing.

For each version, the plans show main dimensions like bench heights and width and construction details with framing. Length and exact location of the benches and seating are up to the builder but we show suggested dimensions.

The center console is perfect for a mixed use: fishing and day cruise. Good storage, easy to walk around but still lots of seating.



The classic pontoon boat offers a maximum of comfort: no other boat in that size has a changing room that can be fitted with a Porta Potty. The changing room has a low profile under way but when the lid is open, it reveals a curtain running on a rail bolted to the lid.

The railing option is for those who want either buy pontoon furniture and railing (fence) online or, recycle used pontoon boat railing. Those are easy to find and inexpensive. Many Al tube pontoon boats die from corrosion and leaking tubes but the deck furniture usually stays good.

A nice option is the curved transoms with steps. It is not compatible with all layouts.

A landing ramp (not shown) can be fitted in the bow.

There is also a materials option: deck and furniture can be built from honeycomb or foam sandwich. The plans list basic specifications.

Bill Of Materials:

To build two hulls takes more time than to build a single one. The process is not complicated but requires more labor than the building of a monohull. Count on 25 hours per hull, plus the pod, beams and deck: 100 hours minimum for a hull with a bare deck.

(Excerpts from our BOM)

The BOM list materials for the complete boat as designed.

Plywood standard sheets 4x8' (122x244cm)		
10 mm (3/8")	Frames, transoms and pod: 5 sheets	Deck: 7 sheets
6 mm (1/4")	Hull panels: 12 sheets	Beams: 2 sheets.
Boards and Battens		
1x3	128 feet	
1x1	100 feet	
Fiberglass fabric 50" wide (125 cm) or tape 6" wide (15 cm) (totals)		

Biaxial tape 45/45 12 oz. (400 gr)	400 yards	366 m
Biaxial fabric 12 oz. 45/45 (400 gr)	35 yards	32 m
Resin		
Epoxy, total	12 gal	55 Kg

This BOM covers all the supplies for boat as designed.

Usage of materials will vary in function of several factors. An experienced builder will use less resin. Our resin usage calculations are based on a 50% glass content.

Options, customization and variations in fabric and foam cutting preferences will also affect the Bill Of Materials. Our figures show an estimated average.

Small variations in fiberglass specifications are acceptable, consult us for substitutions.

Labor:

The hull shell can be build in 200 hours but a finished boat will require 300 to 800 hours depending on the level of detail and the skills of the builder.

More:

Visit our message board, help pages, tutorial pages and read our FAQ: most questions are answered there.

License:

As with all our plans, you have the right to build one boat from those plans. The designer holds the copyright to the design and you purchase a license to build one boat. If you plan to build more than one boat, please contact us about licensing fees.

Building standards:

These plans were drafted according to the ABYC rules. The ABYC (American Boat and Yacht Council) defines the boat building standards in collaboration with the USCG.

Professional builders may be subject to more requirements. Consult the designer.

The ABYC standards are very close to the ISO norms and CEE requirements but no European certification was applied for since this is not required for amateur boat building in Europe. CEE/ISO certification is available to professional builders for a fee.

Plans Packing List:

Plans are available in metric or US units.

- B299_1 Plan/profile
- B299_2 Frames and Beams
- B299_3 Hull Panels
- B299_4 Nesting
- B299_5 All Frames
- B299_6 Cross Beams
- B299_7 Construction - Plan View
- B299_8 Construction - Profile
- B299_9 Engine Pod
- B299_10 Frames Details
- B299_11 Curved Transom
- B299_12 Deck Layout - Center Console
- B299_13 Deck Layout - Classic
- B299_14 Deck Layout - Railing
- D299_15 Full Size Patterns
- PC20_building_notes

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