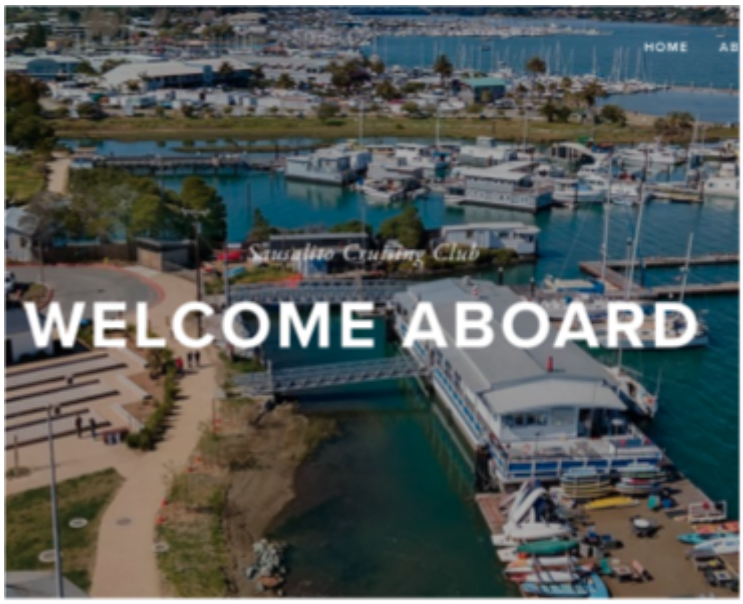
SAF Station Meeting Minutes for 13 September 2023

By Chuck Hawley, Secretary

The September 13 meeting of the San Francisco Station of the Cruising Club of America was held at the Sausalito Cruising Club, which is a real find if you want a comfortable place to have a drink, with a gorgeous view of the boat traffic in Richardson Bay. Hosted by Commodore Tim Rogers, the club was incredibly welcoming of the station members, reminding many of what yacht clubs used to be (and some still are): honest, unpretentious dens of like-minded sailors who enjoy each other's company and appreciate drinks that cost less than an El Toro. Lunch was prepared by Markana Jordan of Marin Hospitality, which was delicious. Our thanks to the Sausalito Cruising Club, which is bound to be on the Annual List of Preferred Yacht Clubs in the future.



The Sausalito Cruising Club is nestled among houseboats, famous restaurants, boat yards, and is a stone's throw from the Bay Model.

Incidentally, the club is open from Thursday to Monday, with happy hour on Thursday and Friday. Meals are served every evening, and there is live music on the weekend, and Blues on Monday. The club is supporting relief efforts in Lahaina in cooperation with the Lahaina Yacht Club, and you can help, too, by clicking this link:

THOSE IN ATTENDANCE:

Diane Barker, Clark Beek, Mary Crowley and guest Michael Bailey, Peter English, Doug Finley, Chuck and Susan Hawley and guest Don Conant, Wyman and Joy Harris, Bob Hanelt, Bob Horton, Stafford Keegin, Joan McCune, Michael Moradzadeh and Noelle Leca, Bruce Munro, Alan and Angie Olson, Christopher Parkman, Michael and Susan Proudfoot, Robby and Dolores Robinson, Richard Schaper, and Anders Swahn.

Note: The Secretary apologizes for the poor quality of the photographs appearing this month, but as our Station Photographer was (again) not present, and the Secretary did not have the presence of mind to take pictures at opportune moments, this month's photographs are decidedly not up to normal standards.

REAR COMMODORE'S REPORT

R/C Schaper began the meeting with a moment of silence for our member, Lynne Munro, who recently crossed over the bar. Always cheerful and a wonderful partner to Bruce for decades, Lynne will be missed by San Francisco Station members.

Richard gave an abbreviated membership report with the good news that both Norman Davant and Randy Repass had become members of the Cruising Club and San Francisco Station after approval from the national membership committee.

ENVIRONMENT OF THE SEA REPORT

Mary Crowley, recently back from Limerick Ireland, where she was the keynote speaker at the Oceans 2023 conference, gave us an update on yet another threat to the health of our oceans. She described the debate that is currently happening over the mining of the world's seabeds, which if allowed, could destroy underwater habitats. The decision whether to allow seabed mining was delayed for a year, but countries are already mining their own offshore areas, including Norway, and Mary warned that once the mining begins on an International level, it may be difficult to contain it regardless of the damage that it causes. Mary recommended the film Deep Rising for those who want to know more about the potential damage that could be caused.

In addition to giving us an update on the conference, Mary also brought Michael Bailey as her guest, who has a lengthy history of marine environmental activism, having been the skipper of a number of Greenpeace vessels over many years, starting at the tender age of 20. He was a fascinating seaman, reminding several of us of Lachy, the skipper of the plastic-hauling vessel that Ocean Voyages supports. Facing off against whaling ships around the world, Michael is a true hero and the world's oceans benefit from his actions.

SAFETY MOMENT

The club Secretary gave a really fascinating presentation about the dangers of spontaneous combustion, a baffling, misunderstood phenomenon common to the use of natural oils (either vegetable-based or possibly animal-based) in boat maintenance. When rags are soaked with oils like linseed oil, they can generate heat in the presence of oxygen, and can reach a temperature that causes combustion. Numerous mysterious fires have been traced to soaked rags that were improperly stored. For those who want more information, Wikipedia has a good article on the chemistry behind Spontaneous Combustion.

A copy of that Safety Moment, and a BONUS Safety Moment on Autopilots, is attached to this month's minutes.

REPORT FROM SUMMER CRUISERS

Alan Olson gave us a wonderful update on his success with his youth training program on *Seaward* and *Matthew Turner*. With something like 4,500 students this summer, he and his training crews have given kids a taste of what it's like to go aloft, steer, reef, and take care of a 100 foot sailing ship. The team has also generated $145,000 in scholarships so that no sailor is left behind. 55 schools around the Bay Area are participating.

But it's not just school kids; this is a program for "kids of all ages".

Alan also gave us some details about *Matthew Turner's* energy efficient propulsion and generating system. Using a combination of diesel engines (2x300hp, electric motors (2x165hp), massive batteries, and propellers that can spin the generators as well, *Matthew Turner* makes much greater use of her fossil fuels than a conventional ship. By running the engines at their peak efficiency, and using the batteries to smooth the power generation and demand, she saves

as much as 40% on fuel, and generates up to 8kw of power when sailing at 8 knots. Plus, she was built from donated wood from a FSC forest, under the auspices of the Forest Stewardship Council. This means that the impact of the logging is taken into account to maximize the lifetime benefit of the land.

Several members gave us a rundown on what they had been up to over the summer, or in **Anders Swahn's** case, what he had been up to for the last four years. **Mark D'Arcy** started off the conversation describing his race on *Inisharon*, a Sequin 51, which he sailed in the Marion Bermuda Race, although in uncharacteristically light winds. This led to a discussion of remote sensing of the currents in the Gulf Stream, which Mark described as follows:

> Mark shared a little bit on the Gulf Stream and lessons learned in identifying where the stream and eddies are from previous races. They were successful in relying on the Altimeter-derived velocities rather than some of the other models like RTOFS, HYCOM, Mercator to identify the features of the gulf stream for navigation. Mark shared for fun he plotted Stan & Sally's YB course in the Newport Bermuda 2022 and overlayed historical altimeter-derived velocities, not a surprise, their course was largely spot on according to the data, or rather should we say the data is largely spot on according to their course.

Mark also sailed in the Fastnet Race on *Hiro Maru*, an S&S 49, owned by CCA and NYYC member Hiro Nakajima. The start was incredibly rough, (either "spicy" or "sporty" according to the English) causing a large number of vessels to retire or to anchor after the initial 12 hours of the race.

Michael Moradzadeh was next, describing his 16th Transpacific crossing on *Oaxaca*, his Santa Cruz 52, in this year's Transpac Race. Leaving nothing to chance, he selected CCA member **John Jourdane** to be his navigator, who may hold the record for most Pacific crossings under sail with 63rd trip to and from Hawaii. The trip was generally uneventful, however it did not result in a podium finish. John decided he'd had enough of Waikiki after a few days, and delivered *Oaxaca* back to the Bay Area, completing his 65th crossing.

Stafford Keegin again plied the waters of Maine in his lovely yawl, but this time raised the bar by including a Rhodes Scholar on the crew. Our R/C, Richard Schaper, was the scholar in question.

Wolfhound, John Alden's Design 347, displaces a mere 187 metric tons.

Anders Swahn, who normally lives in Germany, visited his home station for the first time in four years and gave us a description of some of the voyaging he's been doing on *Wolfhound*, his 121' LOD Alden Schooner. Many of us feel that we know Anders, even without having met him, since he's kept us informed about the building of *Wolfhound* and some of her voyages through the Gam and other CCA communications. Anders touched briefly on his shakedown cruise of 11,000nm from Germany to the Caribbean, and some voyages necessitated the tax laws of various countries.

There's so much more about *Wolfhound* and her adventures, which means that we need to have Anders venture back to the Bay Area to tell us more of her voyages. Taking the Kiel Canal, with a pilot on board, would be a good place to take up the story. Sailing a nearly 200 ton "yacht" with a crew of four would be interesting. Shoot, polishing the brass would be fascinating on a vessel as majestic as *Wolfhound*.

Respectfully submitted,

Chuck Hawley

Spontaneous Combustion

"Safety Moments, presented at CCA Stations and Posts"

By Chuck Hawley, San Francisco Station, August 2023

The story in MarineLog on this year's Summer Solstice seemed both familiar and odd at the same time. A yacht valued at $1,500,000 burned to the waterline, and later sank, while undergoing some routine maintenance at a marina in Washington state. Closed circuit cameras showed that around 2:00 am, the fire started in the cockpit, and then grew slowly over an hour or so before the boat someone noticed it and called the fire department. By then, the yacht was engulfed in flames. Unfortunately, no one was looking at the camera feed until it was too late. Luckily, there were no injuries associated with the fire.

A report released by the NTSB pointed to "oily rags" as being the source of ignition. The workers on the boat had been applying a vegetable oil to the external wood on the day prior to the fire. The oil was linseed oil, used for ages to waterproof and protect exposed wood. Made from the ripened seeds of the flax plant, it's been a common marine wood preservative along with tung and other natural oils.

So what would make linseed oil a potential source of ignition on a boat? Getting linseed oil to burn requires three ingredients: the oil itself or one of many organic vegetable or animal oils (not petroleum oils, paradoxically), insulation like an application rag, and oxygen. Heat is generated when a double (or triple) atomic bond in the oil is broken which releases a small amount of energy, and thus the heat. The insulation causes the heat to be confined and not dissipate to the environment. Over time, the oily rags increase in temperature, until they reach the ignition point for the particular oil, and a fire starts.

Petroleum oils are considered "saturated" and have single bonds. The single bonds are not

subject to breaking and releasing heat, although they are obviously sources of energy (fuel) when heated from an outside source to their ignition point. The chemistry of the natural oils allows them to generate their own heat from the oxidation due to their “unsaturated” double and triple bonds.

Many other oils other than linseed oil have this property, including castor oil, cottonseed oil, fish oil, olive oil, peanut oil and soybean oil, but those are less likely to be used in boat maintenance, and are therefore not the focus of marine fires.

Incidentally, you can also have spontaneous combustion from biological processes, like those that occur when compost catches fire. Anyone who has worked on a ranch or farm has seen steam swirling up from piles of compost or manure in the morning which can also generate enough heat to cause a fire. Boat owners are not likely to have sufficient compost onboard to be in danger from this source of fire.

Sources:

www.marinelog.com/news/oily-rag-fire-totaled-1-5-million-yacht/
https://www.firehouse.com/rescue/article/10528863/the-phenomenon-of-spontaneous-combustion
en.wikipedia.com/wiki/linseed_oil

The Cruising Club of America is a collection of accomplished ocean sailors having extensive boat handling, seamanship, and command experience honed over many years. “Safety Moments” are written by the Club’s Safety Officers from CCA Stations across North America and Bermuda, as well as CCA members at large. They are published by the CCA Safety and Seamanship Committee and are intended to advance seamanship and safety by highlighting new technologies, suggestions for safe operation and reports of maritime disasters around the world.

The Errant Autopilot

"From the CCA School of Hard Rocks

...lessons learned in pursuit of the Art of Seamanship"

By Chuck Hawley, San Francisco Station, August 1, 2023

I sailed in the second annual Singlehanded Transpac in 1980 aboard my Moore 24, *Slim*, a sleek ultralight sloop built in Santa Cruz, that weighed about 2050 pounds and had barely sitting headroom when I went below. Moore 24s were known to be highly seaworthy, having been proven in numerous races down the windy California coast, and at least one had been double-handed to Hawaii from California. In the 1980 race, three Moores, all bright yellow, were competing in the 2070 nm race.

The Moore 24, considered one of the best of the boats built in Santa Cruz.

I purchased a newly-introduced Autohelm 2000 tiller autopilot for the race which was dramatically different from autopilots that had been on the market. The drive unit looked like a sleek hydraulic cylinder, about 1 ¼ inches in diameter, which was connected to a compass and electronics cylinder about the size of a large jar of mayonnaise. The entire package was able to steer a boat in the 35' range, and only consumed about half an amp.

The race got off to a brisk start, and soon I was broad-reaching along the California coast, angling offshore towards my eventual landfall on the north shore of Kauai: Hanalei Bay, one of the most picturesque places in the world. As the summer sky grew darker on that first night, I began to have a slight feeling of dread, alone on a very large and increasingly rough ocean, with my trusty *Slim* getting tossed around by the Pacific swells, and a touch of seasickness becoming more apparent.

Around midnight, I tried to get some fresh air by standing up in the companionway, listening to the steady purr of the autopilot as Slim surfed down the swells. This required a lot of rudder movement due to the following seas, but the trusty autopilot kept sawing back and forth,

The original version of the Autohelm 2000 autopilot. Note the small actuator and the separate compass/electronics.

largely keeping me on course. A few minutes later, however, the familiar sound stopped, and the swing of the rudder and tiller came to a halt with perhaps 10 degrees of port rudder locked in. Before I could get to the tiller and lift the tiller pilot off its pin, the boat flew through an uncontrolled gybe which caused the mainsheet traveler car to bang into its stop on the starboard side that it failed to, uh, stop it as it continued off the end of the track, flinging its ball bearing wheels into the black water. The jib went aback, and pinned the boat in an unplanned hove-to maneuver, and the boat became suddenly quiet, especially the now nonfunctional autopilot.

My father, Mel, had insisted that I take his tiller pilot with me as a backup, but as children of wiser men tend to be, I was against the very idea of taking an archaic Tillermaster with me since I had a brand new Autohelm. But, desperate times call for desperate measures, so I turned on my small interior light and started to root around in my damp cabin, looking for the Tillermaster. I found it at some point, and crawled on deck to replace the sleek Autohelm with what appeared to be a farmer's concept of what an autopilot should look like.

Example of a Tillermaster installation. Note that gravity is largely responsible for holding the autopilot in place. Mark Corke photo.

For 30 minutes, I scrambled around in the cockpit, removing the inoperative pilot and installing the Tillermaster. The entire time, I continued to be hove-to as I had no other option. Finally I plugged in the 12V cord to the Tillermaster, and it came to life around 0100 and began to bring the boat back on course as I trimmed the sails for Hawaii.

The next morning I took apart the Autohelm 2000 electronics assembly. It had a large compass knob on the top, and identical upper and lower halves that were held together by a couple of threaded fasteners. I removed the fasteners and poured out about half a cup of saltwater from the enclosure. How that much water was able to get past the seals and gaskets I would never figure out. What I could figure out, though, was that it was beyond repair less than 24 hours after the start of the race.

(Fast forward four days.)

Due to the dearth of weather information available to me, I awoke on the fifth day of the race in the calmest sea imaginable. Slim was absolutely motionless, with her sails hanging limply from their halyards. I retrieved a small can of pineapple juice from the rapidly warming freezer, and dropped its pull tab into 12,000 feet of indigo water. Looking over the side of Slim, I watched the shiny aluminum tab spin and spin as it descended down in the inky depths. After about two minutes, and while still able to see the tab continue to spin beneath the boat, I surmised that my boatspeed was, in fact, zero.

Off in the distance, however, I saw a tiny white triangle perched on the horizon about a mile away. I had apparently caught up with one of my competitors who was also stuck in the oceanic goo called the Pacific High. I went below and attempted to raise the vessel on my VHF. Amy Boyer, captain of the smallest boat in the fleet, responded. Her Wilderness 21, also built in Santa Cruz, was ahead of me, but I was sure I could overtake her due to my impressive sailing skills, or sculling skills, if need be.

As luck would have it, I caught a little zephyr and began to overtake her at about half a knot. Eventually, I pulled alongside her and chatted, as one does, when 700 miles from the nearest land. She reported that it was her birthday, and she was now 21 years old. This seemed to be the thing that Letters to Latitude 38 are made from, so I casually made my way to the leeward side of the cockpit so I could chat with her.

That was my undoing. As I passed under the tiller, I flipped the Tillermaster up in the air, whereupon it landed in the Pacific, trailing by its power cord. The power cord had a small polarized plug inline, much like you would have on a trailer for lighting. Seeing my first-to-finish race results fading rapidly, I leaned back to try to snag the autopilot before it pulled free, but the drag of the device in the water became greater than the friction of the electrical plug, and the Tillermaster pulled free and floated astern. In fact, it floated long enough to end up alongside Amy's boat, whereupon she plucked it out of the water. Seawater poured out of the completely not waterproof enclosure.

After about a minute, she sailed up to my leeward side and handed the drenched autopilot back to me. All thoughts of celebrating Amy's birthday, mid-Pacific, were replaced by the

immediate issue of fixing the Tillermaster so that I would not have to hand steer for the next 1500 miles.

Slow-blow MDL fuse by Blue Sea Systems.

I started by removing the screws that held the case together. Using paper towels, I blotted and dabbed at all of the seawater that I could find clinging to the motor, circuit board, and other electrical components. I gave this effort about a 10% chance of working, since nothing inside the enclosure showed the slightest signs of being waterproof. Satisfied that I had done the minimum, I reassembled the autopilot and inserted one of my five spare fuses that I had brought along "just in case". The fuses were the old glass automotive style, and I recall that they were 1.5 amp slow-blow so it was a tribute to the efficiency of the device that they were that sensitive, and a challenge to find all of the saltwater paths to ground that lurked inside. When I applied power to the pilot, it started happily running the actuator arm in and out for about two seconds, whereupon the fuse did what fuses are intended to do: it blew.

Apart came the pilot for the second time, this time with the addition of fresh water to flood all of the electrical components and rid them of any remaining salt. More paper towels, further disassembly, then reassembly, then the application of electricity. I think it ran for perhaps five seconds this time, then the new fuse blew. I continued with this process of taking the device apart doing what I could to flush the salt out, reassembling, and blowing fuses until I was on my last fuse. Well, not actually, as I had determined that I would wrap a fuse with aluminum foil if need be as my crowbar solution to the wimpy fuses.

The last fuse proved to be the one that worked, or at least I had "fixed" the Tillermaster sufficiently after several hours of trying it didn't blow. By then, it was the afternoon, and Amy was no longer in sight. I broke out my ½ oz. spinnaker, and took advantage of the very breeze that blew towards Kauai. My daily run on that day was 29 miles, and according to the pilot chart, there was a ¾ knot current on my stern, so I actually sailed 11 miles and drifted 18. It was going to be a long trip to Kauai at that rate.

I did eventually cross the finish line in Hanalei after 18 days at sea, finishing 9th out of the 40 boats entered, and was the third of three Moore 24s to arrive. My father never let me speak negatively about Tillermasters again, and was quick to remind me of the benefits of redundancy.

Lessons learned:

1. Try new gear extensively before a voyage where you could be dependent on it.
2. Have more than one way to solve a problem. A wind vane would have been extremely helpful, for example. Even several pieces of shock cord could be pressed into service.

3. Seek the advice of others, and never roll your eyes at your father.

The Cruising Club of America is a collection of passionate, seriously accomplished, ocean sailors making adventurous use of the seas. All members have extensive offshore boat handling, seamanship, and command experience honed over many years. "School of Hard Rocks" stories, published by the CCA Safety and Seamanship Committee, are intended to advance seamanship and help skippers promote a Culture of Safety aboard their vessels.