

1976

Vic-Maui by Sextant

A navigator remembers the 1976 yacht race



By Kenneth Park

7/3/1976



Date: July 3rd, 1976. **Time:** 11:00 Hrs. **Location:** Brotchie Ledge Light, Victoria, BC.

The Lieutenant Governor of BC, on board the M.V. Sea-Q, signaled the start of the sixth Victoria Maui International Yacht Race. “Starduster”, a CT-54 ketch, crossed the start line under full sail bound for a finish line off the Maui Kai Condominium on the Island of Maui.

It was at once exhilarating and intimidating. Invited to join the crew as navigator and radio operator, we were about to find out if my navigational skills were up to guiding us across the North Pacific Ocean to a dot on the chart, 2400 hundred nautical miles away as the crow flies, using only the celestial bodies to guide us. The sextant, supported by certain other navigational accoutrements and some skill in using them would be our pathfinder. Common sense suggested that anyone who undertook this challenge could muster a reasonably high degree of competence in the art of navigation as well as the ability to function adequately in deep sea conditions. I could guarantee neither, having never sailed across an ocean or tested my celestial navigational skills except in the simulator of local experience. And I was not alone. None of the rest of Starduster’s crew qualified either, but all were looking forward to the challenge.

An unnerving bulletin from the race committee before we left caused me to swallow hard. It read “All participants in this race are asked to be on the lookout for a 25 foot Trimaran “Drum” that left Hawaii in May 1976 bound for Seattle with John and Cordelia McNinn aboard and has not been seen or heard from since”.

My interest in celestial navigation pre-dated the Vic-Maui invitation having had lingering ambitions to sail offshore with my wife. I studied Celestial Navigation under the expert tutelage of a Royal Van neurosurgeon whose night school classes were instructive and enjoyable which made the learning easy. Armed with the magic of this black art, my wife and I would head off to Point Roberts, well before dawn, to practice and perfect our sights. It was there that we found the critical “unobstructed Southern horizon” so necessary for obtaining accurate altitude determinations.

Doubtful US customs officers were always fascinated by my answer to their standard question “and what is the purpose of your visit” ... “we’re going to South Beach to take some celestial shots”. After many such visits, they just waved us on and I’m sure they thought we were really up to something entirely less scientific and substantially more physical.

It was cool and lonely on South Beach at that time of the morning, but never dull. We were ready to do business celestial style with our Volkswagen Camper, plastic Ebbco sextant, thermos of coffee and Sony SW radio metering out the atomically generated metronome-like time signal from WWV’s station in Colorado.

At dawn we’d “knock down” the choice targets (Saturn was a bonus sight one morning) and then tackle the sun when it rose. Since we knew our exact position at Point Roberts, a privilege that would be denied us at sea, it was easy to gauge the accuracy of our plotted sights. Back home we’d reduce the sights at leisure and vow to continue practicing until our position error was consistently below a mile ... a goal not easily achieved without considerable practice.

In addition to my navigational notions, I was a licensed Ham radio operator. The owners of Starduster were planning to continue on from Hawaii to the South Pacific and wanted a radio installation that would include the Amateur bands. In this regard I came in handy for the design and installation of a system which functioned well, and was especially appreciated for our nightly calls home. RVYC anchored the race communications from its Jericho clubhouse and as one of the Ham equipped boats we were asked to be a backup to “Vaya”, the 44 foot Motor-Sailor that accompanied us as the official communications vessel.

Prior to the race I hunted down a retired doctor from Royal Van who had sailed the Vic-Maui as navigator several times. His compact advice was to “sail out to 130 W, run down that longitude to Ocean Station November, hang a right, pick up the trades and surf down to Maui”. In short, he claimed the race could be accomplished in two tacks.

One can appreciate this wisdom by reviewing the June Routeing Chart - 5127 for the North Pacific which shows a preponderance of North-Northeast winds of bountiful strength along the US coast which gradually veer to more dominant North Easterlies as you enter the trades around 30 north.

Then they become predominantly East-Northeast as you head for the Islands.

Although this course involves a longer distance than sailing the rhumb line, you can enjoy the benefit of the California Current and favorable winds while avoiding the Pacific High ... a mid-ocean resort known only for its good swimming (have someone with an assault rifle watching for sharks) and slatting sails!

In contrast, the rhumb Line course, 220 Magnetic, shows determined “heading” South-Southwesterly winds beginning around 43 North which become fickle and progressively lighter as you go south. On entering the trades (we found them at 33 N) the wind strengthens and settles into the East-Northeast pattern with gradual strengthening as you close on Maui.

For reasons that escape me, we chose the rhumb line and suffered the vagaries of the clocking winds, the desperation of the calms and the serious worry of missing the fleet celebration party at the old prison. It seems the doctor’s medicine was well prescribed then and doubtless stands thirty two years later, notwithstanding corrections for “Climate Change”.

A CT-54 was not designed for ocean racing and although she was comfortable and well sailed her abilities were further crippled by the loss of her two Spinnakers whose halyards both parted at a defective masthead sheave during the race. Despite an aggressive start (we were almost fouled out by leeward boats, luffing us hard) we languished in the light airs off Cape Flattery for four days while most of the fleet escaped and sailed south over the horizon. By late afternoon on July 5th the wind filled in with a bang and our spirits climbed with every gust. However, it turned into a troublesome week of heavy weather necessitating the roping off of the cabin to enable the crew to move about safely below. Seasickness became a critical problem for some of the crew and retiring from the race or removing one crew member to prevent dangerous dehydration was creeping into our thoughts.

My daily routine as the navigator-radio operator varied little. Early each morning, after washing any dishes and making the coffee, I would start gathering the

information necessary to work up our current “dead reckoning” (DR) position in preparation for the first sight of the day called a Prime Vertical. This provided a fix of our longitude using the sun and an updated Line of Position from which I could massage our DR plot for the all important noon sight.

On many days the weather didn’t cooperate and I was unable to get any sights. In these circumstances, which were more frequent at the higher latitudes, you would continue to run your DR plot until the weather improved.

Almost always, our DR would prove to have been more optimistic than the actual results exposed by subsequent fix. In mid-ocean it was not troubling to miss a day’s sights due to unfavorable weather. But it was always comforting to have a good idea of your position in the event of trouble necessitating a call for help. Rescuers need to know where to find you and a recent fix could be invaluable.

Next, I would check WWVH for the current North Pacific storm warnings which gave us a heads-up on any heavy weather heading our way. Arrangements were made with the US Weather Bureau to broadcast specific weather information along the race course which proved very helpful. Later in the voyage WWVH started reporting on two tropical storms that developed off the coast of Mexico, one of which became hurricane Diana and tracked toward Hawaii. We continued to plot her movement and it started to look as though she might be planning a Hawaiian vacation in unison with our ETA. Luckily for us, she was downgraded to a tropical storm and continued to lose steam but it was quite sobering to realize that hurricanes do visit Maui at that time of year.

WWVH’s time signal and the sextant are the essential tools for capturing a “Meridian Passage”, the main navigational event of the day performed at noon local time. By knowing the exact time the sun crosses your local meridian, along with its altitude, you’re dealt the Royal Flush of celestial navigation ... an accurate latitude and longitude fix. I used Starduster’s elegant Japanese made sextant while a shipmate backed me up with my old plastic Ebbco. Significantly, there was rarely any major difference in our selected altitudes.

To reduce the sights I preferred the Marine Navigation Tables 229 together with the Nautical Almanac and simplified worksheets I created to minimize the

possibility of error. Many navigators used the “Air Tables” HO 249 which were designed for aircraft navigators and simpler to use, although less accurate. Today’s navigator would just turn on his Garmin hand-held GPS and instantly read off his Lat/Long in any weather with enviable accuracy ... the coward!

For the uninitiated, many of the terms and calculations used in celestial navigation would be pure “Greek”. GHA or Greenwich Hour Angle, SHA or Sidereal Hour Angle, LHA or Local Hour Angle et cetera plus such confounding definitions as “Second Difference – the difference between successive first differences” foretell of a language and logic heard only in a Harry Potter movie. Once you have captured the sight angle, the reduction arithmetic is laborious but simple ... mistakes however, are easy to make as I mention later in this tale.

After determining our position from the Meridian Passage fix, I would plot it on a plotting chart and start a new DR course from that geographical point. Lastly I would post the new compass course for the crew to steer for the next 24 hours.



COMMUNICATIONS VESSEL “VAYA”

Now we were ready for the daily roll call. Vaya’s radio roll call at 1600 PDT was a definite highlight enjoyed by all crew members who gathered at the navigator’s station to listen to the latest race news ... and gossip! Before the actual check-in started, we were treated to a good half hour of free-for-all banter between the fleet’s radio operators. No taboos seem to prevail and the conversations covered the spectrum from soggy sandwiches to hilarious insults inspired by relative race positions.

Occasionally, we were favored with full detail of parties being planned on arrival, including who was responsible for arranging the girls that would attend. Vaya conducted the roll call in a crisp manner. Only the vessels name, latitude, longitude, brief

weather report, barometer and call sign were permitted. After the check in was completed we would plot the other boats locations and determine our race position ... quite respectable until the loss of the last spinnaker.

Always entertaining was the response from the Fuji 35 "Impossible" which began with a cultivated and emphatic declaration "This ... is Impossible" and then went on to relay its vital statistics which invariably placed them at the back of the fleet. I suspect they were enjoying themselves: their position last, notwithstanding.

My only official Deck Watch was between 16:00 – 18:00 hours during which time the crew was treated to a superb dining experience usually with a glass of wine at surely the best restaurant in the fleet. Other spirits were rationed to two beers each per day and I drank both down with a crew member coming off watch at 05:00. We enjoyed this repast and called it our "two brown-egg breakfast".

For sheer terror nothing beat the skipper shaking me awake in the middle of the night to help identify the course of a large ship that had come into view. Accepting that one's vision off a small vessel was less than 10 miles and that seagoing ships are usually making 25 knots it's not difficult to appreciate that the closing time between us could be very short. Additionally, the odds would favor her being on auto pilot and the bridge watch wouldn't likely have their noses pressed against the glass looking for anyone else out there this far from land, even if they were awake. In fact, things could be going wrong in a hurry and we had the discomfort of knowing our vessel was too slow to move out danger if we were about to be run down.

Believe it; a large ship with lots of glowing lights doesn't lend itself to quick or easy course determination from a pitching deck. But "bearings" will reveal her secrets! Among the many furnishings strapped to me for this voyage was a Morin hand held compass with night visibility. I'd start taking bearings on the ship hoping for a gradual change which meant she was moving safely by us. If they held steady, we were on a collision course ... with decisions to make and soon. Mostly, the issue was quickly resolved but on one occasion the bearing stayed constant for too long. I left my hand-held with a mate to keep checking while I

went below to try and raise the intruder on the VHF. Silence and mounting concern were all I raised. Just as I was about to sound “panic stations” my mate hollered down to me “her bearings have changed; go back to bed now”. On other occasions I was able to raise the vessels on VHF and enjoy interesting chats with their radio operators ... a confirmation that VHF is monitored by some traffic.

Often tense for the navigator was the posting of poor “miles-made-good” reports for the past 24 hours. These caused crew mood swings that were often quite astonishing. A memorable downer occurred in mid ocean when I made a conversion error working with decimals (changes at 100) and degrees (changes at 60) during a sight reduction. The resulting error suggested a sensational run the first day and a very poor run the next. Needless to say jubilation reigned on the first while the mood of the crew on the second day, the Day of Atonement lowered to a virtual remake of that scene in The Caine Mutiny movie involving the stolen strawberries.

That I might face the plank seemed certain. Two of the crew members who were CA’s went through my reductions with the same determination you could expect from Revenue Canada auditors. They found my error but it changed only the daily runs on those two days leaving the total distance made good over the 48 hours the same. Navigators beware: prudence suggests posting only encouraging phrases such as “we’re getting there” when the news is bleak!

Little things become quite meaningful when you’re at sea and our evening rendezvous with our families on the Ham radio was a huge hit. In the early part of the race we were too close to get good reception so I had to find and chain together Hams in relay to make it work. One night I made contact with a ham in Georgia, and he with a Langley, BC ham who phoned our families and passed on the messages as we spoke. Farther off shore we used a scheduled “net” with two blind ham friends of mine, Gerry and Ralph in Vancouver who were able to “patch” us directly into the telephone system so we could speak as though we were on our own phone. I lost touch with them over the years but I will never forget them and their expertise. God bless them wherever they are now. This would go on until we had either talked to everyone we knew or the radio band collapsed, as it did regularly for atmospheric reasons.

Even though we were well out of sight of land it never seemed like it. The horizon clouds were easily transformed into an imaginary distant land or mountain range. Our first visual indication of nearing land was the appearance of the sea birds ... one of whom attacked the lure on our trolled fishing line and got hooked. We quickly cut the line and hoped for its best. The other flew into our mainsail and broke his wing ... they were seagoing tragedies and most depressing for us.

Some boats reported catching tuna and even Mahi Mahi. However, nothing compared to the tasty Flying Fish, sliding off the mainsail and into our buttered frying pan, cooked and served at 03:00 hours while we horsed down the waves in the warmth of the trade winds ... the stars never more brilliant in the blackness of an ocean night mirrored by the phosphorescent glow of our wake.

As we began to close Hawaii, the business of navigation became more focused and I concentrated on our approach plan. A crude radio direction finder was aboard and we kept firing it up in the hope of getting a rough fix on an AM station on Maui. Finally, a faint AM signal graduated into a booming rendition of the days current hit "Afternoon Delight" as we manipulated its RDF antenna. The crew danced on the deck ... it was a Kahului station and appeared to be south east of us ... just where we wanted it to be. We were finally nearing paradise.

Our noon fix that day, July 22nd, showed us 162 miles from Maui. From then on my sights were taken at every opportunity. Even on a sunny day the sun could disappear behind a cloud in the critical moments of a meridian passage and the opportunity for that fix would be lost for another 24 hours. By this time our knot log had packed it up and miles travelled were at the estimate of the helmsman.

As we got closer to Maui, the loom of the Pauwela Point light (15 miles range) was an important sighting on the tick-off list. If we saw the light itself, we would have been too far upwind for the correct approach to Pailolo channel. It was the loom that was important. Our bowsprit watch reported the loom's sighting on time and in the right position suggesting that our line was reliable to go in on.

As we made our approach to the channel, the weather turned grim for navigation.

It was a dark, squally night with very limited visibility and we desperately needed to confirm the Nakalele Point light on the Maui side of the channel in order to be assured a safe entry. Without Nakalele (not a long range light) it would have been risky to continue on, leaving open the unpleasant alternative of tacking downwind along the coast of Molokai ... a desperate measure that became the fate of some boats in the race. All available crew were on the bowsprit searching through the night's shrouded blackness for this vital navigational light.

For me, it was the moment of truth. It had to be there and I was confident ... well, fairly confident! We were committed and I could only look on with masked trepidation, appear self-assured and silently pray for Nakalele to jump out of the darkness at us. It was 20:30 hours when one of the crew yelled back "Nakalele Pt. light ahead to port". I went forward to confirm it was Nakalele and was surprised how close in we were before she became clearly visible and identifiable. She was almost a holy vision and I will never forget that memorable moment ... we had safely crossed an ocean using the navigational tools of our ancestors to find our way. It had been the voyage of a lifetime and I was both relieved and proud to have been a part of it. We had been at sea for twenty one days.

The channel light on Molokai was sighted at 21:00 and Starduster crossed the finish line at 01:45 on July 24th. A Lahaina Yacht Club committee boat escorted us into our berth at the port of Lahaina. After making fast we went ashore to enjoy the personal welcoming party given every arriving boat by the very pretty girls in Hawaiian dress, offered Leis, cigarettes, candy and Mai Tai by gallons! It was a delightful and memorable welcome to Maui generously delivered at 2:00 AM.ⁱ

The fleet party was held in the old Maui prison that evening and we were there, happy to have our feet planted on terra firma, a drink in both hands and our spirits soaring. It seemed that we might be sharing much the same feelings as Captain Vancouver's crew did on their return to Lahaina in 1793 to over winter after surveying the BC coast and searching for the Northwest Passage.

“STARDUSTER” – Sail No. 39271 – CT 54 – Ketch, LOA: 54’
IOR Rating 39.4 PHRF Rating 2.8 Royal Vancouver Yacht Club,
Owner/Skipper: William Francis, Crew: (final) K. Park, W.G. Francis,
R.W. Miller, I. Rigg, C. Fleming, N.I. Francis, T.L. Francis, G.W. Francis,
D.E. Francis.



¹ STARDUSTER crossed the finish line in 29th position out of a starting fleet of 32. Still at sea were 3 yachts.