



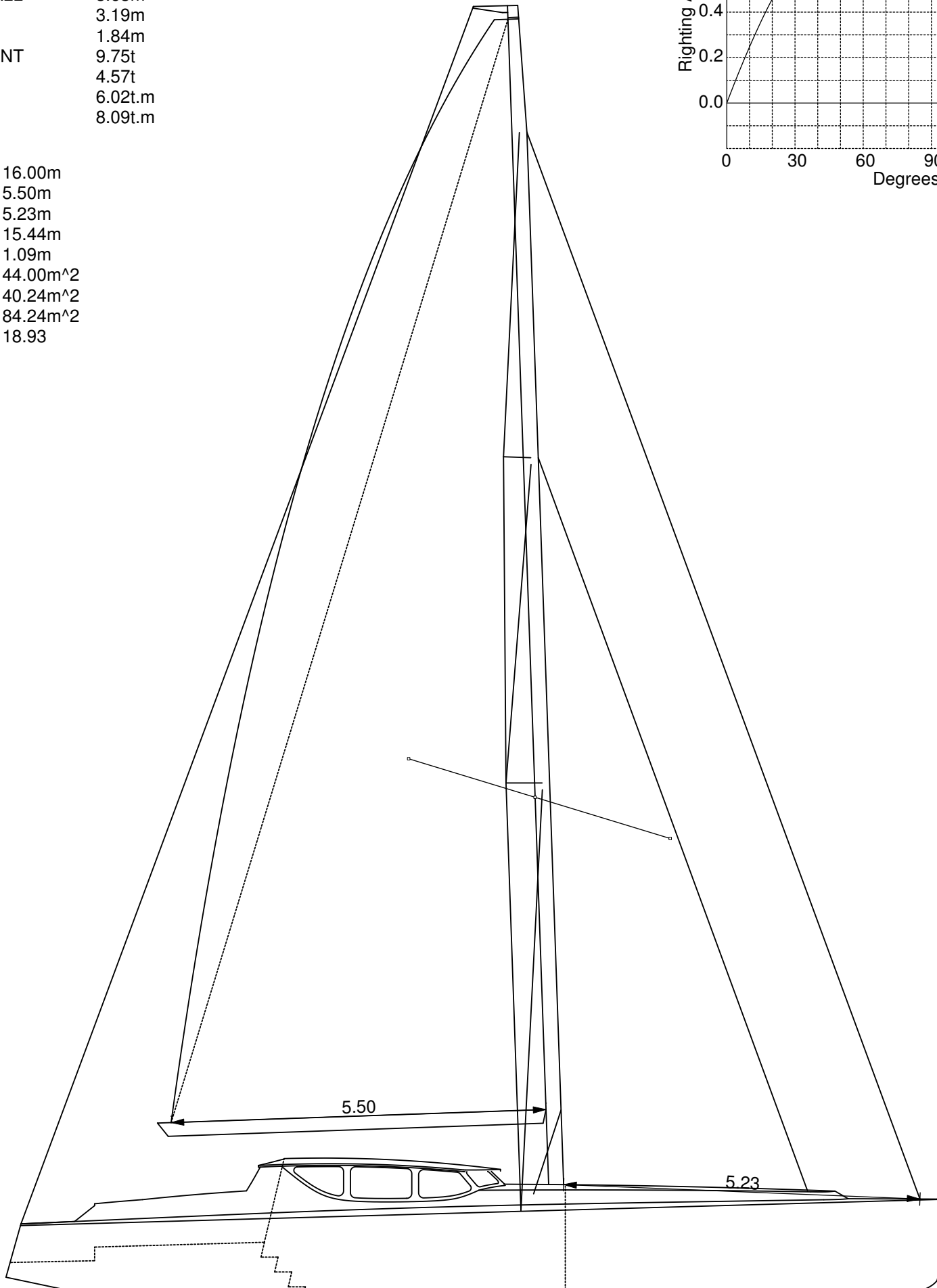
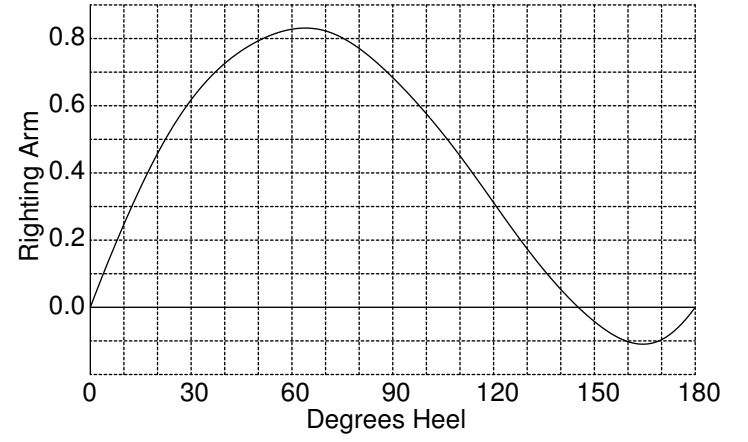
sfm45 Performance Cruiser

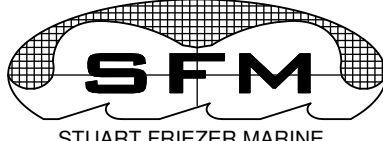


**SFM 45 - Performance Cruiser
PRINCIPAL PARTICULARS**

LENGTH OVERALL 13.72m
 LENGTH WL 12.69m
 BEAM OVERALL 3.63m
 BEWM WL 3.19m
 DRAFT 1.84m
 DISPLACEMENT 9.75t
 BALLAST 4.57t
 RM @ 30° 6.02t.m
 RM Max 8.09t.m

P 16.00m
 E 5.50m
 J 5.23m
 I 15.44m
 BAD 1.09m
 Mtri 44.00m²
 Ftri 40.24m²
 TOTAL 84.24m²
 SA/Vol^(2/3) 18.93



NO	DATE	DRN	CKD	REVISION
-	-	-	-	-
 STUART FRIEZER MARINE				
STUART FRIEZER MARINE Pty. LIMITED 4 Alexander Street, AVALON NSW 2107, AUSTRALIA TELEPHONE: +61 (0)2 800 33 199 EMAIL: stuartfriezer@hotmail.com				
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TITLE SFM 45 - PERFORMANCE CRUISER SAIL PLAN				SCALE A3- 1:75
				CLIENT VARIOUS
CAD FILE: SFM45-Jura2 V04.3dm				DATE 18/MAR/2010
				DRG. No. SFM 45 - Sail Plan
				REV

SFM 45 – “Jura” Design Notes

A cruising yacht for racing sailors.

Our philosophy for our new yacht designs is to design boats that the average sailor could sail well with the least effort. She is easily driven, forgiving and easy to sail. We are striving to design boats that people will enjoy to sail racing and cruising. Good helm balance and sweet lines mean the boats almost steer themselves.

Current competing designs have hulls that are quite beamy and shallow; therefore once the optimum heel angle is exceeded they slow dramatically and go sideways. They also require the windward rail to be stacked with crew to achieve acceptable upwind performance. As a result these yachts only perform well in the hands of the best sailors and in my view don't make very good cruisers.

Cruising yachts seem to be trying to fit in more internal features for the same length boat. The beamy and powerful hulls then need more sail than they have to make them sail well. In our designs we have chosen to keep the length at the best number for the sailability of the boat. The longer and narrower boat has sweeter lines with lower drag and will happily sail well with a moderately sized rig. I have always told the owners of Jura that she is “a 45 footer with the accommodation of a 40 footer.” Here are some of the advantages of this concept:

- Longer waterline length means less wave drag and more speed.
- Better motion in a seaway.
- More directionally stable.
- Less inclined to broach.
- More forgiving and easier to sail fast by all standards of sailors.
- Sleeker and better looking.
- The ability to sail higher upwind and deeper downwind.

The innovative hull design is shaped to perform in a wide variety of conditions. The static prismatic coefficient is quite low ensuring great light air performance while the bow and stern shapes ensure that when the boat gets near hull speed these fuller overhangs have effectively increased this coefficient to reduce wave making drag at these higher speeds. Take a look at the latest AC designs of Team New Zealand and Alling and you will see that this is soon to become a mainstream feature. The bow overhang also makes the boat safer for nosediving / bow tripping considerations.

The hulls are quite slab sided as well as being narrow. Although this sacrifices some stability it offers the following advantages:

The heeled hull sits lower in the water and generates more side force just when the keel is losing its side force.

Sitting lower heeled also immerses the bow and stern overhangs increasing sailing length and reducing drag.

Sitting lower heeled also improves the yachts motion in rough seas.

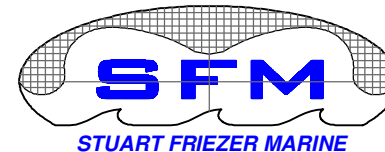
The optimum heel angle is higher and the effect of exceeding this is greatly reduced.

When the sails and rig can't be de-powered any more this boat can simply be allowed to heel a bit more gaining righting moment / power with minimal loss in performance.

Our hull shape features deeper aft sections between the keel and rudder. They reduce the boats wake, lower wetted area and improve directional stability. Many designers believe that flattish aft sections help promote planing / surfing but this is a myth. Flat sections can only produce dynamic lift if they have an angle of attack to the water flow. With little volume contained flat sections add greatly to the wetted area of those designs and require larger sail areas in light airs and then quick reefing by the crew when the wind comes in.

The SFM 45 is designed to perform in a wide range of conditions. The moderate sail plan has ample power in light airs and is easy to handle in a breeze. The designs ability to de power with a little extra heel gives added safety and speed in conditions when you can't change down sails as quickly as you would like.

The pilot house layout and extra length actually make the interior much nicer than the layout we were expecting. The galley/nav station/saloon area is very spacious and full of natural light. From the Nav station you can see through the front pilot house windows, so it also becomes a helm station, by way of the autopilot remote, in inclement weather.



Some comments from Peter Vi – owner / builder of Jura V.

I can't help but be impressed with the job Stuart did when designing Jura. We still to this day get a lot of compliments and questions about her. Stuart not only has a good sense of what is needed but he also has a good eye on what looks right. Without a doubt we have a fast cruising boat (only one boat we left NZ with beat us here and they motored for 59 hours to do it. I think they were shocked to find we had sailed it and only just arrived after them), fast to me means less time doing the boring bit at sea and more time in the wonderful anchorages. Also we are now starting to get a better understanding of what a great ride or motion Jura gives us through the water. I started to think we had it bad on the crossing over from NZ but after talking to other cruisers who did it at the same time we had, we had it so much better. Whilst it felt rough we mainly glided from wave to wave during the second gale that was on the nose. The other boats all complained of their yachts just falling off the backs of each wave. One minute being in your bunk, the next feeling like you are in the air. I do remember this feeling as our previous yacht was similar and Jura moves nothing like her. Even on a moderate swell in our old yacht you never ever wanted to walk in front of the mast as you would just get thrown around. I once even got thrown out of the nav seat and hit my head on the companion way stairs. Jura is just so much smoother than this although she does like to heel a little more. A factor of her narrower water line that I did ask for.

