

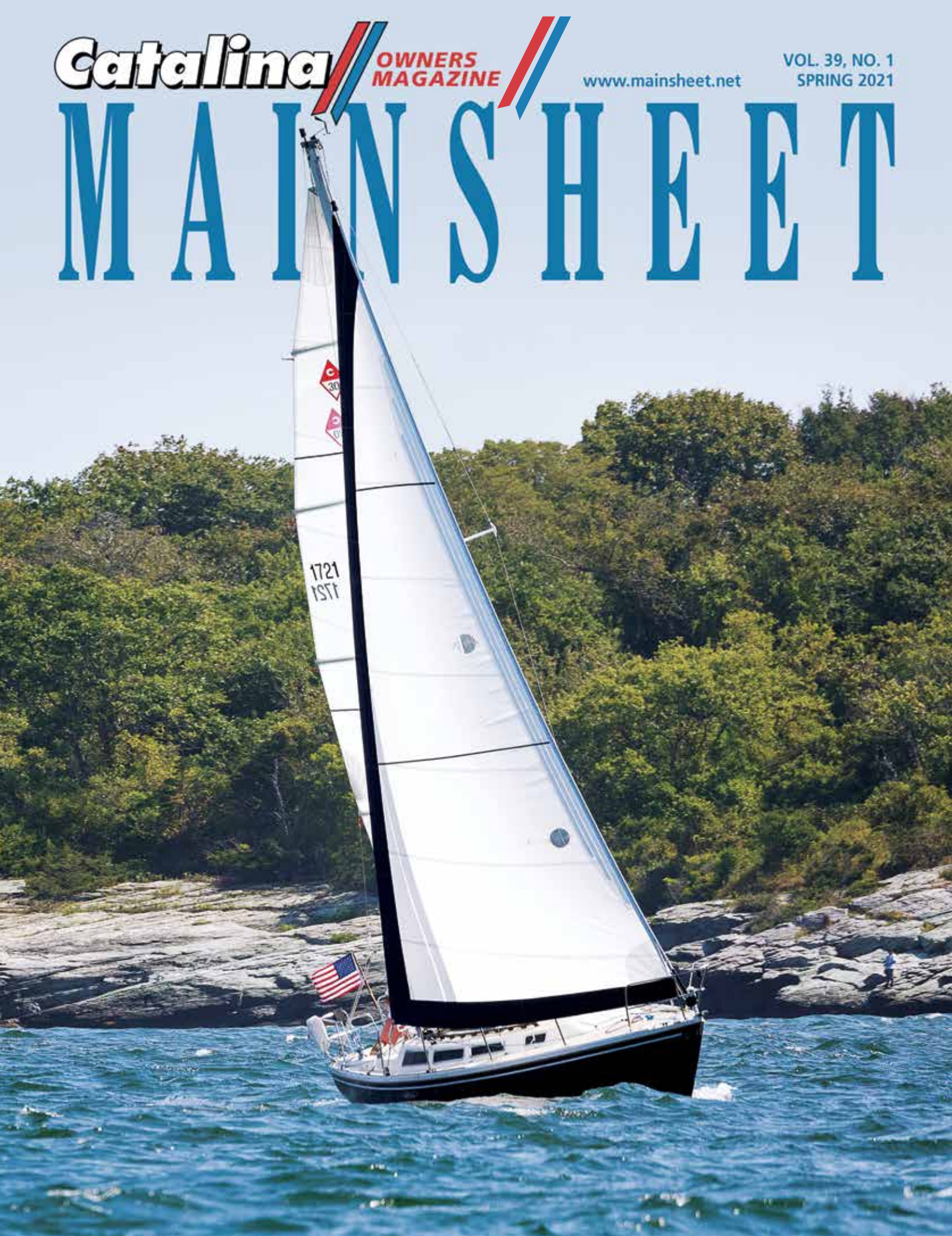
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VOL. 39, NO. 1
SPRING 2021

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In Memoriam

Born in California in 1928, Frank's line of popular sailboats put more than 85,000 Catalinas on the water throughout the yachting world. His boatbuilding career began in 1962, when he contracted with a Southern California builder for a 21' daysailer. The builder was unable to finish the boat, and gave Butler the tooling. He completed building the boat himself, found he enjoyed the process, and agreed to take over the company.

A few years later he founded Catalina Yachts, which has grown to become the largest builder of fiberglass production sailboats in the United States, a position it holds to this day.

A key to Butler's success in the sailboat industry was his attention to Catalina customers. Handling warranty issues himself, owners were nearly always surprised and reassured to get a personal call from Frank to discuss their concerns. He also greatly valued his personal relationship with the many Catalina dealers and vendors nationwide, and often attributed Catalina's success to the incredible connection he had with them.

Butler was inducted into the National Sailing Hall of Fame in 2013. In recognition of his support of the Congressional Cup, a world match racing event, Long Beach Yacht Club awarded him the *Crimson Blazer*. He was also a founder and lifelong member of the Westlake Yacht Club in Westlake, CA.

Following his graduation from Glendale High School, he served in the US Navy. He met his wife, Jean, at a school dance; they recently celebrated their 71st anniversary.

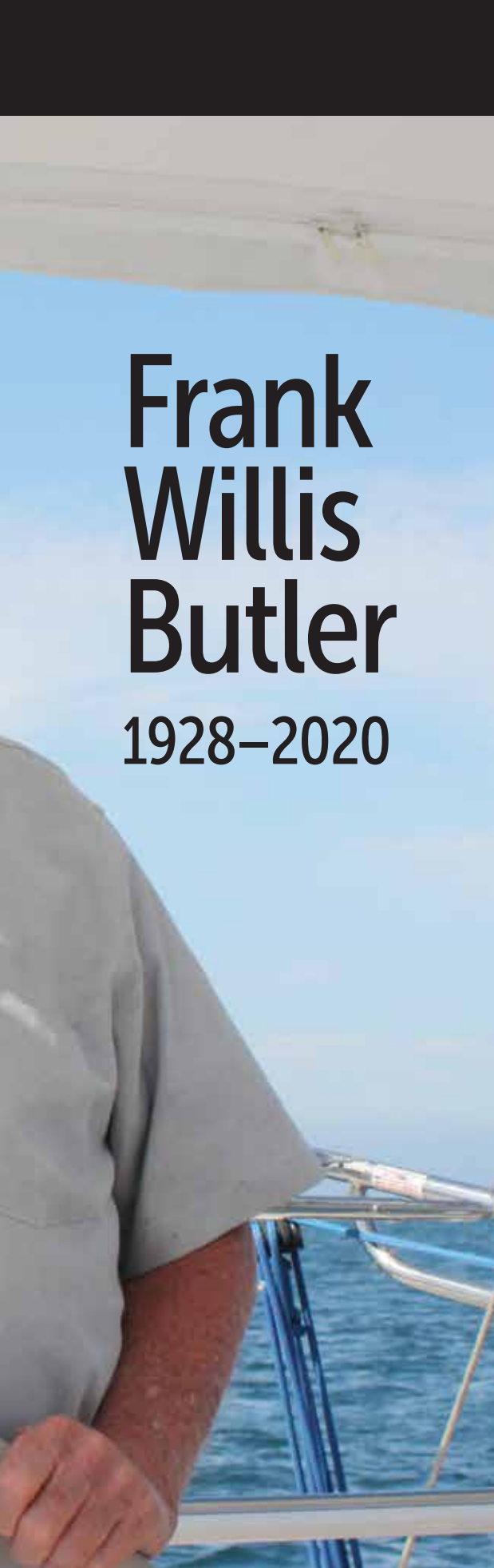
Frank is survived by Jean, their four daughters, Deborah Reese, Mary Linn, Nancy Bear, and Karen Butler; three sons, David, Robert and Steve; 20 grandchildren, 28 great-grandchildren, and four great-great-grandchildren.

Awakening the joy of sailing for so many people in past generations, Frank Butler's sailing legacy will certainly continue well into future generations. It is with great sadness that we announce that Frank Willis Butler, President and Chief Executive Officer at Catalina Yachts, passed away November 15, 2020 in Westlake Village, CA, due to unexpectedly severe complications from a recent illness. We extend our most heartfelt condolences and sympathy to Frank's family. Our thoughts are with them at this most difficult time.

A sailing icon and industry "kingspoke," Frank Butler has introduced hundreds of thousands of people to sailing during his lifetime. Those of us who have been fortunate enough to know and work with Frank have lost a dear friend and an inspiring mentor. Frank leaves behind a company that only he could have built, and his spirit will forever be the foundation of Catalina Yachts.

– *Provided by Catalina Yachts*





Frank Willis Butler

1928–2020

Memories

Jim Holder

Publisher, Catalina Mainsheet

As this issue goes to press, we are mourning the death of my friend and sailing competitor, Frank Butler. We first met as neighbors in Westlake Village, CA, a small community built around a manmade lake. By 1967 I had started a junior sailing program on the lake that Frank took great interest in supporting. Shortly after, Frank along with several neighbors, formed a yacht club which has now been named one of the major yacht clubs in Southern California. Around 1970, Frank's Catalina Yachts, was well under way to being acknowledged as one of the best and most prestigious boat builders. By this time, boat owners had formed associations and Frank wanted to further support them with a magazine that would go to Catalina owners around the world. With me at the helm, the first issue of *Catalina Mainsheet* hit the press in 1972. Frank never gave up supporting Catalina owners, and worked tirelessly to keep open personal communications. He will be missed by us all.

Skip Toller

Reprinted with permission from Westlake Yacht Club

Frank and his wife Jean Butler became members of the Westlake Yacht Club in 1972 and Frank was an Honorary Staff Commodore. Through his vision and love for boating Frank helped to start the sailing programs on Westlake with the Coronado 15, Cyclone 13 and the current Catalina 18 sailboats. This program has remained strong and will continue to be enjoyed for generations due to his involvement.

Frank started Catalina Yachts in 1969. Because of his love and tenacity for Catalina he worked well into his 90's by overseeing day to day operations and placing his fingerprints on everything surrounding Catalina Yachts.

Frank Butler was known for his generosity and witty sense of humor and made a lasting impact on the lives of people who knew, respected, and loved him. I take great comfort in knowing that Frank's legacy will live on and he will always be remembered and greatly missed.

Photo by Mary Linn

EDITORIAL:

CATALINA MAINSHEET (ISSN 1527-9073) is published quarterly by Eagle LTD. 3504 Amberley Trail, Evans, GA 30809. Periodical postage paid at Evans, GA 30809, and additional offices.

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PRODUCTION:



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Mainsheet is the official magazine of Catalina Yachts sailboat owners — read by thousands around the world.

To submit association news or tech notes for publication in *Mainsheet* magazine, contact the appropriate association officer for your boat size listed below. Your article might be selected as a main feature or an editorial column, so please consider including a few beautiful photos to accompany your text!

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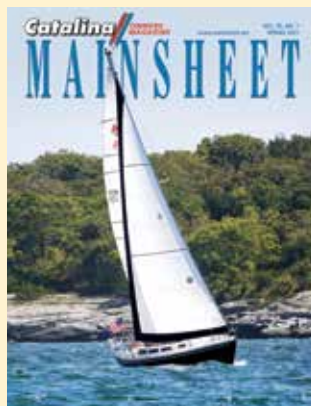
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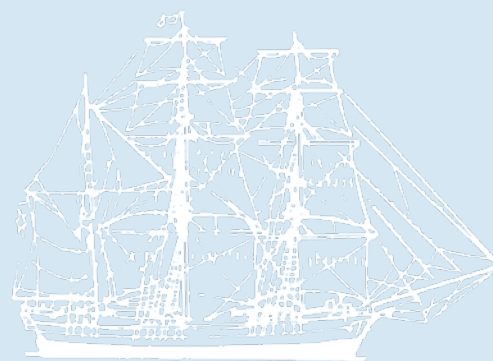
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Visit the association's websites for full lists of association officers.



EDITOR'S BARQUE

Looking Forward

Lots of good tech info in this issue to read on those long winter days and evenings sitting by the fire side. Time to make plans to attend those national regattas if you are a die-hard racer. You might even be interested in "Racing in the Desert." But if you love cruising check out the "Unexpected Trip to Cuba" or how about a trek to "Alaska." There are lots of interesting stories in this issue to start you thinking about the time when masks are not mandatory. Till then Be Safe.

-Jim Holder



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Association members enjoy a wealth of benefits to make the most of your sailboat purchase, including a subscription to *Mainsheet* magazine!

Associations are designed to enhance the enjoyment of owning a Catalina in a number of ways. They are composed of members worldwide who are all committed to Catalina sailboats and seek the camaraderie and support of like-minded individuals. Members include racers, cruisers, weekenders, hobbyists, and all manner of Catalina sailors. In areas where many Association members live near each other, Associations often help facilitate local fleets, whose local participants support one-another and encourage participation in local events and activities. Visit your boat's Association website today to learn more!

Contact your association directly to join an association or to renew your membership. If you are paying by check, make it payable to your Association.

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View From the Bridge:

What it is All About – Musings of a 310 Sailor

By Jack Manning • Anam Cara, C310 # 45

Several months ago, I promised Bob that I would finally sit down and write for *Mainsheet*. After months of brainstorming topics, making lists, and pretending to be a New York Times best-selling author writing the next blockbuster, I decided that my best bet would be to just type.

I am far from an expert on boat system maintenance and I do not have the time or patience to design modifications for Anam Cara, our Catalina 310. I depend on publications like *Mainsheet* and websites such as CatalinaOwners.com to help with the management of her. So instead of writing about how to trim your sails, which gear your transmission should be in when the laundry is out or how

to set up your DC power system, I am going to talk about something that all of us can relate to; the relationship between us and our sailboats.

When I was young, my dream was to live on a sailboat on the water, thanks to the eccentric, semi-fictional coroner, Dr. R. Quincy, M.E., I started sailing with a colleague (now a close friend) later in life and finally had the means and the support (of a good

woman) to purchase our first boat. It was a 1979 Catalina 30, affectionately named Vicky, a term of endearment for her given name, Victim of Fate. Several years later, we were forced to sell her due to multiple system failures which would have cost much more to repair and replace than she was worth financially. That's a different story. I will say that the old adage, "the two best days of owning a boat are the day

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Catalina 310, 2002



Catalina 42, 2004



Catalina 34, 2005



Catalina 34, 1987



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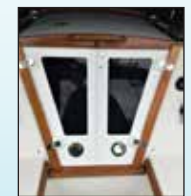
Catalina 28, 1995



Catalina 375, 2003



Catalina 400, 2010



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you buy it and the day you sell it” is a complete and utter lie.

After a horrible season without a boat, I went down to the marina and spent an afternoon aboard the M/V Mizala III with my old dock family. I could not help staring at Vicky, still floating in her slip, exactly the way she had been left. Six hours later I was cruising the web looking for the next one. By the end of the week, I had seen several boats and ended up in Bowley's Quarters, Maryland aboard a Catalina 310, hull number 0045.

I walked down that dock on that sunny July day and as she came into view it was love at first sight. The moment I sat in the cockpit, I felt like I was home. I took some pictures while checking every system and every locker and immediately sent them to the Admiral with the message, “I found her!”

It did not take long for the relationship to begin. The day we departed from her former berth, everything felt right. The wheel fit my hands perfectly. The helm seat allowed for a perfect view over the dodger. The engine purred and the large, three blade prop moved her with ease through the Chesapeake area rivers and the canal. Once those sails went up I knew that this was our new home away from home. We flew at hull-speed through the Delaware Bay, watching the sun set over the First State and then enjoying a perfect sunrise in the eastern sky of the North Atlantic.

It was during that sail I got to know Anam Cara. I got to feel her response to slight changes in sail trim and how she hated it when I changed course to avoid the fishing boat coming out of Corson's

I walked down that dock on that sunny July day and as she came into view it was love at first sight. The moment I sat in the cockpit, I felt like I was home. I took some pictures while checking every system and every locker and immediately sent them to the Admiral with the message, “I found her!”

Inlet, completely ignorant to the rules of the road and then how happy she was to be back on tack. I guarantee that the “skipper” of that boat is just as ignorant to his “girl” as he is to the rules or he would have never put her in that position. Whether it is just the Admiral and I, a full crew, or I'm single handing, I hear and feel what Anam Cara says as we glide over the rolling waves. She tells me when she does not want to do something that I am determined to do and when I do something wrong, she doesn't hesitate to admonish me, followed by immediate forgiveness.

Our relationships with our boats go beyond the hull and extend to the water, wind and to the people that they bring to us. The powerboater's desire to conquer Mother Nature is foreign to most of us. Instead, the sailor's desire is to accept whatever she sends our way and to adapt and live in harmony with it. Our connection with nature and with our boats is the kind of bond that the poor powerboat owner will likely never experience. I have been on many stinkpots over the years and have never seen that smile on the owner's face. I have, however, seen it on those same owners' faces as they sit in the cockpit of Anam Cara once that engine is cut and all that is heard is the wind, water

and whatever sailing music is on the playlist of the day. And I have definitely seen it in the faces of my fellow sailors as they stand at the wheel of their own boats, dancing that dance and knowing just what to do and exactly when to do it in order to achieve that rapport with Natura.

Ironically, I was sitting in our patrol room this morning and one of the guys asked me why I was not sailing on such a beautiful day, a question I ask myself routinely! He then began to tell our squad that he was amazed at how peaceful it was once the power was shut down and we were underway. He said that since he was four years old, everything he knows about boats revolves around engine noise and the odor of fuel. This man, a lifelong fisherman, sailed for the first time last summer. He has a reputation at work, as well as off-duty, for constantly talking about the job. That crystal clear day last year, all he could talk about was the ocean, retirement, and fish. Not one word was said about work. Our coworkers are stunned when I tell them about that day, and they wonder how I was able to do it. I tell them that I had nothing to do with it. It was all her!

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Change of Course:

Racing in the Desert

By Ben Towery – Bear Lake, UT, *Little Wing* – Hull #422 – Capri 25 • Photos by Sabrina Bryant

Since I am wrapping up an interesting racing season, I thought I would share a report where it all started for 2020, our road trip from Ogden, UT to Lake Pleasant, AZ last February 5th-9th.

I love travelling with my Capri 25, *Little Wing*. Three years ago we took her to Flathead Lake, MT for the Montana Cup. We had only raced the boat 2 or 3 times before going and we got our butts handed to us by the well prepared J/24's and my sailmaker's Moore 24. We did beat the other Capri 25 in the fleet but still finished 7th out of 8 boats.

With 3 years of tweaks, practice, a complete refit, new sails and rigging, a bottom job, and local race wins, we felt we were ready to travel again. We picked the Arizona Yacht Club's Birthday Regatta on Lake Pleasant because of it's mid-winter schedule and I have connections with some folks down there. There is also a decent fleet of older fiberglass racing boats that rate within a reasonable band



to the Capri 25. Lake Pleasant is about 45 mins NE of PHX Sky Harbor, near the town of Peoria. It is a man-made reservoir in an amazing piece of desert. Blue water surrounded by saguaro cactus makes for a beautiful place to sail.

The drive was long, but manageable. We planned for 2 days of driving in case of bad weather or other issues but we made it in one day...14 hrs. I tow the boat with a 2012 Toyota Tacoma Long Bed. It does just fine but has a small gas tank, so we had to stop often to fill up. We stayed at a friend's house the night of the 5th and headed to the lake the morning of the 6th.

We spent Thursday the 6th rigging and launching the boat. I had to split to get one of my crew from the airport and grab the rental RV we stayed in at the lake for the week. That night we had some beer and hot tub time.

Friday was an official practice race day set up by regatta organizers. We participated in the first race, then set out on our own for a few hours to practice then re-joined the fleet for the final practice race. No clue how we finished in the practice races. Once at the dock, we talked to our competitors and prepped the boat for the next day. That night we headed to the marina bar and grill, we ran into old friends and met new ones. We ate chicken wings and drank like we were at Key West Race Week in 1999 as twenty-somethings. Not the best idea for the next morning but we're at a regatta!

Saturday morning came early with an 8:00 AM boat call for a 9:00 AM warning signal. To say we were hungover is an understatement. Some granola and coffee got us out the RV door.

Race day came with a lot of excitement and chilly weather. Arizona was experiencing a cold snap. Our class was named PHRF-Spin We had 11 boats rating 195-96... 2 Olson 30's, Hobie 33, J/29, Olson 25, Impulse 26, J/24,



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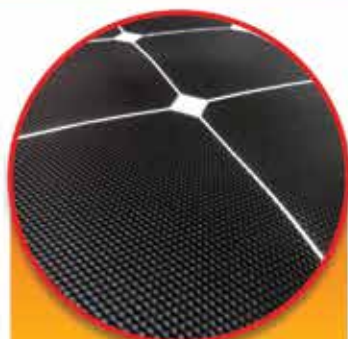
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PROVIDES POWER TO SPARE!

Santana 23D, Martin 242, Merit 22 and us. We rated even with the J/24 and Santana 23 at 174 and the Olson 25 was close at 169. The race courses were relatively short, which favored us smaller boats. The 30 footers had to work to get out in front enough to win. The course of choice for weekend was a one lap W/L, a mile or two long.

Race 1 was a blast. We came across the line 3rd and corrected for the win! Nice way to start a regatta! We nailed the start and had perfect mark roundings. I think we raised eyebrows with our Capri 25. We were faster than we've ever been.

Race 2 turned into a drifter. The Hobie 33 was the only boat to finish in the time limit. The rest of us got finishers + 1, so 2nd place for everyone. The Impulse 26 sailed the wrong course and DSQ'd.

Races 3 and 4 were in moderate breeze and we finished 2nd and 3rd respectively to end the day in 1st.

Saturday night was the regatta dinner and a fun presentation by renowned sailing photographer Onne van der Wal. We had an early bedtime and slept like logs.

Sunday morning was another chilly one with fresh breeze. We motored out to the race course, had a practice spin set and jibe and we were ready.

Race 1 was breezy and we picked the lifted tack and sailed fast. We ended up winning the race... boat for boat beating everyone over the line for the bullet! We were ecstatic! It was a definitive win. High fives and cheers all around. But we had to keep our cool, three more races to go and the regatta was ours to lose.

Race 2 turned into another drifter. We were dead last at one point. But got some breeze and passed all but 3 boats. We corrected 4th however. That ended up being our worst result and was our throw out as we got 3rd in the next race and finished the regatta by winning the final race!



We wrapped up the weekend with awards, sent two guys to the airport and me and another crew packed up the boat. We made it to Kingman that night and finished the drive on Monday the 10th, even taking a few minutes to drive Little Wing over Hoover Dam and stopped in Las Vegas.

I've been racing sailboats for 35 years. I have raced to Hawaii. I've been in several NOOD Regattas. I raced Key West Race Week. I was a regular crew in Etchells, J/105's and 50 footers. But this was hands down the best regatta I have ever sailed in. Winning was icing on the cake.



Some of the key takeaways from the regatta:

- **Boat prep is key.** We had a very competitive fleet. 7 of the 11 boats had podium finishes and 4 different boats won a race. Races were won or lost within seconds of corrected time. The biggest effort of the previous months was in the bottom job. I faired and sanded and then sanded some more. We have refined the rigging and deck layout over 3 years and perfected our maneuvers. We take very good care of our racing sails so we get good life out them. We also stripped the boat of ANYTHING not required by law or PHRF. We took probably 100 lbs. of excess junk off the boat for race days.
- **Crew work matters.** My crew for the weekend consisted of my regular guy on the bow, my sailmaker and friend of 20 years trimming, and a fellow Utah competitor in the pit calling tactics. I drove and trimmed the main. We practiced. We improved. We debriefed each race. Each crew member knew their role and if something needed to be changed, we changed it.
- **Fun has to be the #1 priority.** Yes, traveling so far made us want to do well. My goals for the regatta were to win a race, not embarrass ourselves and to have fun. We accomplished all of those things. I made sure to tell my crew the minute we stop having fun, we need to reassess. We never once had to do that. We trusted each other. We allowed each other to mess up. We laughed things off.
- **Capri 25's have plenty of potential.** Our boats are old, but that doesn't mean they have to be slow. It will take some work to get the most out of our wonderful 25's but it's possible.

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Safe Journey:

The Wisdom of Fair Weather Sailing

By CDR John Hooper, USCG (Ret), Master, *S/V Liberty*, C400, #136

How many times have you overheard whispers by your sailing colleagues at the yacht club criticizing other sailors as never having the guts to go out in bad weather: “they’re ‘fair weather sailors’, amateurs, and afraid of going out in this kind of weather!” Well, I can personally attest, having rescued many a sailor in distress, that there are many who venture out or get caught in bad weather, and find themselves in a situation they are inexperienced or their vessel incapable of handling, and require Coast Guardsmen to risk their lives to rescue.

These people who are “fair weather sailors” are actually wiser than you think for many reasons. One of my more memorable rescues was for an 85-year old man sailing by himself aboard a 28' sailboat from Newport, RI, to Bermuda. Along his lengthy trek he got caught in a storm, was dismasted, started taking on water, the entire rig down in the water and damaged beyond repair, with holes in the deck where shrouds and stays were pulled out. When we got alongside him he had been drifting for a week, out of food, down to his last quart of water, was dehydrated and suffering from heat stress. Thank goodness he was smart enough to have an EPIRB aboard that broadcast his distress to a Navy aircraft who advised us (on patrol 100 miles away) of his predicament. We found him of course, and when we brought him aboard the cutter he kissed every member of the crew!

Operating in heavy weather is NO JOKE and can be life-threatening, even for the most experienced sailors!

Some of you may remember the loss of the HMS “Bounty” off Cape Hatteras in October, 2012. It was through the grace of God, luck and brave, skilled aviators from CG Air Station Elizabeth City, NC, that only two crewmembers went down with the ship (the Master and Chief Mate). And, of course, who can forget the loss of the S/S “El Faro”, a 900-foot container ship that sank in a category five hurricane in 2018 off the Bahamas with 33 experienced mariners aboard. Who would have imagined a 900-foot ship sinking in a hurricane? And, just this week an 800-foot freighter bound for Baltimore successfully rescued a Hinckley Bermuda 40 with two people onboard, 375 miles east of Cape Hatteras that had been caught in a bad winter storm and lost their sails and engine power and were drifting in heavy seas. The stories of vessels caught in bad weather with fatalities, or lost and never heard from again, are endless.

Many a romanticist has spoken on this topic, many of whom are usually not boaters or mariners with any actual sailing experience. One such “armchair admiral” is Albert Einstein who said: “Ships are safe in harbor, but that is not what ships are made for!” Louisa May Alcott, a poet, boasted... “I am not afraid of storms for I am learning to sail my ship.”

Well, admittedly, there is some virtue and wisdom in these land-lubbers comments. It is true that ships are made to go to sea, not sit in a harbor; and it is true that the best way to advance your sailing skills is to push yourself sometimes. And, Lord knows, there are many a sailor who has singlehanded sailboats successfully across the oceans and through bad weather (Joshua Slocum in “Wave” and Sir Francis Chichester in “Gypsy Moth” being the more notable). I had the pleasure this past summer 2020 to meet a woman 93 years young who sails her 45' sailboat between Cape Cod and the Bahamas every year in the Fall and Spring, solo, and has been doing it for 35 years. Extraordinary woman! Can you imagine the sea stories she has!

So, what is the answer here, luck? No, not at all. The answer is time sailing, experience in various conditions, your physical fitness, the experience, fortitude and fitness of your crew, and the quality, material condition and seaworthiness of your boat. The USCG Academy has a motto that encapsulates the key ingredients of safety and enjoyment at sea: “Scientiae Cedit Mare”—“The Sea Yields to Knowledge”. As I have come to realize over six decades on the water-- sailing 18'-42' sailboats, and as a deck officer on large USCG cutters at sea-- this is so true, and this does not mean solely book knowledge.

Knowledge comes from books yes, such as navigation, weather, rules of the road, aids to navigation, seamanship, personal survival, maritime safety, etc. But, like driving a car, knowledge is also gained from time on the water (on the road with traffic in the city or on the open road), in various weather conditions, and on various boats/vessels (types of cars), while always being cautious and safe (driving defensively). Becoming a competent mariner, like becoming a competent driver, takes experience in various conditions. And, at all times, you need to be considerate of those in your crew/passengers. On a vessel at sea, as weather worsens, the quality and experience of your crew is critical. And unlike in a car, if you lose someone over the side in heavy weather, finding them is near impossible,

rescuing them is time sensitive due to hypothermia, and the maneuvering required could place the boat in greater danger.

When blue water sailing (ocean) or offshore, it is absolutely imperative that safety be paramount in heavy weather when people are on deck, both in the daytime and particularly at night. Anyone on deck MUST wear harnesses, wear their PFD, be aware of and anticipate the boats movement, the condition of the stress on the sails and rig, the size, direction and speed of the seas around you, other maritime traffic around you, and be alert. It is also a most sobering, physically and mentally exhausting, and frequently scary at times. And it is often in heavy weather that equipment is damaged or fails, pots/pans/equipment that is not secured become “missile hazards” in the cabin, and injuries to crew occur. Trying to enter a harbor or safe refuge in heavy weather, particularly at night, is even more scary and unpredictable and should be avoided if at all possible. Needless to say, operating in heavy weather is NO JOKE and can be life-threatening, even for the most experienced sailors!

It is during sailing in heavy weather that you are reminded of what motivated you to start sailing to begin with...at some point it was relaxing, fun, and enjoyable; not cold, wet, scared, seasick, and mentally and physically exhausting. Hmmm, makes you wonder how nice it actually is to be a “fair weather sailor” and question how much experience in heavy weather these other “sand peeps” and “armchair admirals” have!

So, if you really want to learn how to become proficient at handling the boat in heavy weather should the need arise when out there, or you want to challenge yourself, build your sailing skills, your stamina, your boat and crew, do it in incrementally worsening weather. And make sure your crew is equally excited about learning how to sail in heavy weather, and careful (“sea-wise”), your boat is seaworthy and in good condition. First, read up on heavy weather sailing; there are many excellent books out there on heavy weather sailing written by people who have experienced it and survived it. Second, check your boat and the mast, boom, sails/reefing points, stays and shrouds, and lifelines for its material condition, safety equipment (PFD's, man overboard collars, bilge pumps, VHF radio, first aid kits, heavy weather harnesses, etc) . Then carefully select your crew for their experience, maturity, physical condition and stamina, their training, experience, and safety mindedness and acumen. Then, make sure everything down below or that could become a “missile hazard” is completely secured or removed from the boat entirely. Okay, you're ready!

Next, is the safety brief and the sailing plan, expected weather and sea state, and precautions to the crew. Go over the plan if there is a man-overboard. Address any concerns from the crew; make sure all personnel are wearing their safety gear. Double check everything is secure down below and all safety equipment is ready on deck if needed. Then let someone ashore or family know when your leaving, where you're going to operate and when you're expected back in (a “Float plan” is a superb idea when going out at any time but very important in heavy weather). You're ready, it's time.

Then, head out in progressively worsening conditions: start slow-- with 20kts of wind, and four feet seas, and

gain experience in that. Do that several times. Then go out in 25-30 kts of wind, and six to eight foot seas and gain experience working as a Team in these conditions. Pay attention to the how the boat moves and handles the seas, the tension and stress on the rigging and sails, how the boat steers and the rudder reacts, how the Team is working together and remaining safe, any anxieties and concerns they may have. How easy/hard the reefing process is and how the boat handles with the sails reefed. Do this several times. Then go to the next step: 35-40 kts of wind and fifteen to twenty foot seas. Each of these progressive steps are increasingly dangerous for the boat and the crew, so be alert to that. It is imperative that you pay attention to the equipment and sails, and stress on the boat in these impressive conditions. Pay attention to the crew "fatigue" as well (ie., loss of physical strength, seasickness, injuries, tiredness, etc). If you think necessary, come in and stay alongside the dock for a time to give the crew and the boat some relief. Go out several times, and for longer periods of time each trip (4- 6 hours, then 8 to 10 hours, then 12 to 24 hours) to gain experience, and the crew will naturally become more comfortable, more confident, and more competent as a Team and heavy weather sailors. Each time you come back into homeport, check all facets of the boat and the rig materially—including doing a haul-out on occasion to inspect the underwater body, rudder and rudder post, through hull fittings, prop, shaft, cutlass

bearing, stays, shrouds, yardarms, turnbuckles, etc. Heavy winds and seas place incredible stress on the boat and the rig (not to mention the crew).

Lastly, take advantage of this experience to go back into the heavy weather books and re-validate your own and your crews' experience and observations; do more training with your crew; listen to their input, and make changes accordingly. Sailing is about relaxation, fun, sitting in a cove on the hook and enjoying a glass of wine watching the sunset, rafting with other boats and enjoying their company, telling sea stories, barbecuing, and going to another harbor or cove in a light breeze, smooth sea, on a broad reach listening to Jimmy Buffet's sailing songs. You should always check the weather from a couple different sources before you leave and during your trip, and always keep "a weather eye" on the horizon. But, on the rare occasion the weather comes up, with the above experience, training and precautions, your crew and the boat will be ready to get you safely home without injury, loss of life or damage to the boat. If your crew is anxious about the weather, and you're not sure you want to put the boat under the stress of heavy weather conditions, wait it out and stay put. Operate your vessel with intelligence and caution and you will enjoy many years of enjoyment on the water and sailing. And remember....

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An Unexpected Stop in Cuba

BY LAVONNE LUQUIS SHELTON • CM440 HULL #14

The quip about sailors' plans being written in sand proved itself true during the early days of the coronavirus pandemic, when snowballing border closures and state-imposed lockdowns prompted us to make a hard turn in Port Antonio, Jamaica, altering course from Panama to Florida.

We knew our 670NM route aboard Vinyasa, our CM440, would be an upwind slog for the first 200NM and expected the Windward Passage to be the most difficult of that stretch. We were willing to beat into the wind and waves to get to West Palm Beach faster, as well as to gain heavy weather sailing tranbining while Captain Tanja "Tatiana" Koster was aboard.

Alas, 18 hours into the trip, a supporting leg for our D400 wind generator pole came loose. An hour or so later, the other leg came loose. After scrambling in the dark a second time to heave-to and stop the boat in 12-foot waves to hang off the stern to re-screw bolts and jury rig supporting lines, we decided to seek safe harbor in Cuba where we could make sturdier repairs than we could at sea. Our

concern? That the upcoming pounding through the Windward Passage would knock the wind generator pole off, rip holes on Vinyasa's stern, and rip off the davits, since a jury-rigged davits fix that we'd hooked up before departing The Bahamas relied on the D400 pole. Multiple holes on the stern of the boat in big seas? Definitely not good or safe.

Mindful of restrictions against U.S. travel to Cuba, Allan contacted the U.S. Embassy in Havana via IridiumGo to let them know we needed to make an emergency stop at Marina Marlin in Santiago. After asking if everyone on board was safe, the Office of U.S. Citizens Affairs said they would relay our information to the U.S. Coast Guard in the area.

We started hailing the marina 12NM offshore and finally received a response as we were about to turn into the channel adjacent to El Morro de Santiago, a beautiful sight in the late afternoon light.

The state-run marina's harbormaster granted us permission to enter port after we assured him over the VHF that no one on board was sick with any flu-like symptoms. A problem we'd been having furling our mainsail grew exponentially worse as we pulled in. My human error with an outhaul clutch ripped a block at the end of the boom from its rivets.

Dang!



This young man conjured up this classic ride for us in Santiago on his cell phone, after saying: "Hey, I saw you at the marina!"

One more thing to get sorted in Cuba.

Once at the marina, the harbormaster asked us to anchor and wait for the Health Department's clearance. A friendly doctor came aboard five minutes later wearing a rudimentary face mask. She swiped our foreheads with a digital thermometer, asked a few questions, and lifted our quarantine.

We paid \$75 per person for visas and \$55 U.S. for Health, Customs and Immigrations fees. Our dock fees were \$33 U.S. per night, including electricity. U.S. credit cards are not accepted in Cuba, and we had to exchange our U.S. dollars for Cuban convertible pesos, aka CUCs, before paying for anything at the marina.

The next morning, we engaged the services of Damex, a large Dutch-Cuban boatyard. A Damex manager assessed our needs, took away our companionway door (its bottom wood support had come undone during the passage), and promised to send someone over "in half an hour or so" to work on the boom, the wind generator support pole, and to figure out a temporary fix for the broken davit pole. We figured that the extra weight on the D400 support pole from the line we'd rigged



A good day at sea, en route from The Bahamas to Jamaica.



Otto quickly replaced the blown rivets on our boom.

for the broken davits was contributing to the repeated issues, and we wanted to avoid a reoccurrence during our sail to Florida.

After a few hours, Tanja and I walked the mile or so to Damex, under the pretext of finding out if we could pay for their work with a credit card or if we would need to convert U.S. dollars to CUCs. The word after we cleared two guarded gates? We had to convert. Fortunately, the manager asked Otto, the technician coming to do the work, to drive us to the airport in Santiago where I could exchange currency.

Once aboard *Vinyasa*, Otto quickly replaced the rivets to secure the boom block, and reattached the wind generator's support legs. Fixing the broken davit pole proved more complicated, so he went to Damex to get a tool and backup support from Edgar, who would complete the davit work the following day, as Otto was going on vacation when he clocked out.

When they had done as much as they could, Tanja asked if Otto could drop us off at El Morro. As the crow flies, the fort is quite close, but the road twists and turns for miles around the water's edge, going up and down numerous hills. We greatly appreciated the lift.

The fort provided magnificent views of the surrounding sea and mountains, and Tanja and I were glad to have had the opportunity to roam its ramparts. We walked most of the way home to the boat, hopping in a publico for the last uphill stretch.

The next morning Edgar was back to verify the fit of a foot for the davit he'd carved from a chunk of nickel. After confirming that it was good, he went back to Damex to weld it to the base plate they'd removed from the boat. By midafternoon, the job was completed and installed. Total charges from Damex were \$80 CUC, a fraction of what we would have paid in the U.S.

Allan, Tanja, and I heaved sighs of relief and took a cab to town for a bit of sightseeing and some Cuban food before departing the island. People were moving about Santiago, but all major cultural activities had been cancelled or postponed due to the coronavirus.

Tanja bought a lovely fan from a small shop, and we followed the artisan's recommendation to go to

The calm, turquoise waters on the Great Bahama Bank were beautiful, with a couple of dolphins lifting our spirits in the early afternoon. Standing watch every four hours is so much easier in calm conditions.



Our CM440, *Vinyasa*, tied up at the dock at Marina Marlin in Santiago de Cuba.

Restaurante San Francisco, a few blocks away. Our early dinner of two grilled lobster tails, a shrimp entree, bottled waters and a beer totaled \$35 CUC. We enjoyed the meal on a breezy, rooftop terrace, in the empty-but-for-one-other-table restaurant. We also enjoyed a classical guitarist's music on our way back to Plaza Cespedes, where we'd heard we could catch a taxi.

Searching in vain for a cab line, we heard a friendly man pop up with what's become a familiar refrain in whatever port Allan and I are in: "Hey, I saw you at the marina!" With his help, we were soon on the roll in a vintage, turquoise fin-tailed cab.

Our final day in Santiago was devoted to passage cooking, passage prep and clearing out.

Seeking shelter from high winds and steep seas, we sailed in Cuba's lee until we reached Guantanamo's 6NM box. That was the start of a salty sail that didn't abate until we cleared the Windward Passage 24 hours later.

Rough days make one appreciate calmer days at sea and *Vinyasa's* hot showers all the more. We had one such day as we sailed west of Andros. Allan and Tanja put up our spinnaker, and I doused it for the first time!

The calm, turquoise waters on the Great Bahama Bank were beautiful,



Taking down The Bahamas flag as we approached Port Antonio, Jamaica.

with a couple of dolphins lifting our spirits in the early afternoon. Standing watch every four hours is so much easier in calm conditions. So is eating! I lost my appetite during our three-day passage from The Bahamas to Jamaica, and again on the first three days of our longer passage to Florida.

All in all, we couldn't have asked for better training conditions. We gained confidence in *Vinyasa's* ability to handle high seas, and built our seamanship skills under Tanja's watchful eye. Her teaching style emphasizes empowerment, which means she provides concise instruction and then steps back—ready to step in at a second's notice—while we figure things out and build muscle memory. For me, that included pushing through some fearful tears to hand steer with Tanja by my side in high seas. My paralyzing fear diminished day-by-day, as I spent more time practicing knots, increased my speed handling lines, learned to trim sails, and spent more time hand-steering at the helm.

In 2021, we are limiting our cruising to U.S. waters, but we hope to sail further south again in 2022.

SV *Vinyasa* is a 2006 CM440, hull #14. Lavonne and Allan Shelton set off cruising in 2019. Follow their voyage at: <http://sv-vinyasa.com>.



North to Alaska

By Mark Bratz • *S/V Firefly, C320 #848*

"A little to port.
Ok, ease forward.
Yep, looks good.
Wait, now to
starboard."

Shawnae called out to
me from the bow of
Firefly. We were
navigating carefully
through the countless
icebergs in Southeast
Alaska in Sawyer Arm.
All around us was an
incredible valley that was
carved and scraped by
glaciers quite recently.
There was ample
evidence of this activity
as we could see where
the glaciers had receded...

But wait, we're getting ahead of ourselves. *S/V Firefly* is a 2001 Catalina 320 (Hull #848). On board were a couple of (relatively) new sailors from Montana who were in the midst of a 2,500 mile high seas adventure.

How exactly did this happen? Well our story is a fun one. Although it's a little unorthodox, we hope it might be inspirational too.

BACKGROUND

For a number of years, we hauled an old Bayliner cabin cruiser from our home in Kalispell, Montana up to Tofino, British Columbia, a little fishing village on the outside of Vancouver Island. We stayed onboard for a week or two at a time, anchoring nightly in a secluded bay or inlet. One night, in a conversation fueled by a few post-anchor cocktails, I said "Let's think outside the box – where should we take the boat next?" My (now) wife, Shawnae instantly replied "someplace warmer, sunnier, and tropical". Upon returning home, a little research quickly showed us the perfect answer . . . the Bahamas!!! And we began planning that trip in earnest. The biggest hurdle was the enormous cost of fuel for that old cabin cruiser.

Not long after realizing how much the fuel would cost, I had an idea that turned out to be truly profound (and terribly inaccurate). "Let's buy a sailboat and it will be free – no need to buy anything, including fuel"!!!!!! That

statement completely ignored the fact that we didn't own a sailboat, nor had any idea how to sail.

A few months later found us as pliable students in the hands of a family friend. Cindy, who had in an earlier life sailed around the world with her husband, took us under her wing and 'showed us the ropes' both figuratively and literally. We loved it, but just weren't quite getting the confidence and experience we needed to take off on our own. We proudly announced to Cindy that "we need to learn more, so we're buying our own sailboat . . . and by the way, we're going to sail across the ocean to the Bahamas next year." Several minutes later, Cindy stopped laughing!

Well, that winter, we bought a 1974 Catalina 27. We loved that boat. Throughout the long cold winter in Montana, we devoured everything we could find on sailing, cruising, navigation, etc. The boat was bulletproof, simple and wonderful. No water system, no engine (just a reliable outboard hung on the back), no refrigeration, no head. We sailed the daylights out of that boat all summer long. Don't forget that the sailing season is pretty short here in Montana! We are, however, quite fortunate to be located near Flathead Lake in Montana. It's the largest natural freshwater lake west of the . Mississippi River, measuring 40 miles from N to S and 15 miles across at it widest spot. It surely isn't the ocean, but it is BIG water.

We lived on board during the weekends, we raced in every race we could find, and we went out in all kinds of weather. One windy summer day that first year, we were out in weather we had no business being out in. The wind was probably 25 to 30 knots – somewhere between “oh crap . . . and we’re in trouble” on the personal panic scale. We spent several hours beating back and forth before finally arriving back at the Dayton Yacht Harbor where we kept the boat. Many of our fellow sailors (who were smart enough to NOT leave the dock that day) leapt to assist us get tied up and secured. One of the old guys on the dock, Roger, came up to me as I shakily walked up to the marina house. He put his arm on my shoulder, looked me in the eye and said “Son, you ever heard of REEFING those sails???” I mumbled something implying I had no idea how to do that – thus began another series of helpful lessons.

In January, we attended “Strictly Sail” in Chicago and took every class we could find. We talked to many vendors and experts. It was truly a ‘crash course’ in Beginning Cruising for Newbies.

Next spring, after owning the boat and being sailors for one summer season, we trailered our Catalina 27 all the way to Fort Lauderdale, Florida; a road trip of 3,300 miles. After spending a few days provisioning, raising the mast, and a couple of short shakedown trips, we headed offshore across the Gulf Stream to the Bahamas. I can’t tell you it was easy, or safe, or relaxing. It wasn’t any of those things. Our emotions ranged from total joy to absolute panic, and from bliss to fear. Along the way, we even found a delightful sleepy little settlement called “Hopetown” in the Abacos where we were married. We bent and destroyed our Danforth anchor one night during a blow. We flew the spinnaker for the very first time. What an adventure!

Our first two month cruise was, all things considered, an incredible success. Instead of getting it out of our system though, we were thoroughly and totally “hooked” on the lifestyle. But one thing was obvious: WE’RE GOING TO NEED A BIGGER BOAT! Our list of “needs” was relatively modest: Engine instead of an outboard, a real ‘head’ not a portapotty, water tanks and a faucet,



C320 *Firefly*, #848, on her custom trailer

refrigeration, a bed we could sleep in (together), and a little more waterline length.

A year later, we found and bought a 2001 Catalina 320, located 3,300 miles away from where we lived. We bought it without seeing it ourselves. After a quick posting on Cruisers Forum, we had several offers from local sailors who were willing to do a walkthrough and take current/accurate pictures for us. The cruising community is truly filled with awesome people, and we are grateful for their help. A full survey followed and by December we were the new owners.

In the next couple of years, we traveled down to Florida to spend time on the boat. That included lots and lots of repairs, upgrades, improvements, and other expensive boat stuff! We also had several more two-month excursions to the Bahamas.

In 2016, we sailed down the length of the Florida Keys, around Key West and across the Gulf of Mexico towards New Orleans. . . then hauled the boat home to Montana.

Can a regular person really haul a Catalina 320 across the country themselves? Well, the answer is “kind of.” It is hard, but certainly do-able. With a beam of 12’, we had to get special Oversize Permits from all the states along the way. Several states also had unique travel restrictions as to days you are allowed to travel, and times. We used Mercury Permits (affiliated with BoatUS) to help us with this task – they were wonderful! Going across one of the numerous highway weigh station scales, we noticed the trailer weight. Wow! Just over 18,000 pounds. We have a Dodge 3500 (one-ton) truck with a Cummins Diesel engine. Slow and steady – several tire blowouts and a bunch of cracked rims – and 8 days later, we made it home.

Several more summers on Flathead Lake with *Firefly* and we were itching

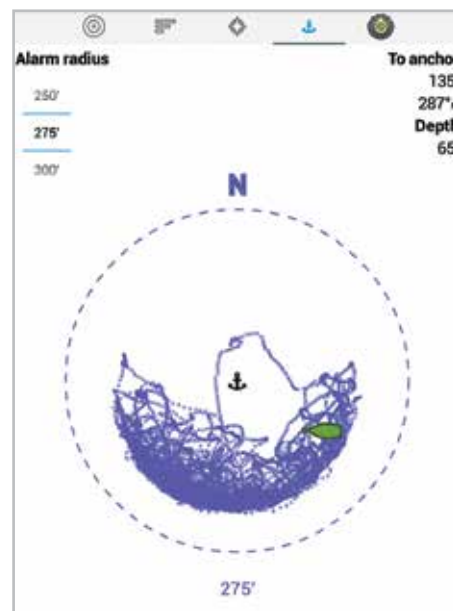
for a new adventure, which pretty much brings you up-to-date with the first paragraph of this story: Sailing from Seattle to Glacier Bay, AK and back.

ALASKA ADVENTURE

After beefing up the trailer by adding a third axle, we had a much better towing experience. We made it to Seattle in just two days without ANY tire troubles. After a week of mast raising, shakedown, and last minute problems & solutions, we left Anacortes, WA on July 2nd, heading north.

We had made several very important and wonderful improvements before this trip. Most notable of these were AIS and dinghy davits.

AIS – the AIS installation took me a long time to do. The C320 had a Seatalk NG backbone. I had to integrate in the VHF radio leads, the AIS box, and chartplotter inputs via a NMEA conversion. I researched the heck out of this, reading every blog and forum post



Screen shot from Vesper Watchmate AIS showing *Firefly*’s swing while at anchor

I could find. In the end, after buying a bunch of connectors, adapters, and cables, I was astounded to find out that it actually worked. Of course, there was no way to test it in Montana; we had to wait until on the water in Puget Sound.

And it worked GREAT. We could see the other boats/ships around us. Frequently, as we headed through the busy Inside Passage we talked to them. Many many times, we were able to facilitate a safe and comfortable passing or overtaking encounter. Heading down a narrow channel, I was able to know if it was clear or not, and take the appropriate action. Furthermore, heavy fog is a given in the Pacific Northwest. Again, AIS seriously raised the safety bar in those foggy conditions.

Another very valuable feature with our Vesper Watchmate AIS unit, is that it had an 'anchor watch' app. We ran this on our tablet or our phone. Once anchored, we would set the anchor watch. With this app running in the background, we could easily see our swing while at anchor. Additionally, we could easily set an alarm to wake us, should the boat move beyond the pre-set limits. Sometimes during the night, when the wind started blowing hard, or a squall rolled through, I could just grab the tablet and see exactly where we were now, in relation to the anchor. Any dragging would be instantly visible. Very helpful for getting a good night's sleep. In the attached picture, you can see our 'path' as we swung around the anchor throughout the night.

Dinghy davits – oh wow! What a luxury! We really don't like towing the dinghy behind when underway. Because we had so many miles to cover in a relatively short time-period, we tried hard to avoid anything that would slow us down. Also, we fished for salmon quite a bit, and dragging the boat behind us would be detrimental. Finally, it makes it so easy to launch the dinghy for exploring upon reaching our anchorage. Almost every night, we used it for that purpose. Upon returning to the mothership, it was super easy to just attach the 4 clips and hoist the dinghy safely up and out of the water. Yes, we could have hauled the dinghy up on the foredeck using the halyard every day, but we found that, since it was so easy to do using davits, we tended to explore with the dinghy a lot more than otherwise.

Although we were warned and advised countless times about the currents and tide rips, there is nothing like experiencing it for yourself. We had numerous guidebooks along and all were useful. But for surviving currents, you absolutely NEED the Ports and Passes book for that year. We can't overdo this warning; these currents will easily make your life miserable, but they'll also kill you too. The power of the water when it's rushing through a set of narrows is amazing and scary. Two hours later, at dead slack tide, it's as calm as your bathtub, but then two hours later still, and it can be ripping along at 10+ knots in the opposite direction, accompanied by huge standing waves, whirlpools, and eddies. Just watching some of these is positively frightful. Having said all that . . . with the right guidebooks and a little planning, it is all fine. Just pay attention to the details. If you want some interesting reading, hop onto the internet and do a search on the history of "Ripple Rock". This is located just north of Campbell River, BC. It's a fascinating story.

Along the way, we found adequate places to get diesel fuel and water. It seemed like we motored about 75% of the time (I know that seems sacrilegious, but that's how it is) and never ever had a concern or shortage of fuel. Our boat holds 19 gallons of diesel, and we had 3 extra five-gallon containers along just to feel good. Our diesel burn rate, when motoring is between 1/3 to 1/2 gallon per hour. Fuel is easy to find enroute. Fresh water was 'usually', but not always, available. Pumpouts,



A calm day for cruising

however, are almost non-existent the whole way. Everyone just hits the switch for the macerator and dumps in the sea. Hopefully they follow the rules and get far enough offshore to be legal and responsible.

We had several "bucket list" goals for our trip. In no particular order, these included: taking a picture of *Firefly* in front of a big massive blue tinged glacier, seeing whales and in particular to see them 'bubble net feeding', watching bears scoop salmon out of the rivers, and seeing/catching/eating lots of fresh salmon.

Glaciers are generally in the ends of long, long bays. A hundred years ago, many of these glaciers were all the way out into the ocean, but with climate changes, they have all receded back into the mountains a long ways. To reach the glacier face, on some of these bays, you have to travel inland 50 miles or more. Along the way, you can plainly see the relatively fast progression of forests reclaiming the land. Out near the bay's mouth, near the ocean, the forests are tall and the ground is rain-forest lush. As you move further and further into the bay and closer to the glacier face, you find the trees getting scrubbier and the ground rockier and sparser. When you get within several miles of the glacier face, you are in an unworldly environment of rock and water. And along that way, you've passed by thousands of ice bergs that have recently calved from the glacier's face.

We saw whales. Oh my goodness, we saw whales and whales and more whales. We saw them rolling on the surface, breaching by coming way out of the water, and just cruising along feeding. Near Five Finger Lighthouse, north of Petersburg, AK, Shawnae was at the helm. We were motoring along in dead flat calm. I was down below fixing some lunch and all of a sudden I heard her yell and felt the boat lurch sharply to starboard. I clambered up the companionway and she said "I almost ran over a sleeping whale". I looked to where she was pointing and sure enough, there was a huge humpback whale just slowly cruising along near the surface – about 20 feet off our port rail as we swung sharply away. Lunch was quickly forgotten as we struggled to get our heart rates down to normal!!!

Finally, almost at the end of our journey, we saw a pod of whales



Black bears fishing on Anan Creek, SE Alaska

“bubble net feeding”. Sure, we’d watched videos of this on YouTube, but it was amazing to see it ourselves. The whales circle around underwater and release a series of bubbles. This forms a “curtain or net” around the schools of baitfish that kind of corrals them in place. Then several whales come swooping up from the depths into the middle of the ‘bubble net’ with their mouths wide open crashing through the baitfish schools. Their momentum carries them 10, 15, or 20 feet out of the water, landing with a giant splash. A few moments later, everything settles down and the water gets calm. Then, several minutes later and 100 yards further down the shoreline, you see circular line of bubbles hitting the surface and the whole thing happens again. This was truly amazing and fascinating. Hop onto the internet and do a quick search on ‘bubble net feeding’ and watch for yourself – it’s worth the time to do it!

Much of this country revolves around salmon and their spawning migration. Every part of the natural world here knows this, but no group quite as much as the bears. British Columbia and SE Alaska have both black bears and grizzly/brown bears. We saw lots of both species. Of course, most of these were seen along the water line, since that’s where we were. Bears are active feeders when the tide goes out; they are busy looking for trapped fish and other sea life to eat.

That was wonderful to see, but nothing topped getting to see the bears standing in the river and scooping up the salmon that rushed by. We weren’t sure if we should be cheering for the bears to catch one, or for the salmon to make it past successfully. A day and a half journey (at the speed of a sailboat)



Mark and Shawnae exploring an anchorage in SE Alaska

north of Ketchikan is an area called Anan Creek. According to the sign at the trailhead, more than 300,000 salmon go up this small river on their spawning run every year. For this reason, bears have been coming to this spot for hundreds, maybe thousands, of years. The US Forest Service has built a special walking trail, and a viewing platform/blind along the river. You wait in this “blind” from behind netting that partially “hides” you . . . and you watch the bears feeding about 20 to 50 feet away. This is not an amusement park or a zoo. These are wild black and brown bears RIGHT THERE. Fortunately for us, they seemed mostly interested in feeding on salmon. . . not in bothering you while watching them.

As we got further and further north, and later in the summer, almost every creek and river had hundreds, or thousands of spawning salmon. They were tucked into little eddies waiting for their biologic cue to head upstream. They were airborne as they rushed up impossible rapids and waterfalls. They were laying dead along the river banks as they completed spawning and their biologic clocks ran out of time. Truly a fascinating and unforgettable thing to experience.

Glacier Bay National Park is kind of an odd name. Most of us hear the name “park” and we think of swingsets, picnic tables, and parking lots. Well, this National Park has none of that. It’s an unimaginably huge area of water, rock, forest, mountains, and ice. It contains numerous active glaciers and countless bays, islands, and rivers. The restrictions on visitors who venture here seem rather onerous, but once you’ve been there, you realize it’s all worth it . . . to protect and preserve such an amazing place.

Having filed for a permit before leaving Montana, we arrived in GBNP on our assigned day in mid-August. After attending a mandatory ranger-led orientation, we headed into the interior of the park by boat. We explored for a week, and decided that this was the perfect place to turn around and begin our long trip back south. GBNP captured everything we had expected in Alaska and more.

We spent three memorable days in GBNP tucked into a little place called Berg Bay while we waited out a nasty blow. As the calendar wound down through August and into September, we could definitely feel the season changing. There were more cold fronts ripping through. Throughout the summer, there is a “weather area” offshore called “The Pacific High” that acts as a buffer to protect the PNW from bad/stormy weather. In the fall, this phenomenon starts to weaken and the coastal weather starts to deteriorate and become more volatile. On our trip south, there were a number of times we had to hide while these fronts rolled through.

Five weeks later, we arrived back in Puget Sound. By this point, our camera memory chips and our brains were full of images, sights, sounds, and experiences. 2,428 miles had passed under our keel. We were tired, cold and wet. Half of our clothes in our drawers were moldy from the constant moisture, yet our eyes sparkled and our thoughts filled with gratitude and wonder.

As the lift at Cap Sante Marina pulled *Firefly* out of the water and put her on the trailer for the long slog home, Shawnae and I looked at each other with a sparkle in our eye and both said “hmmm, where should we go with *Firefly* for our next sailing adventure?”

For Mark and Shawnae Bratz, Kalispell Montana is their home base. Depending on the timing for the recovery from the global pandemic, their next adventure is to trailer *Firefly* to Green Bay, Wisconsin – travel through the Great Lakes, down the Erie Canal and Hudson River – head south along the East coast, across to the Bahamas and then points south. The hope is to embark on this multi-year trip in June of 2021. Mark’s email address is south_frk@yahoo.com They have a Facebook page: Newgirlonthedocks/v firefly

DO YOU HEAR THE LI-ION ROARING?

By Joe Rocchio • C470 Association Technical Editor

The Pandemic has brought many changes to our lives in 2020. For the first time in 13 years, SV Onward (C470-126) has been in a slip with shore power for more than just the few



weeks a year needed to allow Peggy and me to fly about the country visiting grandchildren. The installation of the new genset was

completed just as the Covid-19 scourge hit and I've not had to worry about electrical power, (we will talk about the battery combiner switch being in the standby position due to operator error another time). The promise of a vaccine has buoyed my spirits enough to contemplate the return to our wandering lifestyle and to work on one of the things rattling around in the back of my mind – should I transition to lithium-ion batteries on the next battery system update?

Lithium-ion battery (LIB) technology has become pervasive in our lives leading to fundamental changes in all areas. We are most aware of this with

personal electronics and then electric vehicles but it is central to the growing move toward renewable energy already providing gigawatts of energy storage. In the marine industry, the increased performance at lower weight and volume is making it a standard in high-end construction – including several new all-electric or hybrid designs.

So what about LIB in the C470? What is the attraction? Lower weight and volume for a given stored energy. Longer service life; more charge – discharge cycles (estimated 2,000-5,000 cycles and 10-year working life). More effective use of energy stored: depth-of-discharge of 90-100% vs ~50%. More stable 12.8 V output over ~90% of the discharge cycle. Higher charge currents and faster charging. All good things.

To calibrate my evaluation, I reviewed the battery replacement history for SV Onward. When commissioned in August 2003, there were two 8D flooded lead acid (FLA) batteries in the house bank and one 8D FLA for the starter. I added a 4D FLA for the bow thruster. When the two house 8Ds needed to be replaced in June 2007 as

Onward started wandering the East Coast from Maine to the Bahamas each year, I decided to move to a FLA battery that was easier to handle, provided greater energy density, was readily available and at a good price. I selected four Trojan T1275 deep cycle 12-V golf cart FLA batteries. They provided 600 A-h (4 x 150 A-h @ 20 hours) in the same volume as the two 8Ds (480 A-h). I eventually converted all batteries to T1275s (house – 5; starter – 1; bow thruster – 1) for > 1,000 A-h total capacity. My records show an average life span of a T1275 has been 72-84 months. And the total cost of three replacement cycles has been \$4,400 or ~\$260/year. Not bad for 17 years and > 50,000 nm of cruising.

My years of continuous cruising have shown the challenge to the battery system comes from extended periods at anchor combined with short sails (as in cruising Maine and the Bahamas). The power usage for “hotel services” (lights, pumps, refrigeration, personal electronics, etc.) averages about 100 A-h over a ~12-hour overnight period. During the day, most of the hotel load is serviced by the solar panels and wind generator. With a total hotel capacity of ~750 A-h, my goal has been to use less than ~350 A-h before recharging the batteries. I usually need to run the generator ~1 to 1.5 hours every other day. Usually this is more because we want to heat water for showers than to charge the batteries.

To do a simple analysis of a LIB alternative, given the above experience, I decided to compare several commercial batteries with the T1275 FLA and an 8D AGM option. Due to the growth of applications discussed above, the choices today are many. I chose six LIB options that had a single battery

Table. Comparison of Lithium-ion battery (LiFePO4) options to provide 300 A-h of effective power at 12V.

Battery	Source	Model	Chemistry	EA-h/cu-ft	EA-h/lb	\$/EA-h	\$/ 300 EA-h
FLA-GC	Trojan	T-1275	FLA	157.1	1.1	2.72	735
AGM-8D	Lifeline	UB-8D	AGM	94.6	0.8	4.40	1650
LI-1	Ampere Time	12V 300Ah	LiFePO4	284.4	3.9	6.78	1830
LI-2	Chins	CS-LAF12300	LiFePO4	281.0	4.0	5.56	1500
LI-3	RELION	R8300	LiFePO4	240.8	3.3	12.78	3450
LI-4	ExpertPower	EP12200	LiFePO4	184.8	3.8	8.33	3000
LI-5	Lithionics	GTX12V315A	LiFePO4	252.6	4.2	15.86	4495
LI-6	Victron	BAT512130410	LiFePO4	189.2	2.4	12.29	3317

Note: EA-h = Effective A-h

capacity of ~300 A-h. The Table shows the eight battery options in this analysis.

All of the LIB options used LiFePO₄ (lithium iron phosphate) chemistry that has been shown to be safe for marine applications. Also, all of them include integral Battery Management Systems (BMS). The BMS is a critical safety component as it monitors temperature, current, and voltage to prevent the individual cells from being over charged or discharged at conditions that will lead to potential failure and possible fires. All options report similar performance (capacity, charge/discharge characteristics). There are some differences between the options in terms of being able to safely provide the high-current and short duration currents to start a large engine. I would always have a separate dedicated starting battery, so I have not differentiated on this factor.

I used A-h ratings as a measure of a battery's capacity to deliver power in the cruising environment. This number gives the number of A-h that can be delivered by the battery at a constant current for

20 hours at 80° F without a damaging voltage drop. Thus a 300 A-h battery should deliver 15 A-h for 20 hours. Each battery type is associated with a depth of discharge (DoD), the percentage of the A-h rating that can be delivered without unacceptable drop in battery life. I calculated the effective A-h as (EA-h = A-h x DoD).

For the eight battery options I calculated: effective A-h / cubic ft.; effective A-h / lb; \$ / effective A-h; Total \$ for 300 effective A-h. See Table.

The data in the Table clearly shows the much greater efficiency of the LIB considering weight and volume. However, there is a substantial cost increase for any of the LIB options. I was pleased to find that the Trojan T1275s (FLAGC) proved to be so cost effective!

Is the added cost for LIB worth it? Every C470 has substantial sunk costs in its existing electrical power system. The switch to the LIB solution requires that all system elements be compatible: alternator; AC-to-DC charger; inverter; generator; power controllers for solar

and wind systems. So, each component needs to be evaluated to see if it will work safely with the LIB. There are a number of potential problems. For example, some AC-to-DC chargers might not have an output setting that will safely charge the LIB; the LIB can absorb high charge currents and these might cause an alternator to overheat; solar system charge controller output voltages may be mismatched; LIB should not receive a float charge. In any case, a careful evaluation of the entire system is needed before making a decision – it is not yet a simple drop-in replacement.

The electric vehicle industry is a principal driver of LIB technology. Because Tesla intends to switch to LiFePO₄ battery technology for EVs built in China in 2021, I believe this will drive down the cost for the basic cells used in marine batteries. So, in a year or two, the cost/benefit ratio may change substantially.

In a couple of years when I need to do the next battery replacement, I expect the LIB option to be much more favorable. **–Joe Rocchio**



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We Roam Our Cruising Destinations IN STYLE

By Chic Lasser • C36 Association Technical Editor • Mk II Hulls

My wife and I have owned Spendin Time for 20 seasons now and we have cruised her on many extended trips as well as



weekends.

From the beginning we have always had bikes on

board since when cruising we like to go exploring as well as have a means to go shopping for supplies. Fifteen years ago while on our yearly trip to the Annapolis Boat Show I saw a motorized bike that used a small Weed Eater 2 Cycle engine for propulsion. As much as I loved the concept of a motorized bike the gas concept really caused me some concern.

Fast forward six years and the first Ebikes started to enter the marketplace, and the most popular way was a conversion kit. Keep in mind, on a boat the biggest priority are small and easy to store on board, unlike our powerboat brothers we just don't have the space to store a full size bike and on a sailboat you're doing more than sitting behind a wheel and driving. So I began the process of converting one of our small 16" wheel folding bikes to an ebike. Truth be told it worked, but not very well. Adding a motor to an existing bike made it motorized but all the wires were exposed, the battery had to be stored in a bag hanging on the handlebars. After one trip I ditched the idea of an ebike and went back to peddling.

Fast forward again and by 2017 ebikes had started to explode on the market, mostly coming from China and the Far East where bikes are the major mode of transportation. Crowd funding produced many opportunities to get in on the ground floor and find a bike that would work. I started to do a lot of research and my wife and I really wanted to move up to 20" bikes vs. the 16" bikes we had on board, but where and how do we store these bikes? In a prior upgrade to Spendin Time we converted to a Keel Cooled Refrigeration Unit and buried it below deck which allowed us to remove the old air cooled unit and shelf in the port lazarette. Hopefully this would allow us to store two 20" bikes lying down.

After many hours of Internet surfing, making cardboard templates based on published sizes we pulled the trigger and bought two 20" bikes that we thought

would fit. We loved them and found out we rode them so much we sold our regular bikes. When summer finally came to Western New York we took them to the boat before our first cruise and alas they didn't fit in the lazarette. Just inches too large, I played with them, put them in a host of different ways but alas NO LUCK! Bummer, so we stepped backed and punted choosing to take one ebike and one 20" pedal bike with the agreement we would share the ebike. The cruise went off perfectly and if nothing else we now were more committed to the concept of ebikes than ever before.

By now ebikes were mainstream, if you're not aware of this fact ebikes are now the fastest growing segment of the biking industry. All the big guns are making ebikes now from Cannondale to Specialized, as well as many other manufacturers big and small. Designs had evolved with batteries being buried in the frame, as well as controllers and wires. Designs were cleaner and to the uneducated they sort of looked just like bikes with the exception of being powered.



We now knew 20" bikes were not going to work on a C36 and we wanted two of the exact same bikes on board so we could not have one biker going faster than the other, plus we wanted the ability to interchange batteries in the event we needed to make a long trip to get a part or something. This way one (me) could take both batteries and travel up to 40+ miles round trip. The search continued for a small 16" tire urban commuting folding ebike.

One of the first and most successful crowd funded ebike developers was an individual by the name of Storm Sondors out of California. Over the years he has sold over 100,000 bikes at reasonable prices imported from China. One day while surfing the net I found his site and saw he was introducing a new 16" folder. My concern was, no shop backup and would it do the things we needed. The research continued and I found a huge Facebook Group of Sondors' users and after joining it and monitoring it I felt that at the very least I had a resource

if things went south and I needed to do some service on the bikes myself.

So once again I pulled the trigger and ordered two more little ebikes. They arrived as promised and being pretty handy I assembled them myself. Once folded I felt confident these would both fit in the lazarette so at the least I felt we might have finally found the bikes to use on a sailboat. Assembled, we took them out for a test drive and although they worked great there was a big difference from our 20" bikes vs. these smaller bikes. For starters the little wheels ate up way less ground than the 20" wheels so we felt like we were peddling air, which in turn limited our comfortable cruising speed to under 10mph vs. our 20" bikes that got us in the 12-13mph range. We needed more speed, so back to the Internet and learning about bikes and how they work. Tire size, gearing and chain ring all factor into a bike's ability to move and at what speed. Tire size couldn't be changed since we needed small to fit in the boat, gearing was not

really an option since these were single speed bikes with a 5 speed peddle assist which takes the place of gearing, so that left me the chain ring. On these little bikes we had a 44 tooth chain ring, which is one of the reasons we were peddling air, what would happen if I increased the chain ring diameter? So back to the Internet and the Facebook Group, and then to Amazon to find a larger ring. For \$50 I was able to get a 56 tooth ring and from the Facebook Group and YouTube the necessary instructions to modify our bikes. Wow! What a difference, speed increased to 11-12mph and yeah a little harder to pedal but we just modified our riding habits to use peddle assist 2 instead of one.

Now after a year of using these great little bikes we roam our cruising destinations in style, constantly getting questioned by other boaters and always letting them take our bikes for a test ride. The smiles on their faces say it all, "I got a get one of these!"

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CATALINA 400/445 INTERNATIONAL ASSOCIATION

Dodger Center Panel



C400 Association
Technical Editor
Tom Sokoloski

Special thanks to Doug Burr, Matt Perry, and Ken Haefner & Harriet Bregman for submitting articles this issue.

—**Tom Sokoloski**, Juniper #307, Noank, CT, tomsoko@gmail.com

The center panel of our dodger initially unzipped on the bottom and sides, but there was no way to keep it up and out of the way in hot weather. Our canvas shop added straps and snaps so we could roll it up. We were not pleased with how it blocked our view and added another two snaps to make it roll up tighter. This was better, but it was harder to roll up so small. After many years like this, we needed to change out the isinglass and asked the canvas shop to do something that just pulled it back on top of the dodger so it was out of our view when up. They came up with three loops on the top rear of the dodger and three grommets on the bottom of the center section. We put lines in the two outer grommets and tied them to the rear loops. We discovered that it was not necessary to connect the center loop and we could connect the side loops even with the connector installed. This has worked well for us although it has caused the inside zipper pulls, now outside and in the weather with the panel up, to deteriorate after only one season in the weather. —**Ken Haefner & Harriet Bregman**, Air Wave C400 #122



Leecloths

After requesting ideas about leecloths on the C400 forum with no response, we created our own. Rough dimensions are 48" wide x 72" long. We used Sunbrella for the cloth, ½ PVC conduit as the horizontal stay, 1" nylon webbing with quick release clips, and attached the top clips to the hand rail. Originally I was going to clip them to the chainplate rods, but felt 4 strips would be better than three to the chainplate rods. Also it opened up the top a

few more inches to reduce potential claustrophobia. The straps are sewn so they can be tightened from the berth. They can be released both at the handrail, and also lower, closer to the crew member reclined on the berth. The cloth is attached to the settee base top with heavy duty Velcro. When not in use, the PVC stay fits nicely along the hull beneath the settee cushion. We are hoping to put this to use next season while heading to the Caribbean! —**Matt Perry**, C400 *Exuberant*



Improved Galley Cabinets

I am the second owner of Sequel, C400 MkI #104. We sail out of Royal Vancouver Yacht Club and spend three to four months a year on her. We love this boat! There are a few areas where we have tried to make improvements. One area is the cupboard attached to the aft bulkhead in the galley. I doubled the size and tried to make it look like a factory installation as much as possible. I wanted also to make it as easy as possible, so rather than take the existing cabinet completely apart, I opted to cut the sides at the point where the bottom attached. I extended the length to accommodate

a twin cabinet by doweling the joints, and installed a new upper shelf. This left the original door and shelf intact to be used for the extension. I fabricated a new door to match the original, purchased piano hinge and put it together. As an added bonus I purchased all new slam latches to get rid of the OEM twist units. I found that with my arthritis, the action of using my thumb and forefinger in a twisting motion was not good. As you can see, the cabinets are full of spices, which pleased my 'Foodie' Admiral. —**Doug Burr**, *Sequel* #104



CATALINA 380/387/390 INTERNATIONAL ASSOCIATION

Replacing Waste Diverter Valve in a C380



C380/390
Association
Technical Editor
Todd Gaier

Special thanks to Jos de Sonnevle for submitting this article. —**Todd Gaier**, tgsail1@earthlink.net



C387 Association
Technical Editor
Tom Brantigan

The original waste diverter valve is located inside the head's cabinet, accessible by a small door. To change from overboard discharge to waste tank you have to reach inside and turn the valve handle. It is difficult to see which position the valve is in and the periodic change of hoses (they all are prone to scaling) is a heck of a job. It is almost impossible to get both your arms in there to loosen any hose clamps and wrestle out the stiff, scaled up hoses. One time I tried to turn the valve handle and it broke right off, possibly because of scaling build-up inside the diverter valve.

I decided to replace the diverter



Hole cut in cabinet wall revealing location of the new valve.

valve and position it such that I could operate it on the outside of the cabinet. I found the Jabsco diverter Y-valve up to the job. As an option they sell a shaft extension (see grey conical extension, so that the valve handle is accessible on the outside of the cabinet wall.

Next, I cut a hole in the cabinet wall after carefully measuring the centre position of the original valve (drilling some test holes in the wall to locate the centre). I removed the broken valve and replaced it with the much bigger Jabsco valve. Because of the relatively large hole it was easy to connect the hoses to the new valve.

I then cut a piece of marine plywood to just cover the hole and in the centre of the cover the entry for the valve shaft. The left side of the cover, with the rounded corner, needed to be shaped with a plane to fit the curvature of the cabinet wall.

To finish the installation, you first bolt the valve to the plywood cover with three bolts. Next fasten the cover to the cabinet wall with four bolts. I marked the position of the valve handle "tank" and "outside" to finish the installation.

I am quite pleased with the result. The valve position is clear, it is much easier change the valve to the desired position and to replace old hoses. One warning: you need to regularly operate the valve (turning it from tank to overboard and vice versa) to prevent scaling inside the valve and keep the valve operable. —**Jos de Sonnevle**, *Halcyon*, C380 # 33, The Netherlands

Note from Catalina Yachts: *The diverter valve in this article was not a factory installation. Any 'Y' valve for waste diversion must be able to be locked in the closed position or no-discharge position.* —Gerry Douglas



Jabsco diverter valve with extension handle.



The cover/valve mount was made from a piece of marine plywood.



The complete product with a factory-finished look and greatly simplified operation.

AC Systems – Power source to AC Main Breaker



C36 Association
Technical Editor
Pre Mk II hulls
Leslie Troyer

The AC system on our boats is fairly simple, but like the DC systems it has evolved since the boats started rolling out of the factory in 1982. First a couple of safety items: 1) AC power can and will kill you if you don't respect it. 2) Done wrong it can lead

to severe damage to your boat, boats around you in the marina and, even kill swimmers who venture around your boat. If your not very very comfortable with AC leave upgrades to professionals!! That said hopefully this article will help you either schedule work with a pro, or tackle it yourself.

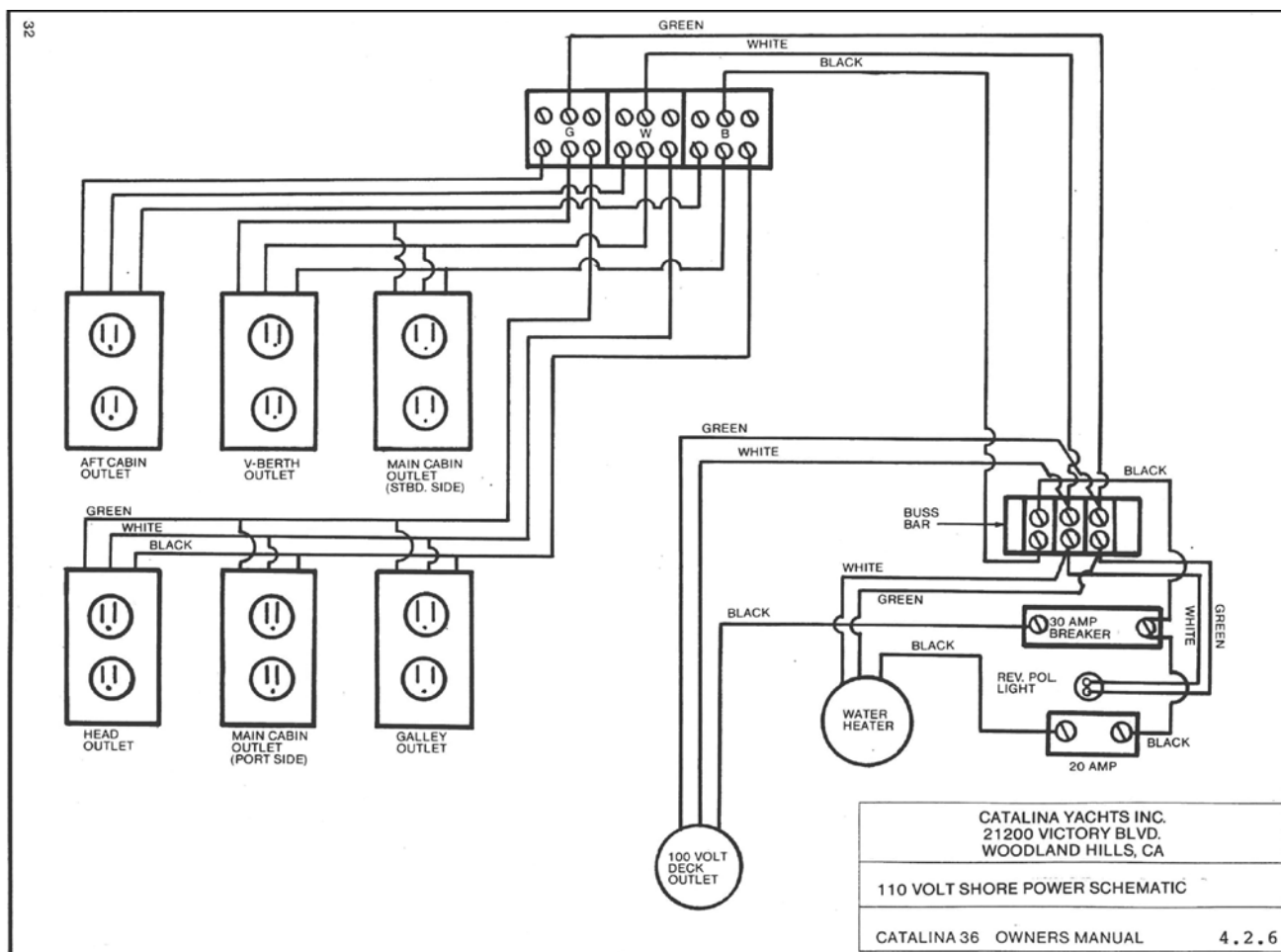
So you're a wiring pro around the house?? Here are a few things where

boats and houses have different wiring rules. 1) never ever use solid core wire for your boat's AC wires. 2) never ever use aluminum wiring on your boat. 3) don't use wire nuts 4) never connect AC-ground and AC-neutral together. There are probably more but these are the big no-no's. Any modification to the AC system should be done with both ends of the shore power cable disconnected and circuit breakers turned off.

I'll look at the MK1 AC from the factory the changes to bring a 1982 boat up to current ABYC standards between the power input and the breaker panel. While not required by US Government agencies, all these new requirements are for your safety or the safety of your boat so a good thing to do. It also eliminates one "deficiency" a good yacht surveyor will ding you on when you try and get insurance or sell the boat. So let's work our way forward from the shore power

hookup to the main AC circuit breaker. (NOTE: some of the MK1.5 and newer boats may have some of these updates from the factory)

The Marinc power plug has long been the standard for plugging your boat into 110V AC power. While not required by ABYC or NMEA, switching out this plug for a SmartPlug system is probably the biggest safety improvement you can make to the AC systems. This will cost you between \$130 and \$300 depending on if you get a new power cord or splice a new end on the current cord. Marinc plugs have a history of getting hot and causing melted wires and fires. The SmartPlug has 20x the contact area of the Marinc design so runs cooler. If you do opt for the Smart-Plug with attached cable, save the old Marinc, for when you dock someplace where 50' isn't long enough to reach the power source (the Canada's Gulf Islands



CATALINA 36/375 INTERNATIONAL ASSOCIATION

(continued from previous page)



have several places like this). Installation is easy and take less than 15 minutes. This video is a great guide -<https://www.youtube.com/watch?v=vB481DZE1vs>. Note: there are two models of the SmartPlug receptacle, a plastic and metal version. The metal version uses the cover to act as a secondary lock to keep the plug in place, personally I think this is a worthwhile upgrade.

After the input on the MK1 power runs directly to the AC panel main circuit breaker. ABYC requires a disconnect switch within 10' of the input. Some (all??) of the walk thru stern models have a disconnect switch located in the starboard lazarette. There are lots of different ways to accomplish this goal – I'll discuss one later on when I go over the modifications I've made to Mahalo.

While not required by ABYC, they recommend a galvanic isolation device be installed. For our purposes this is almost always a galvanic isolator (GI) (the other option, an isolation trans-



former is a big heavy chunk of iron over 300lbs). 90%+ of all boat ground faults are under 1 volt. A galvanic isolator prevents this leakage from either entering or leaving your boat by passing the ground wire thru a series of diodes. I can hear you saying that all your circuits are protected by GFCI (ground fault current interrupter same as GFI) outlets so you can't have ground faults. You can via things not protected by GFCI like the water heater, additionally you may be picking up stray current from other boats leakage into the water. Since "breaking" the ground circuit is an extremely bad thing, new GI's are required to have a failure mode that disables the galvanic feature (fail safe) while maintaining ground continuity. If you have a GI already installed, check to make sure it is a "fail safe" model; before it was made mandatory, quite a few GI's were sold without this feature. New GI's are between \$100 and \$400 for 30A versions.

Next in line is a ELCI (electric leakage current interrupter) device. This is like a GFCI for the whole boat. It typically will have higher trip current settings than a GFCI. Please google and read about "Electro-Shock Drowning" – getting these devices on all boats and dock pedestals will save lives. The ELCI can replace your AC main Circuit breaker or it can be mounted separately.

This gets us to the main AC panel and a boat buck (\$1000) on potential upgrades not counting labor. But were not done. The last thing before the main breaker is a simple cover over the backside of the AC portion of the panel. Now this may or may not have been there from the factory (my manual says it was not fitted) or "lost" as previous owners made mods, but for your own safety it's a ABYC requirement. It doesn't have to be expensive at all. If missing I recommend you raid your significant others Tupperware drawer and find one deep enough and big enough to more than cover the AC portion of the panel. Cut the Tupperware for wires to exit and screw it to the back of the panel and your done. If you have access to a 3d printer – you can make one of ABS. Of course you would do this only after all the power to the boat was physically disconnected.



Other sources of AC not entering the back of the boat

There are up to three other typical sources of AC power, generators, inverters and, alternate shore power inlets. I'll cover these briefly below.

Inverters ideally they would be placed before the ELCI (mine isn't). I would not consider a model that doesn't include a transfer switch, as they really ease the install. The purpose of the transfer switch is to not only connect/disconnect the line and neutral as a house transfer switch does but also connect the ground and neutral when in inverter mode. Inverters use lots of battery capacity, so size the DC wires appropriately. Inverters also come in both modified sin wave and true or pure sin wave models. Most but not all appliances will operate with modified sin waves (house power is a pure sin wave).

Portable Generators like the Honda 2000i are typically plugged into the shore power inlet (Marinco or Smart-Plug) at the back of the boat. So require no installation. Did you wonder why the reverse polarity light was glowing dimly when using the Honda Generator?? This type of generator really outputs +- 55V with a floating ground which causes the light go glow regardless of the positions of the hot and neutral wires. This doesn't hurt the appliances, but does increase risk of electrical shock. Be sure and also install a CO alarm if you are running a portable generator.

Fixed Generators – is there really any room for one of these on the 36?? If so, please send pictures. Like inverters these devices require some sort of transfer

switch to move all electrical lines (ground, neutral and hot) to the generator rather than the shore power input or inverter. Transfer switches are typically manual but auto switches do exist.

Alternate shore inputs - to extend the shore power cable a bit some boats have fitted additional shore power inputs forward. Typically in the anchor locker bulkhead, or thru a cowl vent. When docking bow in it shortens the cable length required by over 25'. With this setup you also require a transfer switch, to prevent the "primary" input socket from being a shock hazard. These are always manual. I've shown a picture of a typical switch that has 2 shore inputs and a generator. This switch should be located before the GI or ELCI if installed.

Mahalo's AC systems are shown in the attached drawing. When I bought the boat it had been fitted with an upgraded system. SmartPlug, an ELCI and enhanced AC monitoring (volts, amps and, Frequency meters) were all installed. I added a GI and 1KW inverter.

The GI & ELCI are mounted on the bulkhead between the port lazarette and galley, with the switch portion of the ELCI in the galley. The ELCI also acts as a disconnect for the power input- fulfilling the requirement of having a disconnect within 10' of the shore power input. I drilled two holes in the existing ELCI enclosure to fit waterproof wire cable glands. The enclosure was too thick to use the nuts on the cable glands, so I used PVC glue to secure them (both parts were PVC). The GI was mounted to the lazarette bulkhead and ground wires were run from the GI into the ELCI where the shore ground was removed from the ELCI, butt crimped to the one of the wires running to the GI and the other wire from the GI routed to the ELCI. The hardest part of the whole task was bolting the GI to the bulkhead as I didn't have much room for my fat fingers.

I mounted the inverter next to my battery charger under the nav table. You want to pick a spot that is close to the batteries to minimize DC cable runs. Other good locations on the MK1's are on the forward edge of the aft game table seat, or in the cubby just above the batteries. The AC side of the installation is fairly simple, remove the wires from your AC main circuit breaker and pull (add a piece of string to the wire to assist you in the next step) them back to where you installed the inverter (it might be a challenge if you put it on the seat front). Run a new wire from the inverter up to the AC main breaker. If you put a pull string as suggested, it makes threading this wire up and behind the liner much easier!! As noted above the inverter should go before the ELCI - so why didn't I wire it that way?? Short answer is I'm cheap! The way I did it required less than 6' of wire and no difficult wire pulls. The other way would take lots of extra wire, voltage drops and complicated wire pulls. If you're installing all new components it would make sense to replace the main AC breaker with an ELCI and put a disconnect in the lazarette.

As always if you have suggestions for future articles - let me know. -**Leslie Troyer**, leslie@e-troyer.com

Note from Catalina Yachts: All Catalina AC systems met applicable ABYC recommendations at the time of manufacture. These recommendations have evolved over the years to include the ELGCI and GI devices that are now standard on all Catalinas. We strongly recommend installation of these devices on older Catalinas by a qualified technician when possible. -Gerry Douglas

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CATALINA 350 INTERNATIONAL ASSOCIATION



C350 Association
Technical Editor
Scott Monroe

Special thanks to John for sharing his latest, in a line of useful upgrades to his C350. Power on board is always a consideration especially for those spending any time away from the dock. John presents a nice balanced approach to addressing the issue, well worth the read and consideration for your own future projects.

Everyone else, please keep those submissions coming. Your projects and experiences are benefit to all in the C350 family. —**Scott Monroe**, Southern Yankee #409, scott_monroe@verizon.net

What to do During a Pandemic

This has been an interesting year.

We had plans to take a two-month cruise this summer from our home port on White Lake, Michigan heading back to the North Channel with Desperado (our Catalina 350 #210). This is something we did in 2017 and it was time to do it again. Covid 19 changed those plans. I decided it would be a good year for some upgrades. First on the list was installation of a Vesper xB6000 AIS including their antenna splitter. I had two reasons for doing this: first, the inherent safety factor of knowing where those big laker ships were sailing, and second, as a convenient way to let friends and family know our whereabouts as we headed into the North Channel wilderness. The

installation went very well, but did require pulling a SeaTalk ng cable to interface with the Raymarine eS120 chartplotter. It also required me to update my old Boat-US (free) sourced MMSI for the Icom 402 VHF to the FCC version (not free) to comply with International laws.

The next projects involve upgrading my power sources. I did some research over the winter including watching the excellent videos put out by Jeff Cote of Pacific Yacht Systems (www.pysystems.ca). Jeff's incite prompted me to make some changes to the earlier work I'd done on the boat. I should mention that I did a fair amount of work on the initial commissioning of Desperado. I had factory installed ST60+ autopilot, depth and speed, but did self-install on the

wind, chart plotter, and radar. In 2017, I upgraded the chartplotter, autopilot, and radar, since I'd had a few occasions of the plotter becoming inoperable. Charts and Navionics on an iPad were a welcome backup.

The first power upgrade was to add an additional 100 watts with two flexible Renogy 50-watt solar panels to the existing 260 watts of rigid Kyocera panels. I also replaced the TriStar PWM controller with two Victron (MPPT) smart charge controllers. The original panels would keep up with the needs of the boat for most of the day, but the overnight drain of the fridge and the LED anchor and cabin lights meant I lost ground over time. I now make anywhere from 10-15 amps over and above the daytime baseline, so hopefully we will be on the plus side power for each 24 hours at anchor.

One of the take-aways from Jeff's seminar was installation of a Victron 912 smart battery monitor. I can access the monitor as well as the two solar chargers on the iPad and keep track of both usage and generation in much greater detail. By turning the various panel devices on and off I have a great idea of the power draw for each load.

The most challenging project was the upgrade of the second power source—the alternator. One thing I learned from the seminar is that the internally regulated 55-amp alternator likely never puts out 55 amps. The factory installed 10-gauge wire would need to be upgraded to handle larger amperages, BlueSea had a good resource (http://assets.bluesea.com/files/resources/newsletter/images/DC_wire_selection_chart.jpg). Again, Jeff Cote elaborates on this in his boat show seminar.

The upgrade to a new Amp-it 105 (CMI-105-ER – 105A Motorola/ Prestolite/ Leece-Neville) externally regulated alternator required several changes. First, I changed the pulley system from a single v-belt to a serpentine belt. I sourced the alternator from Compass Marine in Maine.

There was a problem, however. The pitch of their Amp-it 105 alternator did not match that of the original Mando 55-amp unit. The adjusting arm conflicted with the alternator cooling fan. I shortened the existing bracket and shortened a Balmar bracket to allow for clearance (see image 2).



Left image shows original bracket in silver with new alternator.



Right image shows the modification to the arm.



Balmar ARS-5 installed below the stairs.

I also installed a Balmar ARS-5 external controller and mounted it above the engine access. A teak cover for the regulator is in the works.

Once the physical issues were accounted for, I tackled the wiring. Both the power and the ground needed to be upsized. To minimize voltage drop I used 1/0 AWG Ancor wire run directly to the battery. This was also a recommendation from a couple of sources.

All my power inputs (solar, alternator, and charger) are run unswitched to the house bank of four Trojan T-125 flooded golf cart batteries. Two batteries are wired in series to develop 12 volts, then the two pairs are wired in parallel to the fuse block (see image 3). I couldn't find a decent fuse

The real fun began when it came time to hook up the ground wire from the alternator to the engine block. I had several missteps here.

block for multiple power sources, so I built my own (see image 4). The battery switch is left on "both" and house batteries are the primary source to the starter. The separate starter battery is charged through a battery isolator. There is a bypass switch on the isolator to engage this battery if needed.

The real fun began when it came time to hook up the ground wire from the alternator to the engine block. I had several missteps here. Access to the ground wire is through the little door in the back cabin. After trying an assortment of wrenches and sockets, I was finally able to remove the bolt. I decided it would be easier to connect the 1 AWG wire to the block and then cut to size for the alternator.

While this was a good idea, actual practice was much more difficult than the concept. The wires are just too stiff to guide both large wires and the small ground wire back into its threaded hole. I eventually hit upon the plan of replacing the bolt with a socket head set screw and then capping it off with a lock washer and nut. This gave me a post to hold the wires while I put the washer and nut on. Remember this is a very small door I'm working through, totally by feel. The first set of set screws

was M-10 coarse. This failed. It seems that electrical connections like to use fine threads. I found some long set screws at Fastenal, and tried them but once I bottomed them out, there was not enough bolt left to attach the wires. Longer M10 set screws just don't exist, unless one special orders 100 of them at \$7.00 apiece. It eventually occurred to me that I didn't need to bottom out the set screw, since the original bolt didn't bottom out either.

Below is the list of sources for my project, as well as the next chapter for Desperado power project. —**John Fischer**, C350 hull #210, *Desperado*, White Lake, Michigan

Sources:

- Vesper AIS: Milltech Marine (www.miltechmarine.com)
- Alternator & pulleys: Compass Marine (www.marinehowto.com)
- Balmar Regulator & Victron solar charger: Amazon

What's next?:

- Enclosure for external regulator.
- New battery switch to replace 1/2/both
- Echo charger to allow house to charge the starter battery



House bank rewired with 4 Trojan golf cart 6 volt batteries.



Installation of fuse block and negative bus in battery compartment.

CATALINA 34/355 INTERNATIONAL ASSOCIATION

Re-plumbing our Catalina 34 - *Eximius*



C34 Association
Technical Editor
John M Nixon

C34 Associate
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Ron Hill

Special thanks to Paul Atcock for submitting this article. —**John M Nixon**, c34hull728@gmail.com

In 2019, we spent nearly a month in the Bahamas - Abacos. We filled out fresh water tanks whenever the opportunity allowed, and we carried and additional 24 gallons in slim cans tied to the port

side life lines. As we turned back for our trip to Lake Worth Florida, one of the old hoses failed and pumped all of our fresh water into the bilge - We wondered what that noise was! We still had nearly a week to go, and no planned refilling locations en-route. After a couple of days of miserly water use, we were able to refill two of the 6 gallon containers at Fox Town thanks to the very friendly locals. I vowed to replace the 34 year old poly hoses soon.

'Soon' was in March 2020, the pandemic curtailed three months worth of planned cruises and allowed projects to move up to the 'do it now' status.

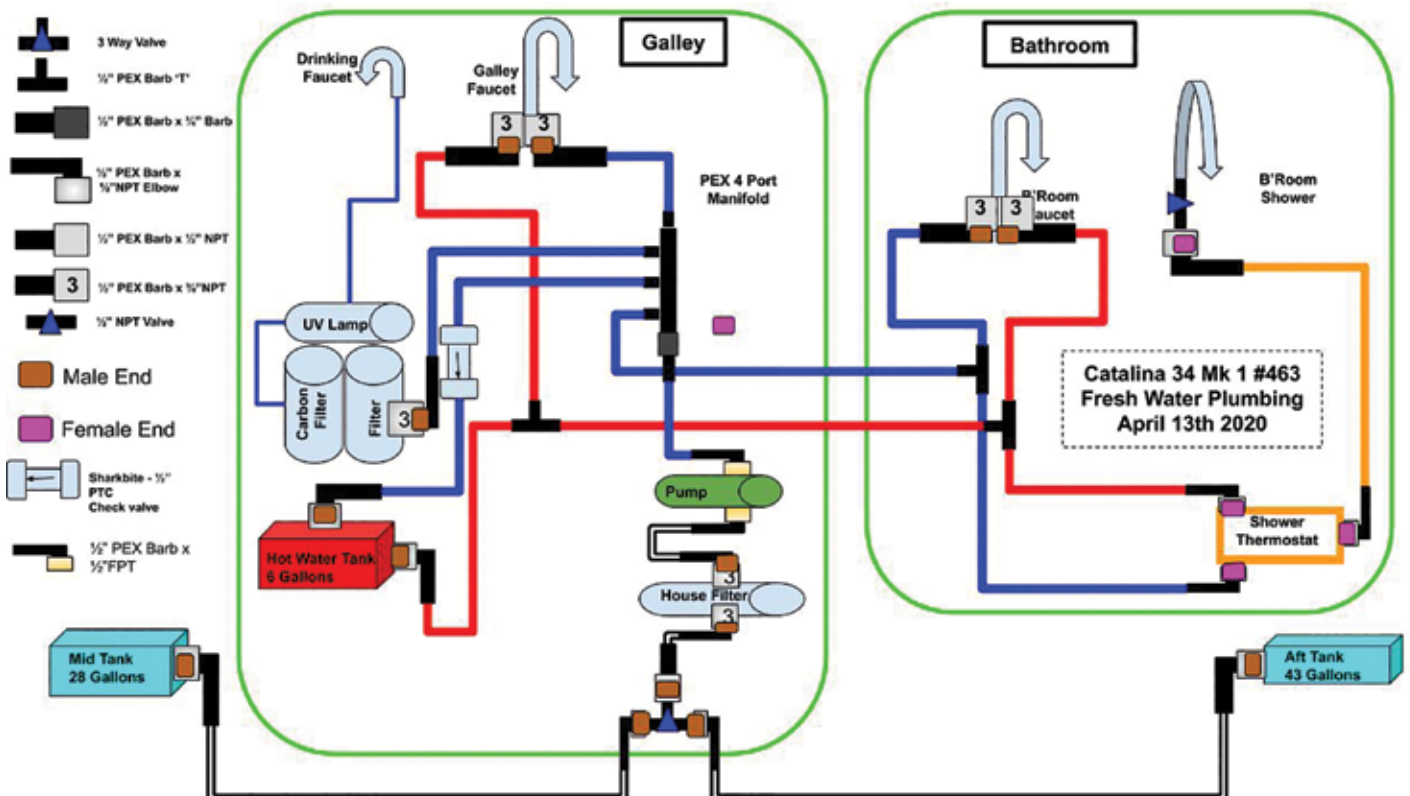
First step was to decide what to replace. I was game for replacing all of the old hoses and even the new hoses that were on new improvements made over the past 4 years.

Step one was to draw up an accurate schematic, marking it with the types of fittings that would remain in place. It took several hours and several trips to the boat to check out the fittings. The C34 Forum is always the go-to source for anything on our boats and it didn't fail this time. I found that the Fresh Water tanks have 1/2" FNPT fittings (Female NPT). The faucets were all replaced in the last couple of years and they had 3/8" FNPT fittings. The Water pump has 1/2" FNPT fittings and all of the new plumbing: Drinking water filtration system and UV lamp assembly as well as the faucet were all new since 2015. The Bathroom Shower Thermostat and shower fitting were also new in the past couple of years.

Having figured out the layout, next was the decision about which type of piping. In the past couple of years, a new type of PEX Piping fitting has reached the market. I decided to use the type that require a Crimped Clamp. They are really easy to put together, not so easy to pull apart (and that was one of the objectives in this upgrade) and they are cheaper than hose clamps. Even the PEX piping is cheaper than the flexible reinforced poly hose.

With my schematic updated to indicate which type of PEX fitting to use to connect each part of the system, next was accumulate the materials.

The local Lowes had quite a few of the items and all of the piping. Some fittings were more difficult to locate, but I found them at ACE Hardware and US Plastics (online). Some were special order. It took nearly a month to get all of the components. I had purchased the PEX Clamp Crimp tool from Amazon, it was the only tool that I would require to complete the job except for a few holes that I had to drill.



The most obvious outcome is the new Fresh Water Tank Selector Valve, it's easy to reach and a quick look reveals which tank is selected.

An important part of the plan was to move the existing Tank Selector valves from inside the galley lower cabinet shelf (which I had only replaced two years ago!) and to mount a Fresh Water Tank Selector Valve on the outside of the galley cabinet.

With all of the components in hand, the next task was to decide the order of installation. I removed all of the plumbing from under the galley sinks and from the Midship Fresh water tank to the existing selector valve, and from the galley to the bathroom, where the hot and cold pipes pass under the floor, aft and up on the Port side of the engine mounts, then aft through the engine bay wall, then outboard to Port and into the bathroom sink cabinet. All of that was pretty easy, but grotty! Some of the pipes are nasty to handle, especially the two hoses from the galley to the bathroom.

I spent a while trying to locate the Aft Fresh Water Tank outlet, turns out it is accessible by laying half in the bilge area under the Aft Berth, facing upwards and then trying to reach it where it sits on the underside of the tank. Sorry folks but that pipe is staying put. Changing it out is for a younger guy. That meant that the Aft tank supply 'hose' is still in place from the tank to just where it reaches the inside of the galley cabinet. *[Tech Ed. Comment – Depending upon how many wires have been routed vertically forward of the aft tank, it can be easier to pull the entire tank out of the aft shelf area where you can reach the output hose fitting and hose. This does require removing the aft bulkhead. I have had that bulkhead out so many times on my boat it doesn't scare me anymore, but it is a bit of a pain in the rear.]*

The order in which each new pipe was installed is probably pretty much the same concept that Catalina uses today - make sure you can make the joints in the awkward spaces. For example, the Hot Water hose to the bathroom needs an elbow joint just below the removable flooring that is aft most from the mast adjacent to the galley housing. That joint was going to be the last one made as making it earlier would make it nearly impossible to make the elbow joint inside the bathroom cabinet where the pipe has to turn up towards the faucets, there's just no room inside the cabinet to make any joints. This lead me to make several sections of the piping outside of the location where they would finish up. So it's important to figure out where you can make a joint and where not.

During all of this, I had to remove the Fresh Water pump and took the opportunity to refinish the shelf on which it sits. This also allowed me to reorganize the wiring layout. So, a plus is that the shelf is now a high gloss finish and the pump and UV lamp power supply is neat and tidy, and I do like neat and tidy.

I did use a push to connect fitting for the Check valve that prevents Hot

Water from the tank flowing back up the Cold water supply pipe. I could not find a PEX Clamp Crimp type of Check Valve, so I bit the bullet and paid the high price of the Push to Connect device.

Looking back on this project, would I change anything? Well, I used ½" PEX piping throughout, it's slightly flexible,

but not much. The pressure at the bathroom and shower is still high (the pump is 40PSI) and the water flow at the extreme end of the plumbing, the Shower, is excellent. However, I might consider using 3/8" piping and fittings, the plastic Push to Connect fittings are much cheaper than the ½" Brass versions. There is a huge benefit of the Push to connect fittings and the 3/8" piping:- Making the joints is a breeze and the pipe's flexibility would actually cut down on the number of elbow joints required.

The most obvious outcome is the new Fresh Water Tank Selector Valve, it's easy to reach and a quick look reveals which tank is selected.

Total cost of the project was just over \$220, but the boat is about 4lb of hose clamps and hose fittings lighter, probably a net weight change of about 3lb. I have plenty of pipe left over and a bunch of the fittings because they were only available in packs of 5 when I might only have needed one.

I have included the link to my blog where you can find the 3 sections of a more detailed description of the install, including more tips, pictures, component identifications, and sourcing information. **—Paul Atcock; Eximius, #463,** www.sailingeximius.com



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CATALINA 320 INTERNATIONAL ASSOCIATION

Replacing C320 Chain Locker Drain Hose



C320 Association
Technical Editor
Mark Cole

Special thanks to John Morrison for submitting this article. —**Mark Cole**, boatnboot@me.com

Below is a shot of 320V berth showing the panel beneath the shelf, and the forward water tank with the inspection hatch cover removed.

The wood panel under the self, must be removed and is easily done by removing the 4 screws from the corners of the panel.



C320 Association
Technical Editor
Jason Reynolds



This is a simple job but not easy given the confined space. Luckily my hands and forearms are small, but got scraped up pretty good reaching around the slim gaps of the chain locker!



Once the panel is removed, the exterior of the chain locker is exposed. The drain hose exits the bottom of the chain locker.

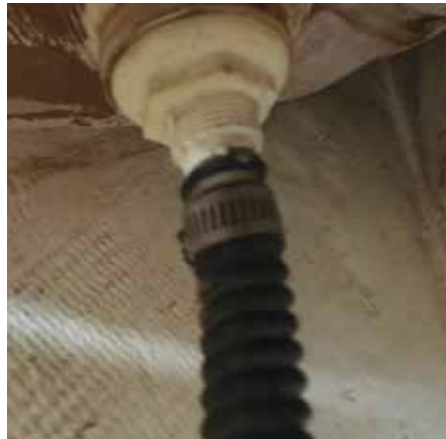


Image of the drain hose attached at the bottom of the chain locker. It is quite difficult to access this end of the hose. The widest gap is on the starboard side of the locker; the port side is very narrow indeed. I used a socket screwdriver to get the clamps off, and then a heat gun to heat the hose where it attaches to the fittings. Given the limited access and the stiffness of the hose I found it impossible to remove it without the heating.



This is a shot of the hose taken from the forward water tank access. This end of the hose is attached to the fitting on the starboard side of the hull about 3" above the waterline. It is fairly accessible and again I used the heat gun to ease removal.



This is the removed hose. It was quite brittle and when I tried to flex it the hose broke as you can see. The hose is 19" long by 3/4" ID.

Here is the new hose installed taken from the water tank location. I used automotive heater hose, which I'm satisfied will last at least as long as the original (21Years); by which point LuffinLife will have past to other owners! This is a simple job but not easy given the confined space. Luckily my hands and forearms are small, but got scraped up pretty good reaching around the slim gaps of the chain locker!

—**John Morrison**, LuffinLife, #574



CATALINA 28 INTERNATIONAL ASSOCIATION

Spring is Upon Us Once Again

C28 Association
Technical Editor
Ken Cox

A reminder that the group has moved to Catlina28@groupsIO. You can also find there all of the historic e-mails and subjects in the group as well as photos. There is no charge to be able to access this information and we have many creative and a lot of great input from our group so I would encourage you to be a part of it. I know that 2020 many of you were not able to use your boats and I hope that the craziness is behind us at the time of the printing of this article.

Bob Thomas with hull #498 a 1997 MKII, installed a windlass in his boat and photos are on the site. Bob first made a cardboard template and constructed a mount from TIG welded 2" x 3"x 3/16" aluminum angle. Then I fabricated a stainless steel separation plate to protect the drive assembly and prevent the chain from piling up under the windlass.

It took a while to figure a way to access the backside of the anchor well to through-bolt the mount in place. I had to cut a 5" access port in the forward inner liner and was able to access the aft mounting bolts. There was 110 volt Romex behind this area so I had to use caution with the hole saw.

I was able to reach around to secure the starboard bolt. The port side bolt and nut were a little more difficult.

Using a borescope camera I was able to see that even though it appears the liner is loose and could be cut behind the teak trim and dropped as was indicated in a previous post, it is bonded to the deck in the middle. I had to make a small access opening in the liner below the bolt and using a long handled box wrench with the nut held in place with butyl rubber, was able to secure. I covered the access hole with a small stainless cover. I also made a removable hand control.

There is 90 feet of 1/4" chain and 200' of 1/2" line using a line to chain splice. I keep the last 100 feet of line coiled and secured to the side as reserve. Photos are available on the group site. I think we are still trying to figure out why the Romex was there but on some of the larger boats there is also a 110V hook up there as well.

Clarence Jones former owner of Prime Time, hull number 703 also a MKII did a similar project with a Lewmar windlass and says it works great, you can see his comments in Good Old Boat magazine on line as well.

David Rice, hull #507 MKII, installed an A/C unit in his hanging locker, details and photos can be found on the website.

Scott Wells did a similar installation in the V-berth, photos on the website. New aA/C install. After doing about as much research as a reasonable person can do online, I settled on a 12,000 BTU heat pump from Mermaid A/C in Florida. Ordered the unit and the install kit in January. Had the boat out of the water in March so I took that opportunity to install the foot-scoop through hull forward in the starboard bow. There is not a "natural" location for a marine a/c in a Catalina 28 so one has to make some space as any spot on the boat is going to be a compromise. I thought through several locations on the boat and settled on installing the unit in front of the v-berth. There is a stand-in location in the v-berth and a few cabinets that I can live without.

So I removed the cabinets under the v-berth, removed the access door to the forward bilge and the step. Built a shelf with 5/8 marine plywood and set the unit. This leaves ample space under both the port and starboard v-berth for the electric control panel, strainer, pump and ductwork. I will run the ductwork up the starboard side of the v-berth and poke it out through the bulkhead just below the deck.

I'll post pictures as I work through this over next few weekends, but should be moving cold air before 1 June which is the deadline I gave myself.

Denis O'keefe, did a modification to his icebox, again photos on the website.

The icebox lid on Brazen Article was hinged on the bulkhead adjacent to the electric panel and had a hook with a piece of line to hold it open. That

worked fine for a number of years but when I planned to replace the white Formica top I realized I could easily move the hinge 90 degrees. My thought was to use a gas lift to keep it open but I had an old spring lift in the junk box that fit perfectly.

With the head door latched against the ice box I can still reach around for access, same as before. With the head door out of the way loading or diving deep for frozen stuff is easier now that the door opens wider.

This was a zero cost project (...rare), I just cut and reused the existing hinge.

As you get this issue it is spring a few things to remind you and throw out there.

Are you bottom painting this year, if so, it's a good time to check your keel torque. Do you have a smile? I do it before every bottom job, it's not that hard if you have the right tools. I use a 1/2" Snap-On breaker bar, the kind that clicks when you meet torque. I add a long 30" extension and the proper socket. I always use an extra long brand name impact socket, they cost a little more but are much stronger, on some you may need a crowfoot. I start with a low torque to see where they are, you would be surprised, I have seen many that did not click as 25#s. I start at 25 #s then 50, then 75, then 100, then 125 etc. You know quickly if they are trying to pull out which is rare but this helps you to stop early before you get it really pulled up. Also tighten them in a circular sequence starting at the center and working out. This will slow down hole elongation from excess flexing when on a hard tack. If your just checking them you can simply run the torque. If you have leaks, Mike Smalter posted spec's on the website along with a drawing of how to do a complete reseal on the bolts. It's not a hard job and gives you a chance to clean the bilge as well.

A few quick and simple things.

Spring is a great time to inspect your water pump impeller, is it still soft and subtle? Any cracks between the paddles? Did you leave it in and it's deformed? Any of these is a good cause for

Note from Catalina Yachts: Catalina keels are installed with a rigid fiberglass bedding compound that is not compressible – the exterior joint is fiberglassed over. Unlike keels bedded with a flexible compound like 3M 5200 it is not necessary to tighten the keep bolts unless the exterior bond is damaged or repairs have been made. –Gerry Douglas

CATALINA 28 INTERNATIONAL ASSOCIATION

(continued from previous page)

replacement, you do have a replacement on the boat don't you?

Are your flares up to date? Have you checked your Kidde fire extinguishers for the recall?

Inflatable PFD's, if you have an auto inflate and have never tested the

mechanism, maybe this year just jump in and see how long and if it inflates. Yes you will need a new canister but it's good insurance, see how long to inflate, leave it inflated for 24 hours and see if it is holding air. This is also a good time to check for developing cracks, hard

spots, soft spots. You can roll the air out of them but Mike Smalter uses the 12V inflation pump for his inflatable to such the air out to shorten the job and get them as small as possible. **—Ken Cox, C28 #317**

CATALINA 25/250 & CAPRI 25 INTERNATIONAL ASSOCIATION

Catalina 250WB – Below the Waterline

C25 Association
Technical Editor
Seth Martin



C250 Association
Technical Editor
David Gonsalves

Capri 25
Association
Technical Editor
Position Open

Special thanks to Patrick Lieser for submitting this article.

—David Gonsalves,
catalina250tech@
catalina-capri-25s.org

Background

My 1997 C250WB has been a great boat. Approximately 18 of its 23 years have been in fresh water, three years trailer sailing to harbors from San Diego to Morro Bay, California, and the last two have been in a brackish, shallow water slip in Morro Bay's back bay. With proper upkeep, #312

remains in excellent condition, and until Spring of 2019, had all of its original keel lifting hardware.

Backing out of my slip at a fairly low tide, the partially raised keel snagged the bottom and quickly popped the 22-year-old stainless steel keel lifting pennant. I continued to sail whilst I researched current technical solutions.

My go-to was Catalina Direct (CD), wherein I purchased their item #E2031 Keel Lifting Pennant Retrofit Assembly, constructed to Catalina Yachts specifications. With assistance of a local diver, the new, Vectran cable was installed, but not without several issues, which I'll get into below.

Subsequently, I had a diver replace the cable and attachments twice more with various suggested solutions until

I finally decided to take on all of the lifting keel underpinnings. This was an obvious requirement as the strength required to lift the keel was much greater than the original - now winching, and one could feel a bit of grating which was worrisome.

Pulling the Boat

I'd had the boat out of the water two years prior for barrier epoxy and antifouling paint. At that time, I'd performed a cursory inspection, but obviously had missed the subtle beginnings of hardware failure.

Having replaced the turning ball on my previous C22 while on the trailer, which required only a little imagination, I began the search for the C250 solution. I found a local crane operator with

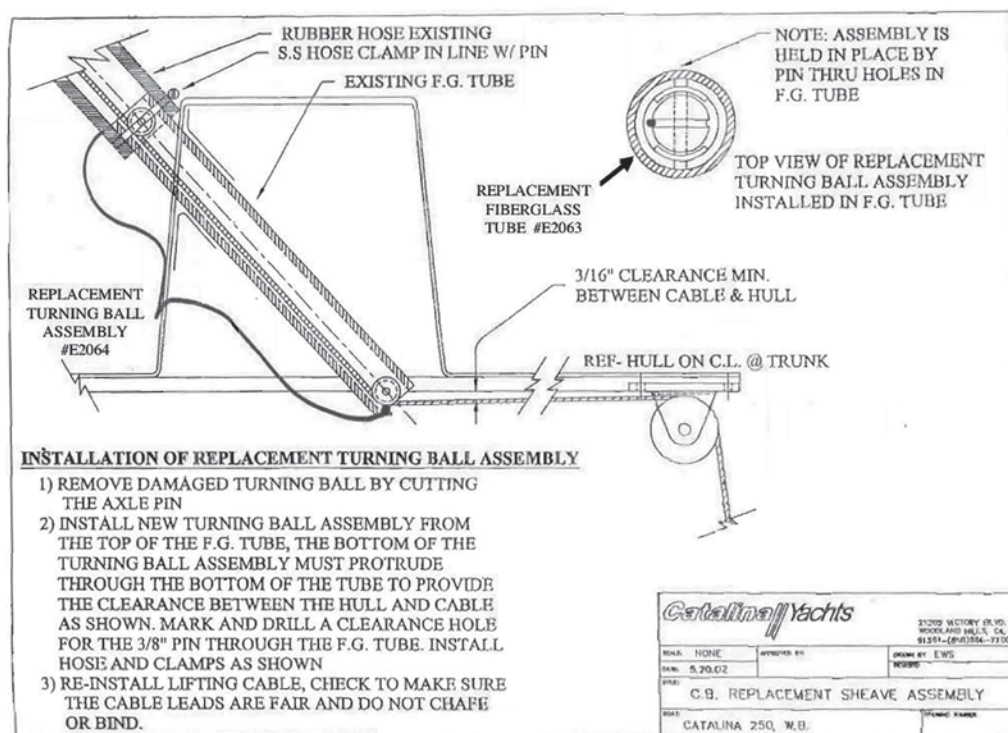
a variety of slings and he offered to lift it in his construction yard, but missing was the platform to stabilize the vessel. Eventually, I trailered the boat to a port about an hour South of me and set the boat on proper stands for a period of 12 days, replacing all of the hardware and freshening up the antifoul paint, among a host of other small projects. I call this my bi-annual "Charlie Status", a term I adopted from my time as skipper of U.S. Coast Guard Motor Life Boats. "Charlie" referring to the boat being inoperative and unavailable for service.

Hardware Ordered

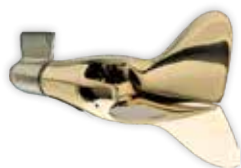
I pre-ordered all of the keel lifting hardware from three vendors, Catalina Direct, and West Marine, and Amazon:



- Keel Lifting Pennant Block Assembly, CD #E2137
- Centerboard Turning Ball Conversion Kit, CD #E2146
- Keel Lifting Pennant, West Marine of South Carolina. I had two Vectran pennants made up to fit the attachment hardware previously purchased from CD, and one stainless steel cable with my original clevis hardware fabricated, thus saving shipping costs as well as providing me with two pennant options, and spares
- Keel Cable Hose, CD #E1840
- Keel Lifting Pennant Turning Block, CD #E2083
- Keel Lifting Pennant Attachment Fitting (less the Vectran), CD #E2049
- Delrin 1/2" diameter, 6' long, for fabricating replacement bushings, Amazon



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CATALINA 25/250 & CAPRI 25 INTERNATIONAL ASSOCIATION

(continued from previous page)

Keel Lifting Pennant Block Assembly

Reviewing the images, you'll note the keel block assembly was in bad shape, the block was missing portions of the wheel sides, and one of the screws was loose due to a non-level hull mounting surface, which in turn caused the elongation the bolt hole on the block. I installed the new one, a very well manufactured component, with Locktite on the bolts and 3M5200 on the base to provide a level mount.

Centerboard Turning Ball Conversion Kit

The turning ball had become chipped and was deteriorating. I cut the s/s turning ball pin on the port side with a single-sided hacksaw frame, being VERY careful not to damage the fiberglass tube. I will say this is hard work and used both ends of three hacksaw blades as only the tip gets used - buy the best you can find... it's worth it! After cutting one side, I was able to gently pry the assembly out of the tube as the starboard side pin hole was a little sloppy, and the remaining piece fell out.

I've a few comments on the CD replacement turning ball conversion kit:

- I realize it is built to Catalina Yachts specs, but it could have been 1/16" wider, or added a s/s sleeve for the tube... a bit of a loose fit within the fiberglass tube.
- It could have been about 1/2" longer. It must be installed with the south end protruding out of the tube to align the pennant, but that leaves one drilling the upper pin hole at a tough angle - with direct interference from the rear of the bottom



Replacement assembly



Installed assembly



Bottom assembly



Bottom assembly pennant

step housing. Note in the image that I used a bit of 3M5200 to fill in around the pin.

- I like the idea of the added upper ball to ease the pull, but the pennant doesn't pull true due to the offset location of the single, upper block. Note my added Harken mini-block image to help align the pennant... time will tell if this is helpful.

Keel Lifting Pennant Assembly

As mentioned above, I initially went with the full CD #E2031 replacement kit with the pennant, hardware and new single block, built to Catalina Yachts specs, but I had three serious problems:

- The Vectran is attached to the new stainless hardware with a bowline and rubber boot... and while it looks nice upon delivery, the bowline came undone... slippery stuff.
- The 1/4" x 20 thread s/s bolt goes through a s/s bushing - 1/2" OD. Note in my image of four different bushings. The nearly totally eaten away CD s/s bushing was in the salt water 3 months, the next CD s/s bushing was in the water only 1 month, the third bushing is a brand new CD unit, and the fourth I made from Delrin... and this is a cool story.

I had decided the bushings from CD were inferior metal, probably something like #304 or worse, not #316 s/s, as the remainder of the s/s components in the kit were like new after months in the water, and also, the supplied bushing fails the magnet test. Not able to source a #316 bushing, I contacted Catalina Yachts and asked to speak with a C250 engineer. I ended up having a nice discussion with Gerry Douglass. He agreed that the bushing is likely manufactured for CD, but with an inferior metal. My thought to Gerry was to use a non-metallic replacement like nylon or something similar. He concurred, but directed me to Delrin, a very tough, strong, nylon-like material. I sourced a 6' stick of 1/2" diameter from Amazon, drilled a 1/4" hole in the center and cut it to 5/16" width, using just my drill press as a lathe and Viola! I now have a Delrin bushing.



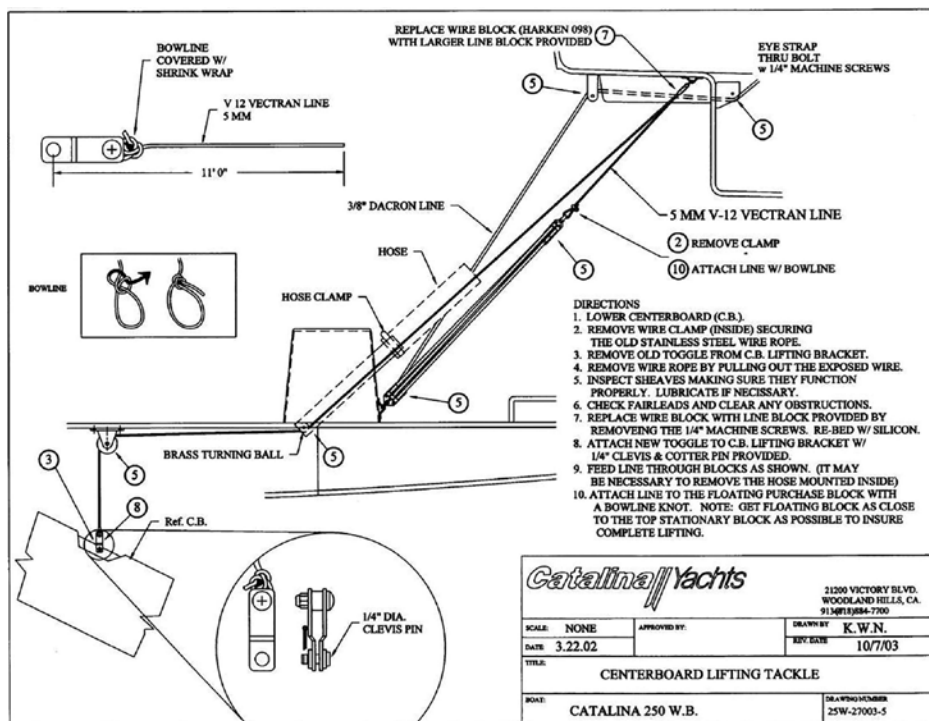
Custom guide

- Additionally, the attachment point of the new Keel Lifting Attachment Fitting to the keel is now by design, a 1/4" clevis pin, where the original clevis pin was 5/16", and the keel hole is 3/8". I believe this to be a sloppy fit and I'm concerned that the wear/load surface is minimized with this "upgrade" - which seems evident in the images. So, having over five feet of Delrin in hand, I fabricated another bushing with a 3/8" outside diameter and a 1/4" inside diameter to provide a better long-term fit.

Keel Pennant

I chatted with West Marine riggers in South Carolina, and long-story-short, I've got a couple of pennants with beautiful 1/2" eye splices, detailed whipping at both ends, and the bitter end dipped in some sort of epoxy or glue. I've mated the new pennant with the CD Keel Lifting Attachment Fitting and my Delrin bushing, and added Loctite to the 1/4" bolt. I went with a 14' length of bulk Vectran, which leaves about 13' after the splice, and a nice amount to work with to secure it to the 6:1 block behind the steps. The Vectran itself seems a better grade than the CD version, and so far, the halyard hitch is holding well. Note my use of Rubbaweld on the clevis to ease chaffing.

All this said, I'll have to see how all of this works out in my boat. I am in brackish salt water, keel up when docked, in a shallow marina in Morro Bay, CA. **-Patrick Lieser**, Morro Bay, CA, *Knot My Fault II*, C250WB, Hull #312



Lifting block



Centerboard derlin bushing



Centerboard new attachment



Centerboard attachment

Association News

News That's Specific To Your Catalina

Catalina Fleet Rosters

We are printing one point of contact for each fleet (a phone number, email address, OR website address). Fleets are a great way to learn about rendezvous, cruise ins, raft ups, tours, and concerts in your area. *Mainsheet Editors, make sure to submit your current info in this format next issue!*

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C36/375IA Board Member, Fleet Relations

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#5, Long Island Sound

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#17, The Netherlands

e.scheffelaar@marineobjects.nl

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jenweber33@charter.net

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C34irvine1383@comcast.net

#12, Chesapeake Bay

fpoa34@aol.com

#13, Lake Lanier Georgia

toneydot@me.com

#14, Florida East Coast

bob@s-i-inc.com

CATALINA 30/309 FLEETS AND ALL CATALINA FLEETS WITH C30 MEMBERS:

#1 San Francisco Bay, CA

www.southbeachyachtclub.org

#2 Marina Del Ray, CA

800.501.1378

#3 Long Island, NY

http://www.l-y-n-c-h.com/IC30F3

#4 Lake Erie, OH

jpaint412@msn.com

#6 Seattle, WA Tacoma & South Sound, WA

http://home.earthlink.net/~catss

#7 Tampa/St. Petersburg, FL

AV8RSailor@verizon.net

#8 Long Beach, CA

http://www.cat30fleet8.com

#10 Galveston Bay

www.fleet10c30.com

#11 Chesapeake Bay, MD

www.sailccyc.org

#12 North Atlantic (MA)

www.allcatalinane.org

#13 San Diego, CA

www.sdcatalinaassoc.com

#18 Long Island Sound (CT)

www.saillisca.com

#19 King Harbor, CA

czamites@aol.com

#21 Chicago, IL

www.catfleet21.org

#22 Puget Sound, WA

www.capsfleet1.com

#24 San Pedro, CA

jerinbill@roadrunner.com

#26 Lake Texoma, TX/OK

512.835.8680

#27 Barnegat Bay, NJ

(no contact)

#28 Lake Ontario, NY

www.locacac

#29 Chelsea on Hudson, NY

salcerniglia@optonline.net

#30 Hampton Roads, VA

http://fleet30.org/index.htm

#31 Clinton River, MI

drpost6290@yahoo.com

#32 Lake Lanier, GA

rrose@deltaenv.com

#35 Southwest Florida

(see Fleet #7)

#36 Lake Perry, KS

913.677.3143

#37 Vancouver Island, BC

gm@bonnor.com

#38 West Michigan, MI

http://www.lmca.com/

#40 Lake Pleasant, AZ

602.867.0650

#42 Cheney Reservoir, KS

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#44 Santa Cruz, CA

clubmanager@scyc.org

#45 Columbia, SC

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#46 Grapevine Lake, TX

atanua.sail@gmail.com

South Shore Yacht Club, Milwaukee, WI

http://2011ic30anationalregatta.com

Other regional C30 Fleets

CRACA Columbia River, OR

celtic-myst@attbi.com

KLACA Kerr Lake

doncourtney1@aol.com

OSCA Rhode Island

www.oscafleet.org

SBCYA Long Island, NY

www.sbcyc.org

CSMB Santa Monica Bay

millerjonathon@mac.com

Lake Hefner, OK

bluwater30@cox.net

Fleet #69, Austen TX

http://www.catfleet69.com

GC3, Alabama

GulfCoastCatalinaCruisers.com

Let us know where you sail!

To have your fleet listed here, send the information to your Association Editor for inclusion in the next issue.

CATALINA 400/445 INTERNATIONAL ASSOCIATION

Association Update – A Merger is In Sight!



C400/445
Commodore
Frank Falcone

As I write this article on December 14, 2020, the ‘year of existential (a word that everyone seems to be using these days) change’ is drawing to a close. Can any of us even begin to speculate what 2021 will bring? Well, if

we conclude that the oceans, bays, lakes and rivers of planet earth will continue to exist in some reasonably recognizable form in 2021, then it’s also reasonable to conclude that we (if we’re still here) may be sailing upon them next year. Given what we’ve all been through in 2020, it’s probably NOT a good idea to speculate or predict anything further than that!

If you may recall from my last *Mainsheet* Article, Association change is upon us as well! We’re in the process of merging our Catalina 400/445 International Association with our sailing colleagues in the C42/425 International Association. The basic idea is to merge

the Leadership & Management functions, but not the individual established fleets. The leadership & management of the new Association (name not selected yet) will have 2 officers from the C400/445 Int. Association (Commodore & Vice Commodore) and 2 officers from the C42/425 Int. Association (Secretary & Treasurer). These individuals have been identified. Broad plans are to move forward with this merger in the spring of 2021. Also, Catalina Yachts, Inc. is TOTALLY ON BOARD with this merger.

The Commodore’s position, currently held by ‘yours truly’ will be open and available for this new Association. I will plan to complete my service as Commodore when the new Commodore is named. More than likely, there will be an ‘overlap period’ through which a smooth and seamless transition can occur. In addition, such an ‘overlap period’ will be required to help our Vice Commodore and our new Secretary & Treasurer feel confident in their positions going forward.

As of now, we have 2 individuals who have expressed interest in becoming our new Commodore. If this situation continues through to the end of this calendar year, then we will have an election early in 2021. If any of you are also interested in being considered for the Commodore’s position, please let me know via response to this by email. My email address is listed at the end of this article. Election and voting details will be provided on our C400/445 website.

My Catalina 400 Mark II, the *Silver Eagle* is now buttoned up and asleep in the water in her slip for the coming winter. I’m hoping that when she awakens in 2021, she’ll see a bright future ahead for her crew, for our new Association and its members, and for sailors ‘round the world!

For now, I want to wish everyone a safe, happy, healthy and merry Holiday Season and a prosperous, bright & fulfilling 2021! Stay safe out there!

—**Frank E. Falcone**, Commodore, C400/445 International Association, frank.falcone@villanova.edu

CATALINA 34/355 INTERNATIONAL ASSOCIATION

Secretary’s Report



C34/355
Association
Secretary
Stu Jackson

C34IA Membership bounced back significantly to 533 from last quarter’s 459, and includes 28 C355s.

Frank Butler

I had the pleasure of meeting Frank in 2005 at one of the hugely successful Catalina Rendez-

vous at Angel Island State Park on San Francisco Bay. Those yearly events were spectacular, regularly drawing over 75 boats of all sizes of Catalinas. The mooring field was completely filled, with groupings of similar sized boats rafted together. I’m sure that there will be extensive coverage of Frank in the rest of this issue. The photo is from

that 2005 Rendezvous, which was the last one held there. The last one held at Angel Island State Park, San Francisco

Bay - I count 50 in this photo, with more off to the left.



2005 Catalina Rendezvous, San Francisco Bay

CATALINA 34/355 INTERNATIONAL ASSOCIATION

(continued from previous page)

Chesapeake Bay Fleet 12, 30 Year Anniversary

Ron Hill has been one of the many mainstays of the Catalina 34 International Association and Fleet 12. He is our Associate Technical Editor, Past Technical Editor & C34 General Overall "Guru." He has contributed an incalculable volume of quality technical information about the Catalina 34, and remains active on the Forum/Main Message Board. He once shared with me the fact that he is a hunt-and-peck typist, which I believe makes his body of work even more impressive. All of us have learned a lot from Ron. He sent me this in October:

Thought you might like some C34 history. I was asked by our present Fleet 12 Captain Dave Schreder about the formation of Fleet 12 about 30 years ago. Looking at my file, Bob Bierly and I sent out 67 letters to C34 owners in the NE states below Long Island (that already had a fleet). This mailing list was refined by August 1990, down to about 30 boats.

The first meeting was held at my home in Springfield, Va. on Dec. 1, 1990. It was attended by a total of 28 people representing 15 C34s. The agenda was : Voted for a C34 fleet, scheduled meetings, set dues (\$15), elected Officers, scheduled cruises and firmed up the next spring meeting date/location.

The group decided on 3 positions - Fleet Captain, Secretary/Treasurer and Newsletter Editor.

For entertainment Charlie Copland and I showed our C34 Improvement videos to the attendees. I had wired up a TV in the downstairs Den and one in the family room - so all could see the videos. Then Charlie and I answered questions. Next Corkey Dalton conducted a "Snipe Hunt" where everyone looked for Corkey's glasses! Upstairs, downstairs, bathrooms, kitchen, living room and deck, but NO glasses were found because they were in Corkey's auto - he forgot to bring them inside the house!!!

We concluded with a Honey Baked Ham buffet with drinks of soda, beer and wine!! Fellowship abided and the Fleet 12 was formed!!

Of those original attendee's only the Bierlys, Rupps and Hills remain. The first Fleet 12 roster of 28 Nov 1990 by Bob; was of 26 boats from Princeton NJ to Norfolk Va. (with a sketch map of the Chesapeake Bay showing their location!!) **-Ron Hill**

Many of us have enjoyed the benefits of fleet activities, in addition to the many different Catalina Rendezvous experiences. I've enjoyed those in San Francisco, San Juan Island (Roche Harbor) and the more recent two Canadian Rendezvous at Thetis Island. The racing on San Francisco Bay created multiple wonderful experiences, made even more appealing when the racing committee wisely developed the separate racing and cruising divisions which leveled the playing field for so many of us.

Trust you remain safe, well, and are planning your 2021 season. And, as always, many thanks from all of us to all of you for supporting the C34IA. **-Stu Jackson, #224 Aquavite**

The racing on San Francisco Bay created multiple wonderful experiences, made even more appealing when the racing committee wisely developed the separate racing and cruising divisions which leveled the playing field for so many of us.

CATALINA 320 INTERNATIONAL ASSOCIATION

Water Detective At Work



C320
Commodore
David Alfred

companion way, and sure enough, my wife had accurately described a condi-

One pleasant day late last autumn my wife and I decided to take Romance out for a daysail. Everything went well until Mary Lou went below to get our lunch. She announced that there was water on the galley floor. I went to take a look down the

tion that does not normally exist while we daysail. When we returned to our slip, I inspected the situation in more detail, bringing my ratiocinative powers to bear on the cause of and solution to the problem. I noted that much of the galley floor was wet and the water was pooled about a quarter of an inch deep along the floor below the oven. Having carefully and thoroughly identified the problem, I proceeded with my analysis.

The fresh water pump was not going, so I discounted a leak in the water system. I recalled that the night before

there had been several fierce and lengthy thunderstorms with lots of strong wind. I reasoned that the water had somehow blown into the galley during all that stormy weather. Of course, I had to discount two significant facts to arrive at this conclusion. First, I had not noticed any water when I first went below upon arriving at the boat. I chalked this up to the fact that I am blind in my right eye and, perhaps, did not notice the water when I went down the steps backward and climbed them looking aft on my return to the cockpit. Both times, the

water would have been in the area where I have no peripheral vision. Next, I had to account for why, in twenty years and at least one hurricane, no significant amount of water had ever blown below before. I was semi-satisfied with my resolution of the first issue, but I decided to let that second matter percolate for a while.

A week or so later, we went for another daysail. This time, I carefully inspected the galley floor and found it to be as dry as a three day old biscuit. Good. The water was gone and all was well. We had a very nice sail and returned to the slip rejuvenated and in good spirits. Unfortunately, the water had also returned to the galley floor. My storm water theory was dashed on the unforgiving rocks of reality. Now, I had to find out where the water really came from and fix the situation. I mopped up the water and started thinking. I decided I had too hastily abandoned the possibility of a fresh water leak and, in fact, it must be a leak in the fresh water system since I couldn't think of anything else.

Two days later, I returned to the boat to find the leak in the water system and repair it. I started by removing the sink cabinet and drawer ensemble. Then, I carefully began examining water lines, the hot water tank and hoses. I found not a drop of water on any of the lines or fittings. I left the water pressure on and went for a long walk expecting to

I carefully began examining water lines, the hot water tank and hoses. I found not a drop of water on any of the lines or fittings. I left the water pressure on and went for a long walk expecting to find the galley floor covered with water when I returned and the faulty water line dripping plenty of water. That is not what I found.

find the galley floor covered with water when I returned and the faulty water line dripping plenty of water. That is not what I found. The floor was dry. The water lines were dry. The water heater was dry, and all the hoses were dry. I decided that a fresh water system leak may not be the problem after all. In desperation, I removed the front cover to the engine to see if there might be something to see out of the ordinary. That was the only other thing I could

think of, although I had no idea what to look for or how the engine could be causing water on the galley floor. I saw nothing out of place, but just to be on the safe side, I cranked the engine. When I went below, I saw a steady drip of water from the raw water pump. Some of the water was going into the bilge, but some was landing on the edge of the galley floor. I had found the problem.

Now for the solution.

The water appeared to be dripping from the hose connection to the water pump. Easy fix...tighten the hose clamp. I also decided to replace the impeller while I was at it, hoping that might, in some mysterious way, help with the leaking problem. The next day, I bought a new impeller and new hose clamps. A couple of hours later I was watching my newly installed impeller and hose clamps leak just like before. Another easy solution dashed on those same damned rocks of reality.

Finally, I took off the water pump and saw that the seal was obviously gone. I lacked the skill, patience, tools, and inclination to replace the seal, so I bought a new water pump and replaced the whole shebang. It worked perfectly. No leak. A dry galley floor. Ironically, I got all this done just in time to have my boat hauled for the winter. But, I am ready for next year. —David Allred

CATALINA 310/315 INTERNATIONAL ASSOCIATION

Help Wanted



C310
Association Editor
Bob James

During the past 20 years it has been an honor to be your *Mainsheet* editor for the C310/315 Association section of the magazine since about 2005. I have told our commodore Alan Clark that I will continue in this position for the time being

until another member steps-up. As many of you have found out, it is extremely rewarding to really get involved in an organization as opposed to just being a member.

How about you?

So, what does this entail? Like many jobs, it depends on what you want to accomplish, do, and enjoy. First, you get to work with a great group of other officers and with Dave Landis who puts *Mainsheet* together and will help you be happy and successful. *Mainsheet* is published four times each year. The 310/315 editor should try to provide material for each issue including the Association News and or Features.

Do you like being an author? Go for it! I probably wrote well over a dozen feature articles and 50 Association News articles. Some short, some long, some with pictures and many without. You

should also ask the other Association's officers for input which they have willingly given me in the past. And, the fun part is to ask, beg, cajole, and threaten other Association members to submit (and you get to edit) their articles and pictures for publication.

On any given "editor's day" it is not only rewarding, frustrating and exciting but when the current issue arrives in the mail, a real sense of accomplishment and pride.

How about you? Get involved. It really is fun and rewarding! —Bob James, C310/315 *Mainsheet* Editor, *Winter Dream'n*, C310 #118

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CATALINA 22 NATIONAL ASSOCIATION

Catalina 22 National Championship Regatta

The 2021 Catalina 22 National Championship Regatta is only three months away! The event will be held May 23 to 27 in Pensacola, Florida.

The Notice of is available on the Class website at www.catalina22.org. C22NSA Vice Commodore Ron Jenkie, Catalina 22 Fleet 96 and the Pensacola Yacht Club are finalizing the details for the event.



C22 Association
Editor Rich Fox

The Northern Gulf Coast Cruise is preparing to set sail the week of May 8 to 15 out of the Fort Walton Yacht Club, Fort Walton Beach, Florida. Participants

will head west via the Intercoastal Waterway to Alabama, then make a return trip. The cruise will have a different look this year due to hurricanes that have changed the landscape in and around the area.

If you have a Catalina 22 racing or cruising event in 2021, send your announcement to me so I may post the event on the Class website and Facebook page. Or you may provide me with a link to your event website. Either way works to help get the word out.

Several updates have been made to the website. A new Catalina 22 Racing

page has been added to help encourage new Catalina 22 owners to become involved in class racing at the local, regional and national level. The 125+ page Catalina 22 History book has been updated with events from 2019 and 2020. The Catalina 22 History book is a great resource to learn about the Builder, The Class, and the People who love sailing the Catalina 22. Several new Sailing Destination articles were added including Apostle Islands, John's River, Florida, and Key West.

The most recent cover of the Catalina 22 MainBrace publication featured a tribute to the vast history of the Catalina 22 National Sailing Association with a photograph from the 1974 Regatta International publication. (How many of you old-timers remember that publication?) The cover shot is an official U.S. Navy photograph of Catalina 22 owner Nick Sharp being sworn in for a second hitch in the Navy aboard "Ol' Witch" - a Navy owned and operated recreational sailboat that was birthed out of Channel Islands Harbor, California in the early 1970s. You can read the story of this picture at www.catalina22.org. The Spring MainBrace cover will be a tribute to the 1981 MainBrace by recreating the cover, but with a refresh look that features a line drawing of the Catalina 22 Sport.

—Rich Fox, rich_fox@yahoo.com

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