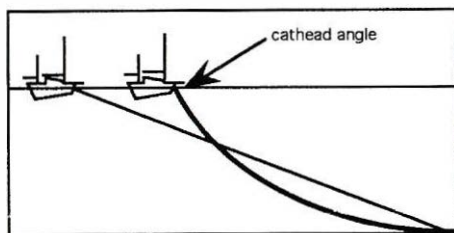


The Real Low-Down on Anchoring

Greg Bishop

In his book *Sensible Cruising Designs* Herreshoff writes of a Mediterranean friend who would happily swim down to check that the anchor had dug in properly. Who amongst us would do this if we could possibly avoid it? After all, diving down to inspect the anchor in certain parts of South Australian waters might bring on an attack of *carcharodon carcharias* [a serious tooth problem*]. In this article I show at least how to check that there is a *horizontal pull on the anchor in all conditions*, and to ensure the *minimum swinging circle*, without diving down or using the unreliable 3? or 5? or 10? times depth 'rule'.



The cable hangs in a catenary. The sketch shows what the catenary looks like with the boat at two extremes — with horizontal pull and with the line bar tight. With this fixed cable length and water depth, all possibilities in between can be realised. Only one of these catenaries guarantees a horizontal pull on the anchor. This results in a definite angle at the head of the catenary. Going to the other extreme, the anchor is pulled upwards and the cathead angle gets more off the vertical. This cathead angle is measurable on board with plumb bob and protractor, and it can be *calculated* by using the catenary equations. This is how I got the values in the table in fathoms, feet and degrees.

For secure anchoring, try this: Knowing the cable veered (fathoms) and the depth from the cathead (feet), measure the angle the cable makes from the vertical at the head of the catenary. From the table, extract the maximum angle. For example, if you veered five fathoms in twelve feet, then the maximum angle is 46°

		Maximum Angle from Vertical									
		cable (fathoms)									
1	2	3	4	5	6	7	8	9	10	(ft)	
10	45	59	66	71	74	76	78	79	80	5	
0	37	53	62	67	71	74	76	77	79	6	
	29	47	57	64	68	71	73	75	77	7	
	23	42	53	60	65	68	71	73	75	8	
	16	37	49	57	62	66	69	71	73	9	
	10	32	45	53	59	63	66	69	71	10	
	5	27	41	50	56	61	64	67	69	11	
	0	23	37	46	53	58	62	65	67	12	
		18	33	43	50	56	60	63	66	13	
		14	29	40	47	53	57	61	64	14	
		10	26	37	45	51	55	59	62	15	
		7	23	34	42	48	53	57	60	16	
		3	19	31	39	46	51	55	58	17	
		0	16	28	37	44	49	53	57	18	
			13	25	34	41	47	51	55	19	
			10	23	32	39	45	49	53	20	
			8	20	29	37	43	47	51	21	
			5	17	27	35	41	46	50	22	
			2	15	25	33	39	44	48	23	
			0	13	23	31	37	42	46	24	
				10	20	28	35	40	45	25	
				8	18	26	33	39	43	26	
				6	16	25	31	37	42	27	
				4	14	23	29	35	40	28	
				2	12	21	28	34	38	29	
				0	10	19	26	32	37	30	
					9	17	24	30	35	31	
					7	15	23	29	34	32	
					5	14	21	27	32	33	
					3	12	19	26	31	34	
					2	10	18	24	29	35	
					0	9	16	23	28	36	

from the vertical. If your cathead angle is any larger than the tabled angle, veer more cable and repeat the procedure. Eventually you get a horizontal pull on the anchor — but dig it in first!

SQ

*Author's parenthesis. I don't know what it means. Neither word appears in *Oxford English Dictionary* or *Gould's Medical Dictionary*. — Ed.

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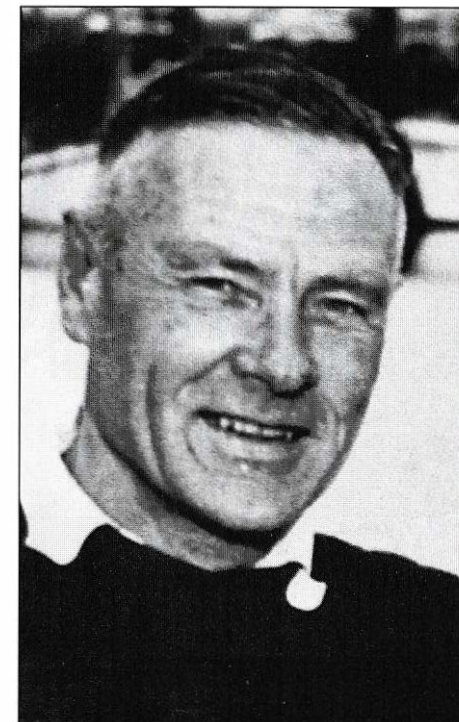
The 1993 Kodak Sydney-Hobart race was one of the hardest for many years. More than half the fleet of 105 competitors withdrew; two yachts sank; and many others sustained major damage. John Quinn was rescued after five hours at sea in circumstances which demonstrated a combination of supremely good emergency procedures and outstanding seamanship by the huge tanker which found him. It is interesting to look back on earlier perspectives of this great event. In *RSAYS Newsletter* No 74 of May, 1978 Colin Haselgrove published an article on the race, which was "the text of a talk given twenty years ago". It is reproduced *verbatim*. — Ed.

The Sydney-Hobart is, of course, an Ocean Race. Let me say a few words first about ocean racing in general compared with short races in more or less sheltered waters. The two are very different. In fact, quite often a yachtsman who has been outstanding in short races proves quite mediocre in long distance ocean races, even in perhaps the same yacht which may be suitable for both.

The requirements for success in short harbour races are, I think, intense concentration for limited periods, a crew trained to split-second action, a good knowledge of yacht racing rules and finally steady nerves and lots of "check". By contrast, I would say that the characteristics for a successful ocean racing yachtsman are firstly immunity from, or at anyrate being able to rise superior to, the ravages of seasickness and a good sense of balance. A love of adventure and a dogged determination or, if you like, pig-headed obstinacy to get there as fast as possible, come what may. In a phrase, perhaps strong in the stomach and weak in the head!

By all this I mean that harbour racing is man against man and boat against boat whereas ocean racing is man and boat against the sea.

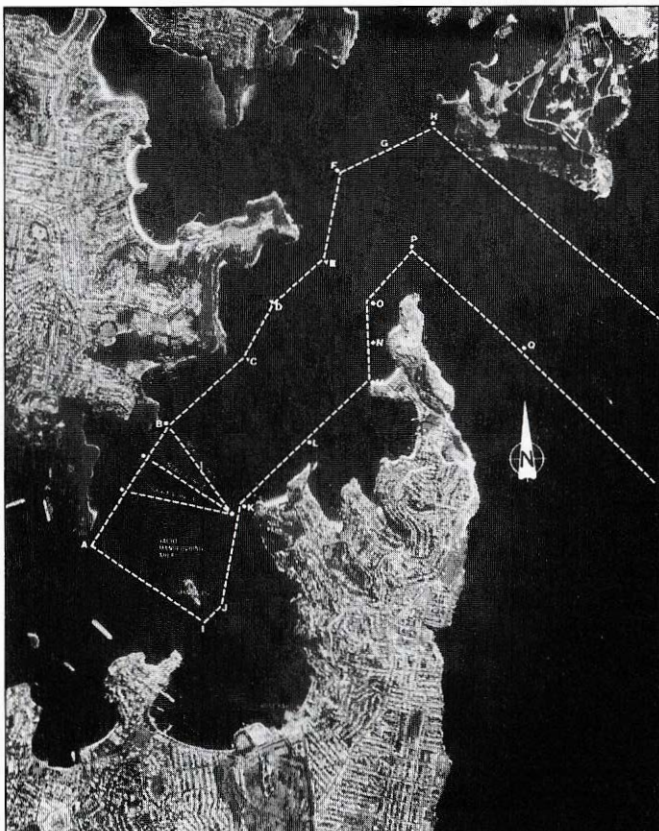
Ocean racing as we know it is comparatively recent, or rather its organised development is



Colin Haselgrove, taken on arrival in Hobart. (Mrs Nan Halliday)

recent. About the first of the modern ocean yacht races was the New York to Bermuda race first sailed in 1906. The course was some 600 miles. Then in 1925 the Fastnet race was started by what is now The Royal Ocean Racing Club, the controlling body of the sport in England. This too is about a 600 mile course, sailed alternate years with the Bermuda race in order to give yachts from both sides of the Atlantic an opportunity to compete.

Twenty years later in Sydney just after the end of the war, a bunch of enthusiastic cruising men got together proposing an organised Christmas cruise from Sydney to Hobart. It was fortunate for the future of ocean racing in Australia that a yachtsman experienced in the Fastnet race happened to be in Sydney. This was Captain John Illingworth RN, who heard of the move and



The start of the Sydney-Hobart Race in 1984.

said, "Why don't we race to Hobart?" which was enthusiastically agreed to and so the Sydney to Hobart Ocean Yacht Race was born and so, incidentally, was the Cruising Yacht Club of Australia which now has a fine waterfront property in Rushcutters Bay with clubhouse, boat-sheds, slipways and marinas. As a matter of interest, this first race was won by Capt. Illingworth in *Rani*, the smallest yacht in the fleet, with fastest time and first on handicap.

The race is jointly conducted by the Cruising Yacht Club of Australia and the Royal Yacht Club of Tasmania and from that modest beginning in 1945 with a rather motley fleet of cruising yachts plus a sprinkling of straight-out harbour racing craft, it has become one of the most keenly contested of the world's major ocean races.

One of the biggest problems in ocean racing is that of arriving at a fair system of handicapping. The longer a vessel, the higher is her theoretical maximum speed so without time allowances the smaller yachts would have no chance at all. There are several systems used in handicapping ocean races but they are all more or less similarly based on length and sail area. The method used in the Sydney-Hobart Race is the Royal Ocean Racing Club Rating Rule. This makes allowance for factors arising purely in ocean racing. Thus the rule penalises such things as excessively long and narrow, or very shallow hulls and extra tall masts and very light construction.

However, like all rules, this one too has become a challenge to the expert designers to find ways of beating it and producing fast boats with good time allowances. More and more the winning yachts on handicap in the

Sydney-Hobart Race are new boats from the drawing boards of specialists. Without meaning to detract from the performances of the winners of earlier Hobart Races, I would say that it is a very much harder trophy to collect now that it was ten years ago. Not because the new boats are faster but because the designers have managed to produce boats just about as fast as the older yachts and with a very much better time allowance.

With so much talk of measurement rules and ratings I may have given you the impression that the race is no longer, as I said earlier, man and boat against the sea, but one naval architect against another. This is not so but it does help the morale of skipper and crew to know, when they find themselves in a good position in the

fleet towards the end of the race, that they have an hour or two of time allowance over all the boats ahead and most of the boats behind them. I well remember the terrific boost we got in *Cooroyba* in 1955 four days out from Sydney and about 100 miles from the finish, when we saw first *Kurrewa* [III] and then *Even*, the two biggest and fastest yachts in the race, come up from behind and then slowly disappear ahead and when, late that night, in a very severe thunder storm close to Tasman Island, forty miles or so from the finish, we found *Solo* alongside us illuminated by the lightning flashes. Our enthusiasm was tempered somewhat by the fact that we also saw *Moonbi* to whom we had to allow

an hour or so, close behind us! Incidentally *Moonbi* finally beat us for first place on corrected time, by eleven minutes which is not bad handicapping after five days and some 700 miles of sailing. By the way, both *Moonbi* and *Cooroyba* are over twenty years old and were not designed to the RORC Rule. *Moonbi* was designed by a famous American yacht architect, John Alden, as a comfortable little cruising ketch and *Cooroyba* by a now very successful British designer, Robert Clark, then only 22 years old, for coastal cruising and for handicap racing on Sydney Harbor. Nevertheless it is broadly true that with more and more "rule beaters" (intentionally I do not say "rule

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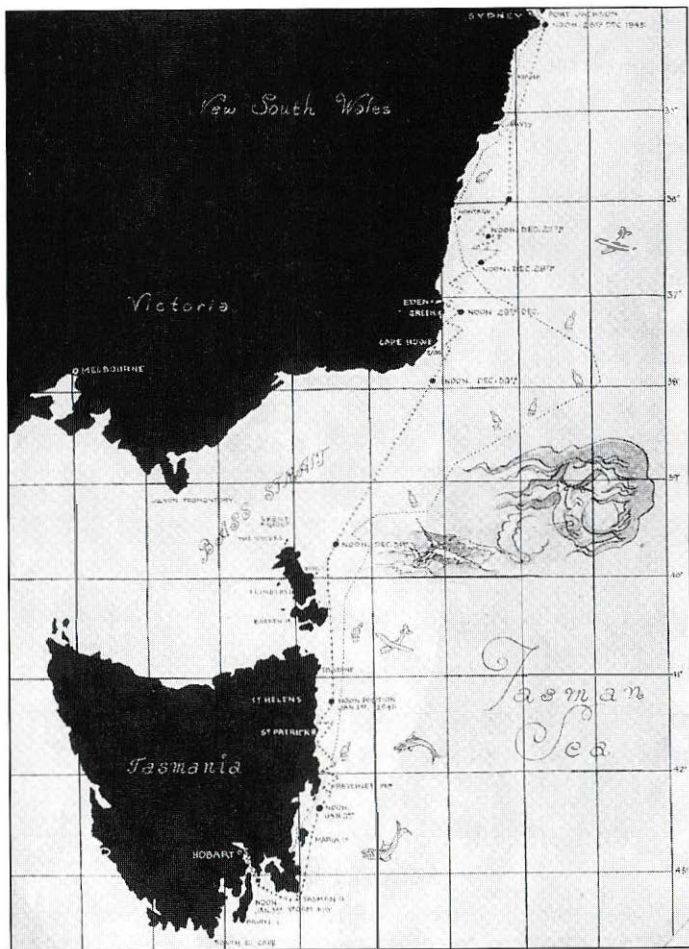
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Jack Earl's map of the course taken by Kathleen in the inaugural Sydney-Hobart Race of 1945.

cheaters") in the race every year there is more and more chance that one of these will have that combination of first class skipper and crew plus the requisite proportion of lucky breaks with the weather necessary for a win.

All this has been pretty general and theoretical. Perhaps you would like now a sort of wave to wave description of a Hobart Race. Of course it will have to be brief to compress about five days and five nights into a few minutes. The race has been held every year since the first in 1945. The start is at 11 am on Boxing Day off

Point Piper and the course is through Sydney Heads and thence to Hobart, a distance of 630 nautical miles. No doubt this starting date is the best possible, but I have wished it was 27th not 26th December. It is so very hard to get the crew (not to mention the skipper!) to keep clear of Christmas Day festivities in that gay and sinful city and a hang-over is not the best morale builder for an ocean race start!

During the preceding week the yachts and sails have been measured for rating and the lifesaving and medical stores have been checked by the race officials. Sails and gear have been overhauled, the ship's bottom newly painted or polished and everything made ready for from four to six days of arduous ocean-bashing. On the morning of the 26th everyone is early astir, topping up water and fuel tanks, and getting aboard the perishable stores. The average crew varies from six to eight and they get through a lot of stores during the race.

By 10:30 am most of the race fleet — say 20 to 25 yachts — are under way and so is pretty well everything else which will float on Sydney Harbor. From then until the yachts clear Sydney Heads is a complete nightmare. The start of a yacht race is bad enough at any time, trying to be first over the line after the gun without fouling other competitors but imagine a start with not just twenty or so yachts sailing to strict right of way rules but with hundreds of vessels from big Manly ferries through luxury power cruisers to small speed boats all churn-

ing the Harbor to a maelstrom, usually with little regard for the rule of the road, plus dozens of yachts, sailing dinghies, catamarans, canoes and even kids on surf skis weaving in and out of the starting area and across the course. Police boats try to hunt them away and keep it clear but often make confusion worse confounded. You can imagine the state of the skipper's nerves by the time the starting gun has gone and he has steered his boat through the almost impenetrable mass of vessels to Sydney Heads.

As the yacht meets the first of the Pacific swell there is a rush to douse spinnakers and set working sails if the wind is southerly and anyone who didn't don oilskins will be sorry. If the wind is northerly, spinnakers are set and the crew settle down for probably the last meal they will have together until Hobart is reached. The crew splits into two watches and the watch below turns in.

The course is roughly south from Sydney to the southern Tasmanian coast and no matter where the wind is from at the start you can be sure of many changes in direction and strength and be almost certain of at least one gale, during the course of the race. From now on it is drive, drive, drive, day and night, mercilessly until the finish. Everything is strained close to breaking point — hull, rigging, sails and crew. There are lots of minor casualties and sometimes major ones, to sails and gear, but, fortunately, beyond a few cuts, bruises, burns and minor fractures, there have been no serious casualties amongst crew members — yet.

A thing which cannot be appreciated by anyone who hasn't experienced ocean going in a small boat is the constant hellish motion. However calm the sea appears from the deck of an ocean liner the swell is always there and in a gale the antics of a small boat are almost unbelievable. It is quite hard work just to eat a meal, so the difficulties of the poor cook, battened down in a tiny galley, probably drenched from time to time with salt water, with his stove swinging violently, his pots and pans slipping and sliding and nothing staying put for an instant, can be appreciated. Without a doubt, a good seagoing cook is a treasure beyond price.

After various experiments with food I have

finally settled for lots of steak, which keeps well and is easily cooked and always popular, fresh vegetables, cooked ham and plenty of eggs, bread and jam, a certain amount of dried and canned fruit. With coffee, tea, vegemite, bovril, cheese and dry biscuits plus a little beer, wine and spirits when morale needs boosting, we get through without too much hardship although everyone loses a few pounds in weight, through lack of sleep rather than food.

Sleeping is quite a problem. It always takes me a couple of days to get used to watch keeping and to get so tired that I fall asleep regardless of conditions of noise, movement, cold, wet and so on. By that time I can't get enough sleeping time to make up the leeway and get more and more tired day by day. We keep watches of six hours on during the day and four hours at night with changes at 7 am, 1 pm, 7 pm, 11 pm and 3 am, with meals at 7, 1 and 7. This gives two breaks of six hours in each 24 which should be ample for sleep but it never seems to work out that way. When major sail changes are to be made all hands must be called and in practice one seldom gets more than three or four hours sleep at a stretch. If it is rough (and it usually is) it is not restful because the body muscles must be used constantly even when asleep.

The race seems to divide itself into three parts, firstly Sydney to Gabo Is, a distance of about 250 nautical miles roughly parallel to the NSW coast, second Gabo Is across Bass Strait and to the landfall on the Tasmanian coast — I always make for Schouten Islands which lie about 270 miles south of Gabo, then thirdly from Schouten Islands 60 miles to Tasman Island, the rounding point into Storm Bay, and that nerve wracking 30 miles from Tasman Island to the Iron Pot light at the mouth of the Derwent and finally the somewhat disastrous 11 miles up the river to the finishing line off Gastries Esplanade in Hobart.

Sydney to Gabo is usually the easiest. The crew is fresh. The water is warm and very often the wind is mostly fair, although in 1950 we had 25-35 knot southerlies for the first 200 miles, which took us nearly three days to cover. Then we had a 40 knot northerly which carried us nearly to the Schouten Islands in the next 24

hours and a 50 knot south-westerly gale to buck nearly to Tasman Island. By that time there was literally nothing dry on the ship, we had torn most of our canvas and I had a fractured kneecap. Then we were becalmed in sight of Tasman Island but as two of our faster competitors were becalmed there with us it wasn't so bad in spite of the freezing cold that always seems to strike around those parts. In fact we had visions of line honours because we were in the first three boats. However we fell by the wayside in fluky conditions in Storm Bay and finally finished third to take out the Tattersalls Cup for 1st on handicap by a comfortable margin. That was in *Nerida*, a solid 45' cruising yawl designed and built for the late Tom Hardy in 1935 and as the two boats that beat us in by a narrow margin were designed by crack American naval architects and built specially for the race, we were quite happy with the result. What won the race for us, apart from the luck of the draw, was that 24 hour run of well over two hundred miles in the very strong northerly. We carried our big spinnaker until it split and then put it back on again after repairing it while other boats were sailing more prudently under reduced canvas. I will never forget the thrill of surf-riding in that 14-ton boat with the bow waves high above us on either side and those Bass Strait rollers lumping up astern.

What always amazes me at the finish of the Race is the reception in Hobart. The end of the first race I sailed in *Nerida* in 1948 illustrates the point. We finished at around 3 am on a drizzly bleak morning, so the novelty should have worn off, but there were something like 40 or 50 cars near the finishing line with horns blaring and the occupants cheering madly. When we came through the swing bridge into Constitution Dock where the race yachts tie up there were a couple of hundred people waving and cheering. That at 3 o'clock on a miserably cold morning! There was one little man with an attache case in his hand waiting for us to dock who asked if he might come aboard. He did so and then very politely welcomed us to Hobart, asking whether we would please do him the favour of accepting a small token of welcome. He opened the attache case, handed us three bottles of Cascade and before we could recover from our astonishment, stepped ashore never to

be seen again. We didn't even find out his name! That was true hospitality and needless to say, we enjoyed it thoroughly there and then.

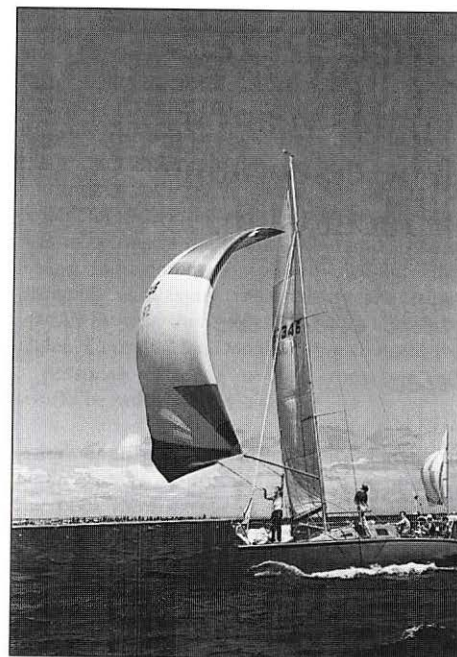
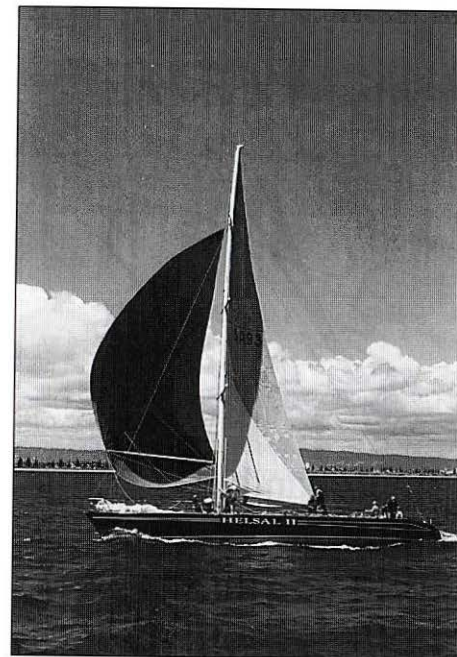
One usually stays for five or six days in Hobart before leaving for the long hike back to Adelaide and these days are not really a rest cure. The finish of the race is one of the events of the year to boat-conscious Hobart. By the way it is the only city in Australia where I have seen more newspaper space devoted to yachting than to horse racing!

[The first South Australian owners to compete in the Sydney-Hobart Race were the Livingstone brothers, who put *Kurrawa III* in the second race of 1946. She was placed last of the eleven who finished, with eight retirements. They persisted in later years, without great success. The first boat to compete from our pool was *Seevogel* (Wesley Harris) who came second in 1948. Colin Haselgrove won the race with *Nerida* in 1950 and was second in *Cooroyba* in 1955. The only other local winner was Jim Taylor in *Ingrid* in 1952. Colin Haselgrove is notable in the Squadron's history as one of the truly great yachtsmen of his generation; as the author of his celebrated *Cruising Notes*; and as our only member to achieve cartographic immortality with his name on our charts. More of that another time — Ed.]

SQ



Simburst



Above left: *Helsall II*
Above right: *Outsidedge*
Left: *Enchantress*
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