

Half Tonners and Those Racing Rules

By Rick Halliday

The question of handicapping is often seen as contentious. Here Rick Halliday gives us his view on this subject, and the lengths some boat owners will go to bend the rules.

While it has always been known that 'wallet warfare' wins yacht races, since the late 19th century rule makers have attempted to find some means by which racing yachts can be handicapped on an equitable basis, giving everybody an even chance of winning.

Needless to say, the rules have often been moulded by those with a vested interest to suit their own purposes. In the past leading designers have dominated the rule-making committees, but now the large production builders (such as Beneteau) seem to exercise overwhelming influence.

Ways to Work the Rules

These rules all worked for a short period of time until enterprising designers found ways around them. The yachting literature is littered with examples. A glimpse at one of the many editions of Dixon Kemp's 'Manual of Yacht and Boat Sailing and Architecture' demonstrates the state of affairs in late Victorian England.

This is analogous to the industry of tax evasion where smart people find a way around the rules - the rules are then changed and they find a way around them again. There is no better environment for 'wallet warfare' and 'stretching' the rules. History tells us that those who exploit the lurks are almost always ahead of the rule makers!

With the passage of time, wise heads in international yachting administration decided to combine the English RORC with the CCA rule which prevailed in the U.S. The result was the International Offshore Rule which was established in late 1960s and was intended to provide a worldwide measurement handicap rule for the first time. *Southern Myth*, *Ruthean* and *Gip* (now *Reprive*) are local examples of the RORC rule.

It was generally understood that length, beam, waterline length, weight, draft and sail area etc. were factors affecting speed. So a short, fat, shallow, heavy and under canvassed yacht was likely to be slower than a better endowed competitor in any given weather conditions.

Talented designers (most in their 20's), set out to design yachts which, at the measurement points, were such as to fool then primitive computers that they were a good deal slower than they actually were. For example, a wide maximum beam BMAX suggested that the boat was slow but its actual waterline, optimum heel, beam etc. were that of a faster yacht.

All of the measurements were put into a computer which

spat out a rating or handicap which for some reason was expressed in 'feet'.

For a time the IOR rule worked satisfactorily and produced, at least initially, yachts which were mutually competitive and were capable of safe and relatively fast cruising.

Early examples include the classic S&S designs, particularly the original S30 and 34, the Duncanson three-quarter ton and the various Bob Miller/Ben Lexen designs and later the Petersen and Holland designs of which *Renegade* is a larger example.

Prospective boat owners soon saw the inequity of attempting to race a 30 foot yacht against a 50 or 60 footer. In consistent light weather a small boat always won particularly where the

larger ones might not reach their hull speed. In fresh conditions the reverse was the case. In longer races, such as the Sydney - Hobart, the larger yachts at the head of the fleet sailed in a completely different weather system to those at the back. It was usually the smaller yachts that got the pounding when the inevitable southerly change arrived.

Common sense dictated that some sort refinement in the form of a 'class' system might be established. This led to the development of the two, one, three-quarter half, quarter ton and the even smaller mini ton classes and enabled owners to race against each other at relatively close quarters and in the same weather conditions.

Ton or Tun?

The descriptive 'ton' has nothing to do with weight or displacement. I think it has its origins in 'tun' which was a measure

of carrying capacity of 17th and 18th century trading ships. I have no idea why it was adopted for pleasure yachts.

The advent of fibreglass yachts enabled designs to be reproduced on an almost production line basis with a degree of accuracy not previously achievable.

The first half ton yachts were about 30 feet long, had a waterline length of about 21.7 feet, had head room, four or five bunks, required a crew of five (or four at a pinch for long races when less manpower was needed), were diesel powered sometimes with a fridge and were relatively inexpensive, (if that description can ever apply to a yacht!). They were initially seaworthy, sea kindly, easily sailed shorthanded and ideal for cruising and racing in our local conditions. Many retired gracefully as cruising yachts and are still active today.

In South Australia David Binks built the Van Der Stadt designed 'Pion' as well as the Spencer 30 which established the local population of half tonners.



At this early stage in the development of the rule, the yachts were very close in performance which led to excellent racing. Later the larger and heavier Cole 32s demonstrated better up wind performance, particularly in fresh conditions, but not so downwind against the modified Spencer 30s which carried more sail than the original design.

Cheeky Escapade

My involvement with *Escapade* came at the latter half of the half ton era. Ric Ottaway is correct when he says that the strict half ton rule was abandoned locally. It was decided to avoid the expense associated with IOR measurement. Yet another rule, JOG was adopted which did not have the draft penalty of the old rule. With a characteristic flash of brilliance, Ken O'Brien worked out that we could bolt a 'shoe' of Jarrah underneath the lead keel, thus increasing the draft and windward ability. The jarrah was of neutral buoyancy so the boat was no heavier immersed, and not taken into account in fixing the rating. This, together with the ability to sleeve a further 2 feet into the mast with a resultant increase in sail area, made *Escapade* much faster up wind particularly in light weather with an increased performance downwind.

Get the Prop Off

Measurement, as always was a problem even in our sheltered environment, or so I'm told! A helpful crew member holding one end of the measurer's tape could reduce the overall length of 31 foot half ton to about 29 feet. Similar reductions to mast height and sail area could be achieved by the same means. One measurement, that of stiffness, was measured by basing the spinnaker pole at the BMAX position and hanging a jerry can full of water off the other end. A calculation was made of the force needed to incline the yacht by 1°. There were a few spinnaker poles which had a pig of lead temporarily installed in the outboard end. Measured stiffness was also reduced by having a flagstaff staff temporarily at the masthead made entirely out of lead. The mainsail was required to be on the boom for measurement. This was always hosed down to make it heavier and, on one occasion, a pig of lead fell out of the mainsail on the measurer's foot! Perhaps the most innovative stunt to minimise drag was to temporarily tie to a beacon in the river on the way out to the start, uncouple the propeller and shaft and replace it with a cork from a port bottle inserted from the outside. Fortunately the motor could still be run to power the fridge and the necessary lights - or so I'm told!



Southern Myth

With the passage of time many newer and faster designs appeared which would have outclassed the local yachts. The brilliance of Farr, Davidson, Whiting et al produced light displacement 30 foot half tonners some of which had unballasted lifting centre boards and clouds of sail. They consistently lapped the older designs around an Olympic course which consisted of a sausage and two triangles. In the 1975 Southern Cross Cup the Farr One Tonners were faster than the Petersen and Holland Two Ton designs in all of the five races, necessitating rapid rule changes to reduce their advantage. The lightweights were as fast up wind as the heavier designs but half as fast again downwind. Great fun, but the downside was that they were fragile, three-quarter rigged with the hassle of running back stays, pipe cots, no floorboards and pigs of lead as internal ballast set around the centreboard case (and worse - probably no icebox!). There were questions as to the integrity of their build and engineering. Some simply disappeared 'en voyage'.

Gorillas on the Side

Nobody would describe them as a cruising boat, particularly as the cruising crew (your wife or girlfriend?) would be required to perch on the weather rail like a drowned rat with a couple of 120 Kg gorillas to keep the boat upright in anything over about 12 kn of breeze thus diminishing the attraction of a romantic cruise to Port Lincoln. As time went on more distortions were built into the hull shapes. The very fast Whiting design *Magic Dragon* which won the only Australian championship held in South Australia is a mishmash of convex concave and compound curves designed to once again fool the computer. I suppose beauty is in the eye of the beholder, but for my part I much prefer the clean and obviously fast lines of *Aikin* and her like to the distortions of the past. Don't even ask about the resale price of the lightweights of that era.

South Australia was somewhat isolated from this trend to lighter and faster boats. The Pions, Spencers and Cole half tonners continued to enjoy close racing and good Corinthian comradeship locally until about the mid 1990s.

Of the many classes sponsored over the years by RSAYS including 21 footers, Tumblaren, Dragons and more recently the Etchells, I suspect that the half tons were the most versatile and enduring. They probably attracted a higher participation rate than any of the other classes with say 50 to 75 crew members in the bar on a Saturday afternoon



Relieve