

A modern 33 foot sailboat based on the Hobie 33



The Hobie 33 is a competitive one-design / PHRF ULDB racer designed in early 80's by the designer of Hobie Cats . The boat is trailerable with a retractable keel and deck-stepped mast. Fixed keel models were also produced.

Boat Specs:

LOA: 33.0'

LWL: 30.5'

Beam: 8.0'

Draft: 5.5'

Disp: 4,000 lbs.

SA: 429 sq. ft.

I = 33.83' **J** = 12.4' **P** = 35.0' **E** = 12.5' **ISP** = 36.25' **JSP** = 13.125'



Approximately 150 boats were made in California. Most of the fleets are in California and Texas. The Hobie 33 was the same generation as the SantaCruz 27 and other California ULDBs made famous by Bill Lee's Santa Cruz series.

The boat has such a die-hard following that it was recently put back into production, and a brand new, exactly as the old one, H33 can now be purchased. The subject of a "new" H33 created a raging debate in the Sailing Anarchy crowd as many thought that the boat, if reissued, needed to be modernized. Others, current owners, wanted the same design to continue, partly to protect the value of the existing boats, partly to increase competition in class racing.

The H33 is considered an excellent design, far ahead of its time with the ULDB configuration at a light (for a 33 footer) 4,000 pounds displacement. Even today, the lines are still representative of what a fast boat should look like.

The concept of a modification kit for the H33

Following is a description of modifications that could be performed on a used H33 hull. The current availability of "donor" hulls under \$15k on the market may make this project viable for resale at a profit.

The H33 hull requires essentially two modifications (outside of keel and rudder) to be brought up to a fully modern standard in boat design, these are:

- A. An update of the slanted stem to the modern plumb bow shape, and
- B. A widening of the transom with an opening of the cockpit.

One important element that makes this project possible from a design perspective is that *the front two thirds of the hull are in fact exactly the lines of a modern fast boat* such as the Joubert-Nivelt designed S40.

Amplifying the plan view (deck) of the H33 to the size of the S40 (approximately a 28% magnification) shows that the lines at the sheer almost identically match from bow to approximately the aft quarter of the boat. This means that the two boats are very similar in Beam to Length and Length to Displacement ratios.

CAD modeling of the two boats, as per attached drawings, shows very similar shape of the hull outside the bow and the after quarter. Hydrostatics calculations of the two hulls show only a 200lb difference, partly due to a 2 feet increase in the waterline for the modified H33

Where the designs totally diverge are in the stern treatment as the H33 has a very narrow stern, approximately 30-40% of the width of the S40 and similar modern boats.

The modification of the bow is not a complicated change, similar modifications are routinely done to modernize multihulls.

The modification of the stern is more complex but appears feasible and would result in a substantial performance improvement for the boat, particularly in reaching and running angles of sail.

Adding a second skin, with the wider stern, to the hull would probably result in excess weight aft and a corresponding shift of trim on waterline.

An approach worth investigating is in “pushing out” the hull in its aft quarter by cutting the sides at the deck and along a line just above the waterline.

The resulting stretching out of the aft section of the hull would create a problem in fairing the vertical portion of the side as it joins with the new, flatter, hull bottom. However, a new trend in boat design consisting in adding a hard chine in the aft section could be used to vastly reduce the fairing problem.

This type of stern shape with a hard chine is found not only in large offshore boats, such as “Sill”, but increasingly in smaller designs as well.



The old stern would be vertically cut out from the sides, leaving a bottom portion along the hull's centerline to support a new wider stern bulkhead connecting to the pushed out sides.

Finally, the bottom would be rebuilt joining the lower chine, the stern bulkhead and the centerline part of the hull.

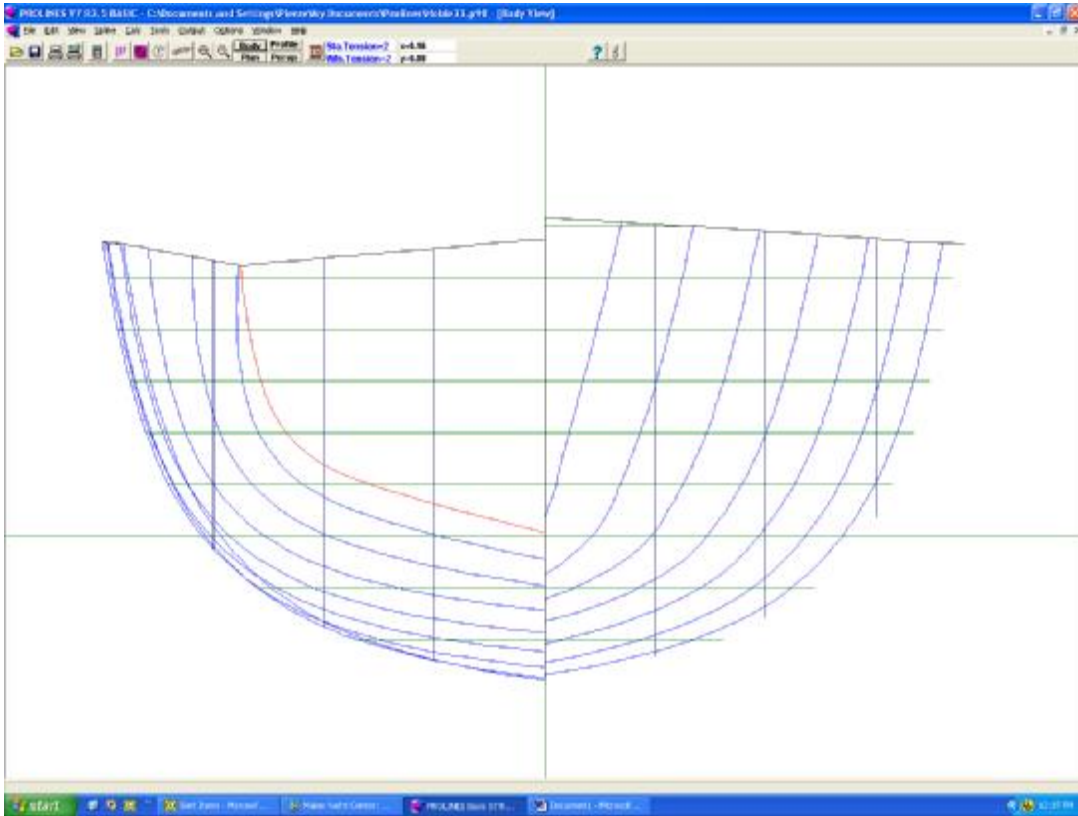
To facilitate the re-building of the stern, the old cockpit floor would be cut out where today the current boat encloses an outboard well. A new cockpit floor running all the way to an open transom, such as for the S40 or the Columbia30, would be installed after sides, hull bottom and transom are connected.



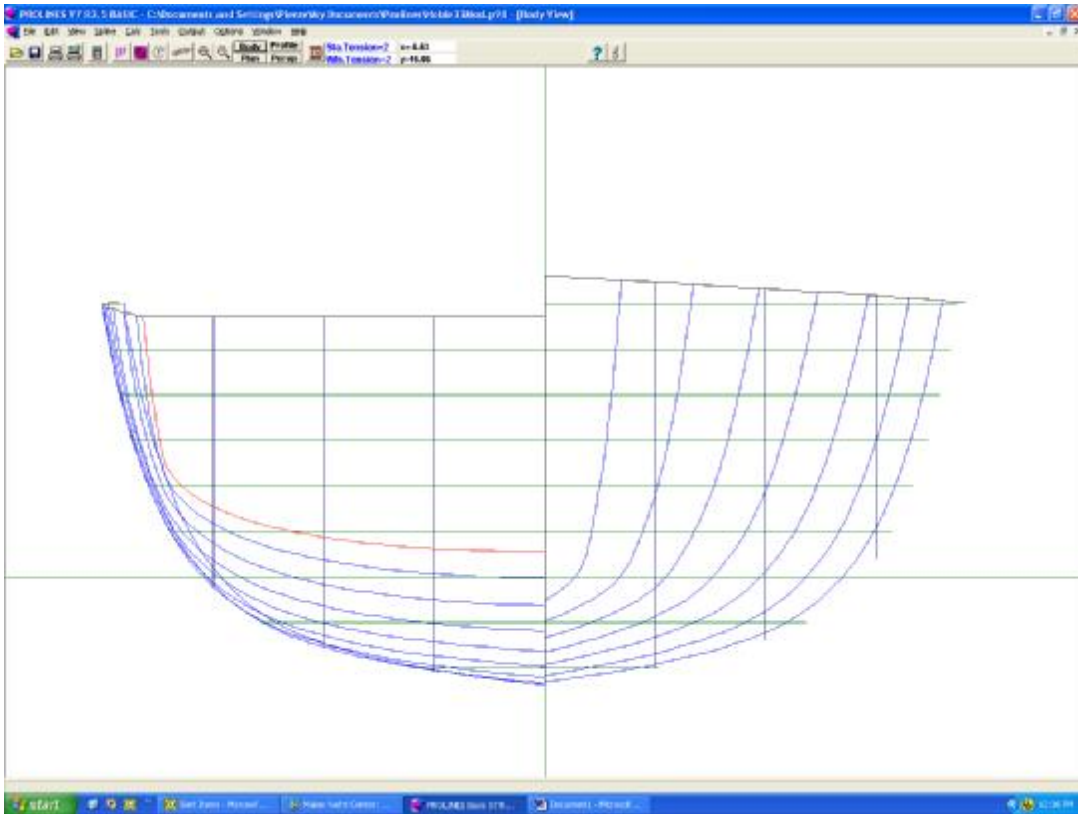
The C30 transom is almost exactly what the modified H33 would look like, keeping the cockpit seats in the front of the cockpit.

Further modifications may involve a modern keel and rudder, but are not necessary in the early stages of the project.

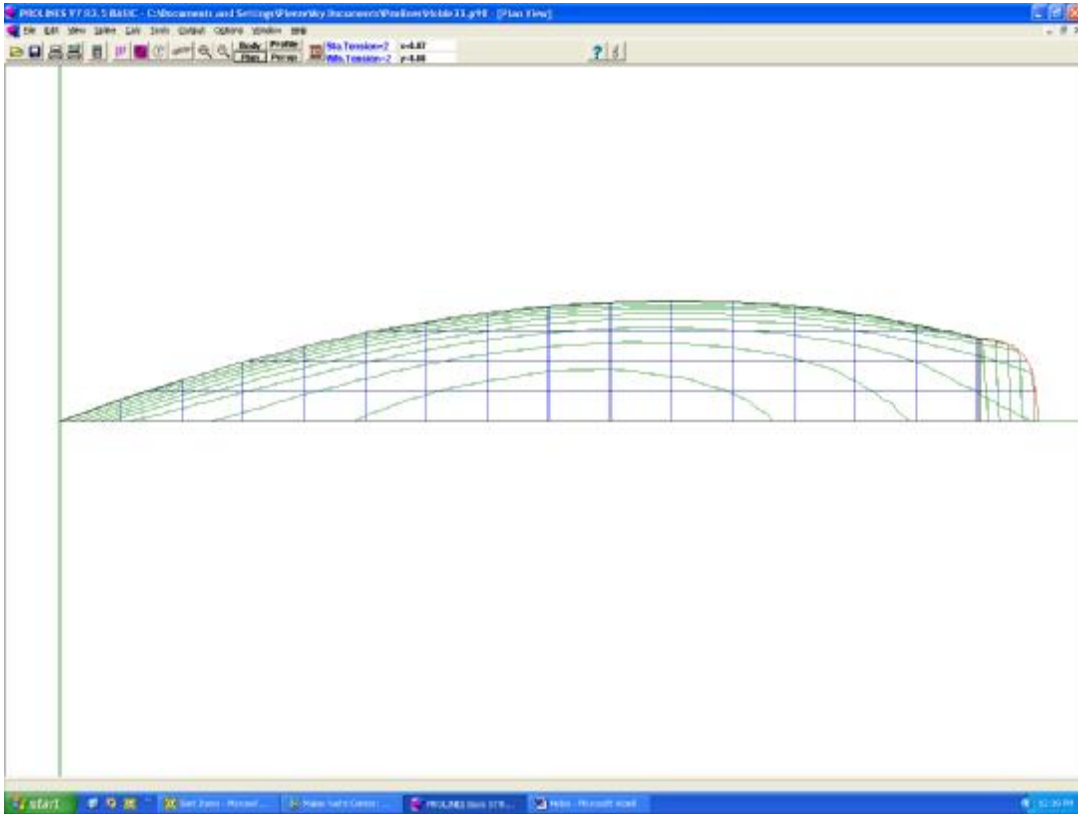
H 33



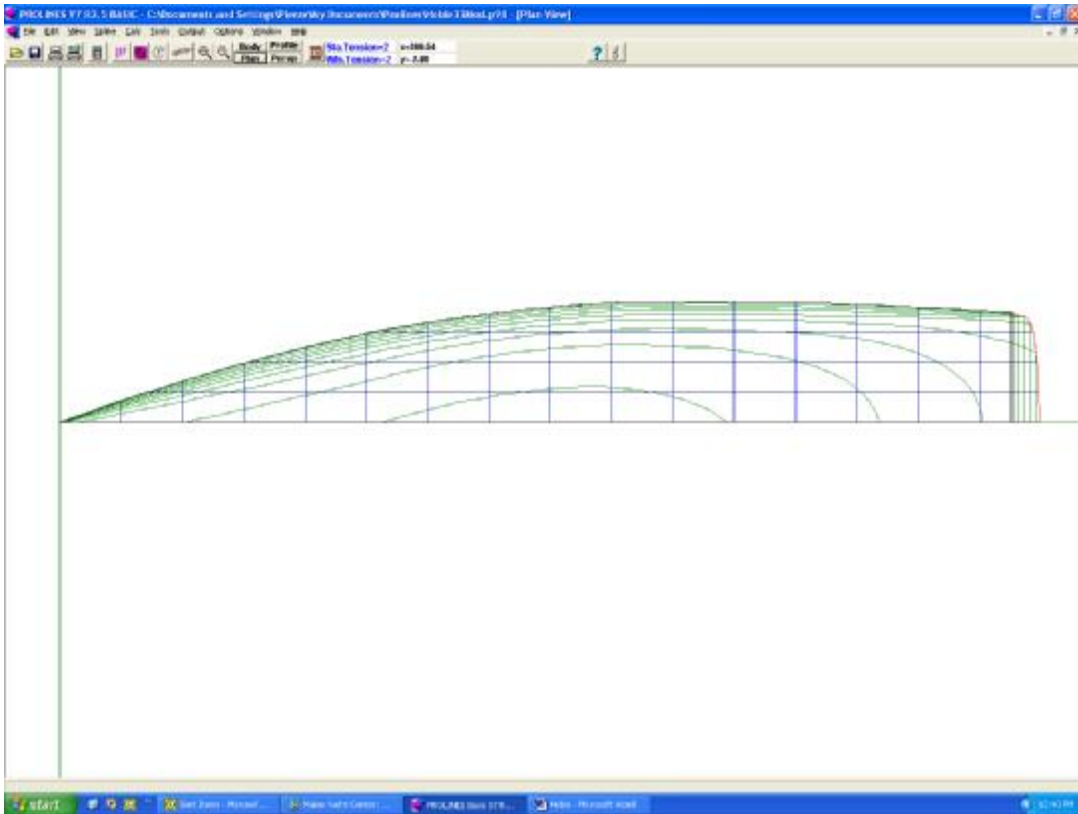
Mod H 33



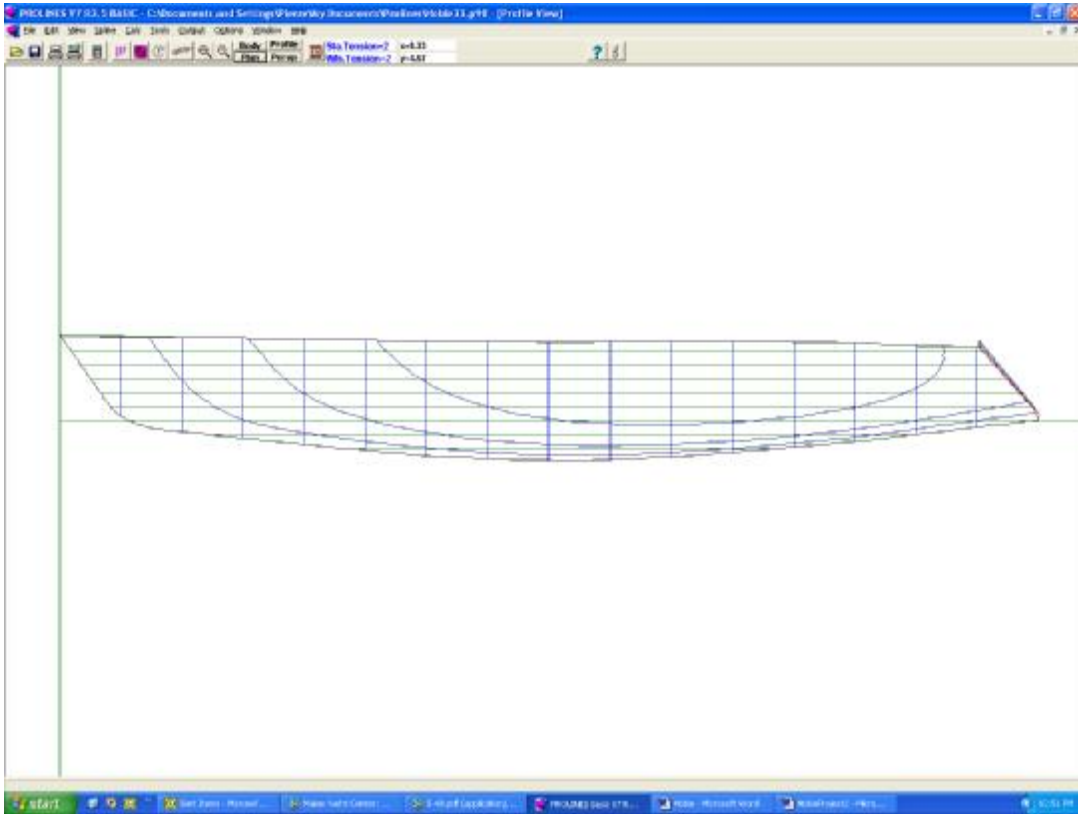
H 33



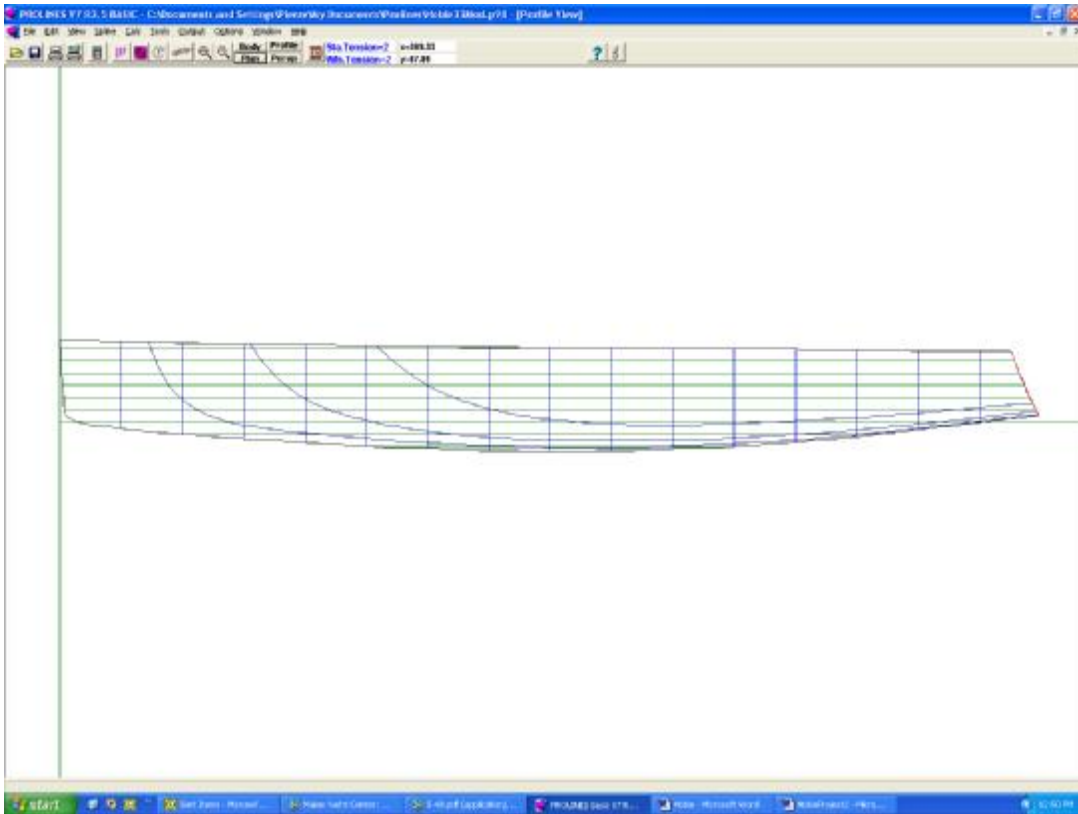
Mod H33

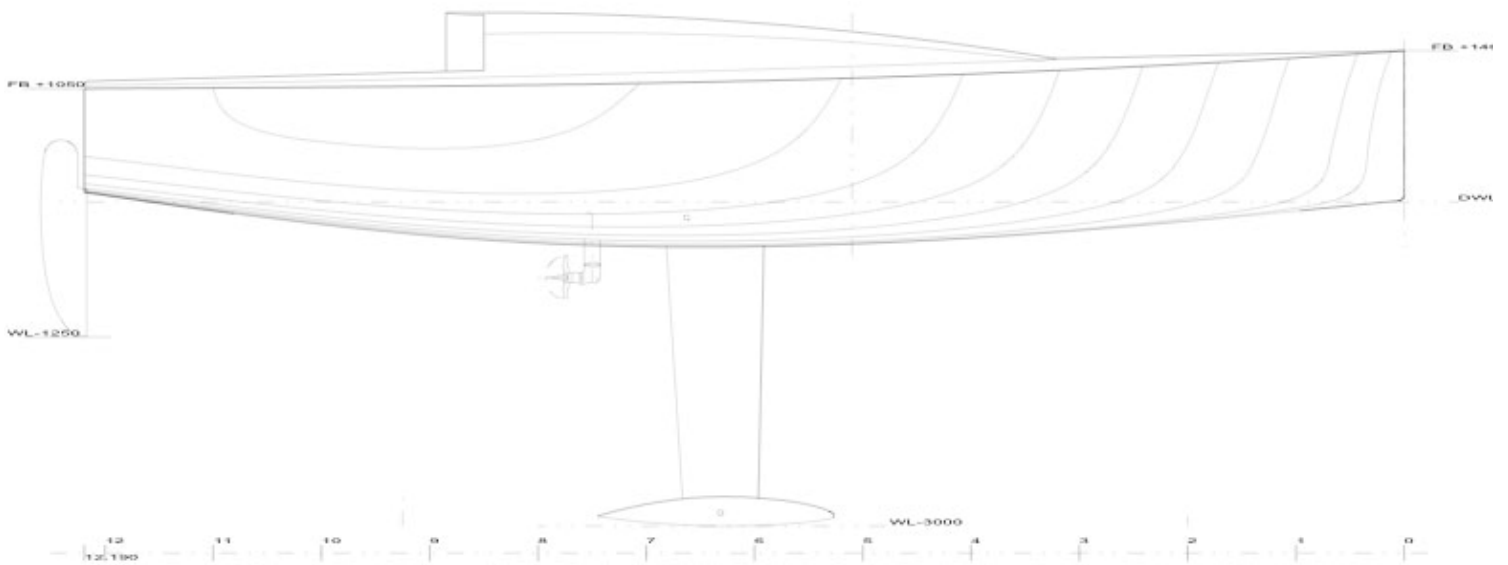


H 33



Mod H 33





The new Open 40, a model for a modernized Hobie 33

H33:

Displacement:	4041 lbs
Load WL	28.24ft
Length OA	33ft
Waterline Beam	6.261ft
Deck Beam	8.080ft
Waterplane area	119.464sqft

Modified H33:

Displacement:	4279 lbs
Load WL	30.42ft
Length OA	33ft
Waterline Beam	6.261ft
Deck Beam	8.093ft
Waterplane area	130.741sqft

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