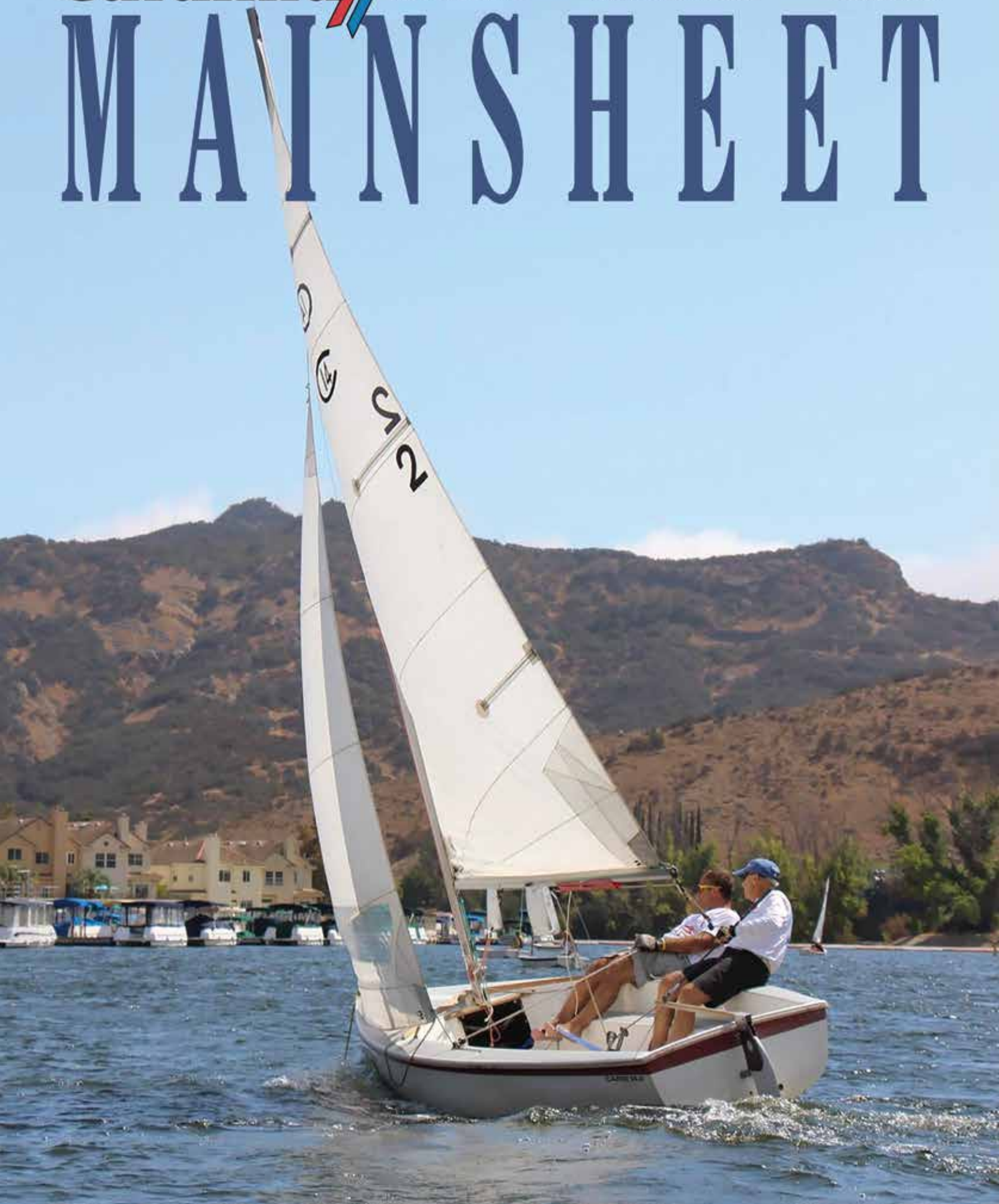


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MAGAZINE

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VOL. 35, NO. 4
WINTER 2017

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DIANA BORJA [CM440]
Joy, our 2006 CM440, hull #22, set sail for Cuba from Key West, Florida on February 28th, 2017. We left our homeport in Vandemere, NC in November and sailed south past Miami, then north to Tampa Bay prior to embarking on our passage to Cuba...

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EDITORIAL:

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Share Your Stories with Us!

***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!

SUBMISSION DEADLINE DATES TO YOUR ASSOCIATION:

March 1st, June 1st, September 1st and December 1st.

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Catalina 36/375 International Association • www.c36ia.com

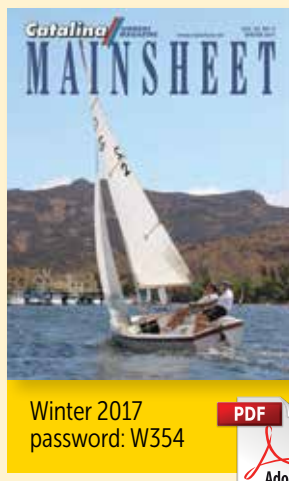
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C375 Hulls: Position Open

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Mainsheet magazine is also available as a password-protected digital download in PDF format so you can print specific pages for archiving in your boat's 3-ring binder or for easy reading on your favorite digital devices. Download this issue today!



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Tech Notes: Position Open

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Capri 25 Hulls: Position Open

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

PUBLISHER / EDITOR MESSAGE

The Bonds That Bind

Our cover story brought back some long-forgotten memories of many years past. The starting point was the brainchild of Ole Eichorn, a young man who had been part of a small but growing number of teenagers involved with a new and upcoming Southern California yacht club in the mid 1970s. In 1968 I had moved to the new neighborhood, which was developed around a manmade lake, with the hope of developing not only my sailing skills but introducing my own teenagers to the sport. My family loved it and almost instantly their friends and then their friends wanted in on the fun. Thus the beginning of a Junior Program that later fueled the start of the Westlake Yacht Club, now a very successful club in the area.

Jumping forward to the present, Ole had the idea that many of those, then young teens, would love to step back in time for a "Reunion Regatta." With the help of Facebook and lots of online tracking, a number of those then novice sailors were eager to reunite. Some 14 families from all over the US learned about the event and showed up, eager to revamp their competitive spirit of old. Needless to say the three-day event was an overwhelming success. Those eager young teens from the past now had wives, children and lots of forgotten memories to share and new memories to make.

As for me it was a life-changing event. That those eager young teens from the past, now all grown up, were still in love with the sport of sailing was heartwarming as teens can be easily guided to take the wrong road. Several told me how sailing had changed their life. What could be more satisfying to the soul than that? "The Bonds That Bind" are always there.

—Jim Holder

cv.jholder@mainsheet.net

ABOUT OUR COVER:

Past competitors, Ole Eichorn and Jim Holder now sailing together. Photo by Leslie Carney.

Join an Association or Renew Your Membership

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.

Catalina 470

www.catalina470.org

Catalina 470 c/o
PO Box 9207
Fayetteville, AR 72703
Annual Dues: \$25 (US Funds)

Catalina Morgan 440

<http://catalina440.org>

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380/385/387/390

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Canada/Mexico \$24 (US Funds)
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Catalina 27/270

International

Association

www.catalina27.org

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Canada/Mexico \$30 (US funds)
All others \$30 (US funds)

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All others: \$28 (US funds)

Catalina 22

www.catalina22.org

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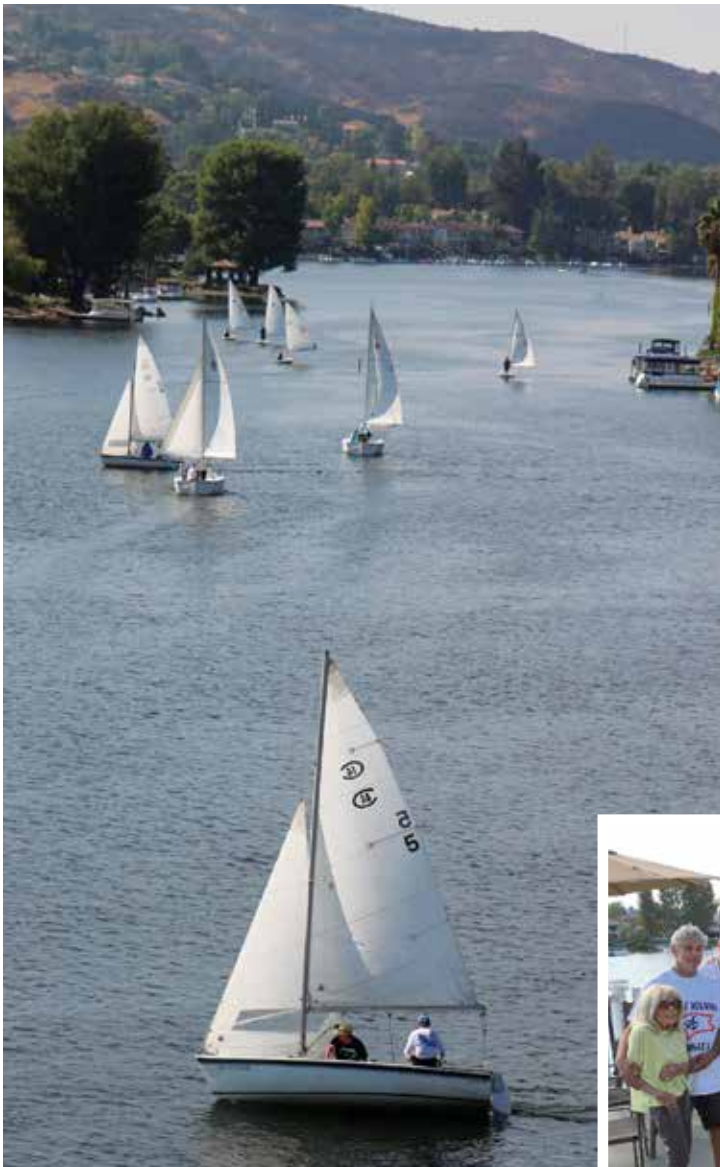
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photo by @mikeydetemple



Frank Butler Regatta • Westlake Reunion

In September, a special event took place at Westlake YC, Westlake Village, CA. The occasion / The Frank Butler Runion Regatta. Below, the story as told by Ole Eichorn.



This particular group first met about 40 years ago, before and as the Westlake Yacht Club was being founded. Jim Holder founded the Westlake Junior Sailing program and started the sailing on Westlake with the launching of the first and only for some time, sail boat on the lake. WLYC began as the Westlake Sailing Association, a motley group of kids and parents who sailed on the lake back when it was being built and in the early days of being settled. Jim Holder was a founding member of WLYC. After WLYC was formed, we started the tradition of having summer sailing camps for kids which continues to this day, and all of us sailed in those camps and got to know each other. Many of us formed lifelong friendships which persist to this day, despite the fact that most have left the area (I am the only WLYC member left).





Venue, Westlake Village California

We all began sailing in Sabots – at first, “Westward” sabots, and then later “Sidney” sabots – and moved up to Banshees (!), Cyclones (!), Lasers, Lidos, and of course C-15s. In the group pictured below there are quite a few C-15 champions represented.

Don Long and I first thought of the idea for this regatta two years ago when sailing together at the C-15 Nationals in Marina del Rey. We realized that the WLYC Labor Day regatta – which was renamed a few years ago to the Frank Butler Regatta – would be perfect, and started making plans. Fourteen sailors (Mark Elliot, Peter Drasnin, Mark Bratton, Ole Eichhorn, Don Long, Frank Butler, Jim Shaw, Brad Herman, Glen Uslan, Allan Linnemeyer, Jim Biram, Jason Vandenberg, Dave Carney, and Jim Holder), along with their families, friends, and significant others, and we had a great BBQ Sunday night, and of course the round-robin Reunion Regatta on Monday. **–Ole Eichhorn**

Many of us formed lifelong friendships which persist to this day, despite the fact that most have left the area.

Brad Herman (right) shows off his 1969 Junior Sailing jacket





CATALINA 15 NATIONAL ASSOCIATION

Celebrating 50 Years at the 2017 C15 North American Championship Regatta

By John P. Eurich • C15 Association Commodore

The 50th anniversary of the Coronado 15 was celebrated in August at the 2017 Coronado 15 North American Championship Regatta. At this regatta, hosted by the Half Moon Bay Yacht Club, we witnessed the renewal of friendships between many C15 sailors, who hadn't participated for many years, as they arrived to compete. Frank Butler joined in the celebration by generously providing all involved with a commemorative T-shirt.

The racing started with the practice race on Thursday, in which two past C15 champions swapped off first place finishes. This head to head competition continued on Friday, during the Syd Corp series, with David Rumbaugh and Steve Fishman taking 1st place, and 2nd place going to Barrett Sprout and Todd Best. During the Saturday and Sunday Championship Division races, these champions continued to battle, mostly taking 1st or 2nd places. But, a 3rd race mishap in which Rumbaugh's boom broke from the mast gave him a DNF and DNS. The final score tally, after 13 races, gave the team of Sprout and Best the lead by one point. The Cabrillo Division was taken by Ofer Amir and Kent Arndt, and the Junior Championship went to Karey Sharp and (her dad) Aaron Sharp.

Of the 19 C15s that competed, the one that stood out was Charlie Quest's, with a single "1" as the sail number. Charlie rescued hull number one in 2013, restored her, named her *Grand Ole Gal* and painted the label "First In Class" on her hull. Charlie Quest and Nate Salpeter raced her in the Championship Division, taking 8th place. This is a testament to the durability of Frank Butler's Coronado 15, one of the best, if not the best, dinghy designs ever manufactured.

The Coronado Association elected Kiersten Vance to be their next Commodore and selected Huntington Lake, California, as the venue for the 2018 Coronado 15 North American Championship

Regatta. This regatta is scheduled for July 12 – 15, 2018, and will dovetail with the High Sierra Regatta. This 7000 foot high lake is widely acclaimed to be the most enjoyable sailing venue west of the Mississippi.

Many thanks to the Half Moon Bay Yacht Club, Regatta Chairperson and PRO Mike Day and the more than 60 volunteers for hosting this very successful event.



CATALINA 22 NATIONAL ASSOCIATION

Over 15,780 Catalina 22 Sailboats



C22 Association
Editor Rich Fox

The 2017 Catalina 22 National Championship Regatta was held the week of June 11-15 on Lake Worth near Fort Worth, Texas.

A great job was done by members of the local Catalina 22 fleet and the Lake Worth Sailing Club. There were three fleets. The Gold Fleet had 30 boats, the Silver Fleet had 12 boats, and the Spinnaker Fleet had 12 boats.

Congratulations to Justin Chambers and his crew Doug Thome and Wynn Story who won the Gold Fleet and carry the title of National Champion. Sam Beckman won the Silver Fleet, and we extend our congratulations to him. The Spinnaker Fleet was won by Justin Chambers. The wind conditions saw an average speed around 15 to 20 mph, plus gusts. This made for some very exciting and competitive racing. In

the Gold Fleet, there was a three-way tie after the final race, with the tie-breaker going to Craig White in his Catalina 22 Sport. The complete results of all recent National Regattas, including pictures, are available on the Association website at www.catalina22.org.

Back in June, the members of the C22NSA elected new officers. We welcome Bill Heirendt (Commodore), Don Hare (Vice Commodore), Doug Thome (Chief Measurer), Don Woodhouse (Rear Commodore), Don Boyko (National Cruising Captain). They are joined by existing officers including Secretary Dora McGee (Secretary/Treasurer), Ted McGee (Web Master), and Rich Fox (Editor). We express our thanks to Dennis Slaton (Measurer) and Floyd McKenzie (National Cruising Captain) who both served multiple terms and decided it was time to pass the torch.

The 2018 Catalina 22 National Championship Regatta will be held



(left to right) Bill Heirendt (Commodore) with 2017 C22 National Champions Doug Thome, Wynn Story, Justin Chambers. Photograph by Ted McGee.

in California in June. More details will be available during first quarter at www.catalina22.org, and in the next issue of *Mainsheet*.

It is exciting to see the Catalina 22 will hit a production milestone of 50 years in just 18 months from now. To date, over 15,780 Catalina 22 sailboats have been built by Catalina Yachts. The Catalina 22 Sport (the 4th generation C22) is a great looking boat and the attention to detail is excellent. Keep up the great work Catalina Yachts!

—Rich Fox, rich_fox@yahoo.com

CONGRATULATIONS

The Catalina 22 National Sailing Associations

also recognizes members for their exceptional participation or contributions to the Class. We extend our congratulations to the following:

Robert & Bonnie Donehoo (Cruising/Sailing Family of the Year)
Jon Schwake (Sandy Kennedy Award)
John & Anita Kjalberg (Best MainBrace Article Award and Best MainBrace Photograph Award)
Marilyn Boemer (Betty Gay Clements Women's Award)
Don Woodhouse (Long Distance Travel Award)
Eddie Zeller (New Racer Award)
Dick Cline (Leadership Award)
Greg Brown (Sportman of the Year Award)

*Youth sailing awards were presented to Matthew Bennett, Matthew Orr,
Daniel Polson, and Harmon Smith.*

Route Planning, Weather and Marinas for Coastal Cruising

A HOW TO USER'S GUIDE

Introduction

For the past 10 years my wife and I have cruised some 15,000 miles along the Gulf Coast, East Coast and the Bahamas and had the memories of a lifetime on our Catalina 380, *Southern Skies*. Over this time frame, information and electronic technology has advanced tremendously allowing for much safer passages, enjoyable times spent on the water and the ability to stay in touch with family and friends. From a safety perspective, this enhancement has primarily come from the many sources of weather forecasting and real-time weather conditions that can be obtained with your computer and/or smart phone. These two devices also provide the means by which to enhance your enjoyment through better planning for the routes you take and the marinas available to you along your journey.

The primary objective of this article is to whet your appetite with an overview of the full, thirty-five-page paper containing seventy screen grabs as part of the "how to" demonstration that will be made available to you on the Mainsheet website, www.mainsheet.net.

Route Planning Process

Whenever we think about taking a cruise, an immediate thought process typically runs through our mind... how much time do we have and where do we want to go? For many of us before retirement, we probably planned to go too far in too short of a time, did not pay enough attention to the weather because we were driven by a schedule and stayed at whatever marina or anchorage that appeared on the horizon. Route planning software can help you better plan your journeys to manage your time.

I use Maptech's US Boating Charts with Tides and Current running on Offshore Navigator Lite available from <http://www.richardsoncharts.com/>. Most all navigation manufacturers have charting software and an application that will run on a PC and/or a MAC. For example, Garmin's Homeport, C-Map Max PC Chart, Navionics, OpenCPN Chart Plotter and Rose Point provide such charting software. The same is true for navigation software apps running on smart phones.

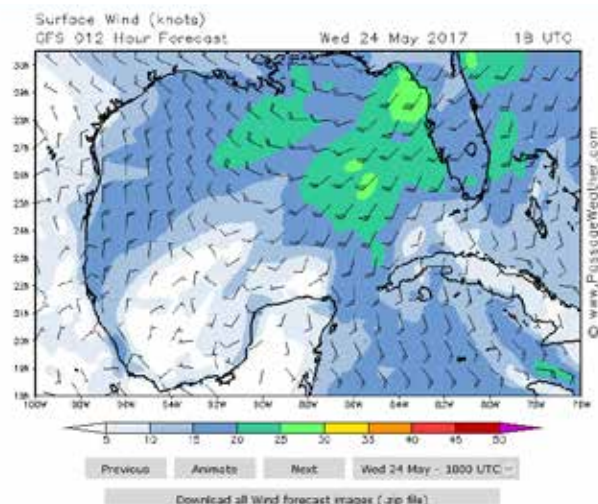
Other topics discussed in the full paper on this subject matter are the Float Plan (derived from your route planning), the daily log and an excellent laminated, quick reference guide to navigation rules which has a summary of the International Colregs and the International Maritime Buoyage System (<http://www.davisnet.com/product/navigation-rules/>).

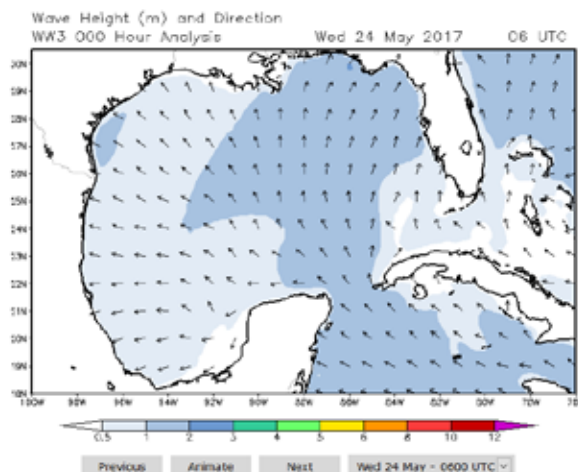
Weather

What makes weather? Where does it come from? As sailors we are most concerned about the formation of wind, its speed and direction and its effect on water – the waves. With a brief explanation of weather, you will be ready to better utilize some of the best weather forecasting tools available to you. Two of the best for large bodies of water are Passage Weather (<http://passageweather.com/>) and PredictWind (<http://www.predictwind.com/>). Both of these provide a seven day forecast of wind speed and direction, isobars, wave height and direction.

They both make use of GRIB files and weather models to graphically display these weather features. For any sailing trip for more than a day, they are the first source of weather forecasting that I study.

Surface Wind Speed and Direction
For the Gulf of Mexico-Passage Weather





**Corresponding
Wave Height &
Direction
For the Gulf of
Mexico-Passage
Weather**

For smaller bodies of water such as coastal areas where you may be day sailing, NOAA Weather provides two primary weather forecast websites and one for real-time weather. NOAA forecast by Zone (<http://www.nws.noaa.gov/om/marine/zone/usamz.htm>) provides a written forecast for six days with a day time and night time forecast for each day. NOAA Graphical Weather (<https://graphical.weather.gov/>) as indicated by its name, provides a graphical display of many weather features such as wind speed and directions, temperature, probability of precipitation, etc. for the next seven days. For the first three days, it provides these data every three hours and then twice a day for the next four days. Finally, the NOAA Buoy website (<http://www.ndbc.noaa.gov/index.shtml>) provides real-time data for wind speed and direction; wave height, period and direction; air and water temperature and atmospheric pressure.

There are a number of apps for smart phones that are particularly good for use when on the water and within cell phone coverage. Unquestionably, My Radar is one of my favorites. Most of us have used this app on land and at sea to warn us of approaching thunderstorms or rain. What you may not have done is gone to the “Layers” setup page to turn on “wind”. Wind is an amazing feature on this app that allows you to literally “see” the wind.

Two other great apps for your smart phone are Weather Underground and Hurricane Tracker. Finally, should all your electronics fail, Davis makes a terrific laminated, quick reference weather card (<http://www.davisnet.com/product/weather-forecasting-quick-reference-card/>).

Marina Information - ActiveCaptain

(<https://activecaptain.com/>)

If you are making a cruise in familiar waters, you may already know the marina where you wish to stay or a favorite anchorage area. On the other hand, if you are not very familiar with the cruising area, having a source for current marina and anchorage information will be very helpful. There is none better than ActiveCaptain.

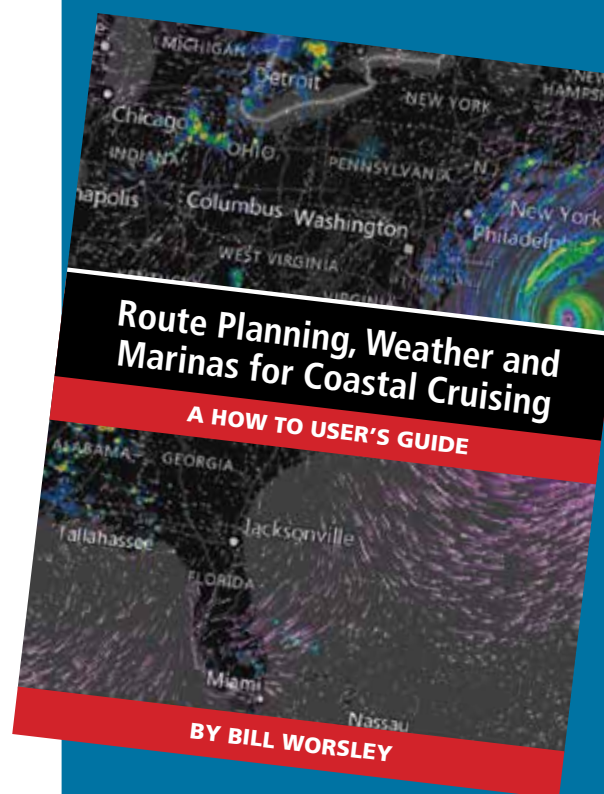
Summary

Please take the time to download the full length paper from the *Mainsheet* website. If you are not already using these or similar tools while sailing, you soon can be taking advantage of their immense value to compliment your safety and seamanship.

—Bill Worsley, worsleyw@bellsouth.net

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Safe Journey:

Maintenance Projects

By Bill Martinelli, C470 Commodore • Photo illustration by Julie Lynn Olson

The year has gone by quickly; we are up in California again but getting ready to head back down to Mexico. Looking at the piles of stuff to load in the car and thinking to myself, "Yeah, it will fit! - - - Yeah it will fit, I hope!"

I started some maintenance projects on the boat before leaving Mexico; soon I can get back to it. The original owner had replaced the factory grey stripe on the hull with a one inch blue stripe and a one and a half inch red stripe. Being almost 17 years old they were starting to show their age; so before coming home

I decided to do something. I took out my heat gun, some plastic razor blades, adhesive remover, a couple of bottles of water and in the blazing sun removed them over the period of a few days. Three to four hours at a time in the sun was all I could put up with.

Voyager also has a three inch red stripe above the blue boot stripe at the waterline that is looking a bit old. So I need to do something about that. We are due to haul the boat

when we get back down but don't know if we'll do it right away or wait until November or December. The bottom was last painted in December 2015 with paint that was not what we've used forever, but instead what was recommended locally. The paint is has not held up very well so I am hauling down four gallons of Petit Pro. What will decide the haul out time is who we can get to remove that three inch red stripe. Have to see what the boatyard wants to charge me as opposed to the nice fellows that clean and wax the boat. Taking that stripe off at the dock will be a bit of a bxxxxh!

While home, we went sailing with a friend on his boat in San Francisco Bay. When we met him at his marina the boat in the slip in front of him was being detailed, a half dozen people were cleaning, machine waxing/buffing, and polishing stainless. While talking to my friend about the cost of such an operation, he told me he normally he has his boat cleaned and waxed once a year but nothing to the extent of what we were witnessing. His cost was \$1,500 to \$2,000! OUCH! In La Paz we pay the following; washing \$50, machine waxing/polishing hull and waxing topsides \$200, polishing all the stainless \$100 (*Voyager* has a lot of SS, arch and solid rails). This includes all the materials. Made my friend jealous but he would have to go about 1,600 miles to take advantage of the cost difference.

Another little item on the maintenance list is to change out 300 feet of anchor chain. The chain has

already been reversed and the galvanize is worn off over the entire 300 feet. Rust isn't a problem as we anchor out mostly in sand. So, the chain gets cleaned continually but I expect it to be pretty rusty when we return after being away for about two months. Need to remember to load the 300 feet of new chain into the car!

From February to mid-July the boat behaved really well! One fresh water hose leaked, which I fixed by changing out the nylon hose connector with a brass one. *Voyager* has reinforced vinyl hose for the fresh water system. The nylon connectors distort when you secure them really tight. The only place I could find some brass half-inch Ts was online, none of the chandleries had any.

The only other thing was that the generator's 12-volt fuel pump died. We have a MASE genset that I installed myself. I replaced the failed pump with a universal 12-volt pump that is good both for gasoline or diesel from a local Mexican auto parts store. Pump comes with connectors for 5/16 inch hose and an optional connector with a fuel filter, all for the vast sum of 300 pesos - about \$18! Hopefully our good luck will continue.

Luck at home was a bit different. When we arrive home the first things I do are turn on the water, turn on the natural gas coming into the building, and fire up the water heater. Normally we arrive home in the evening so the other thing I do when it's cold is to turn on the electric blanket - we believe in creature comforts. Getting back to the water heater, this time it was dead! I've been expecting this as it had outlived its warranty by nine years. So our first day back was locating, buying and installing a new one. Then, the one-year-old AGM battery in my car died (at least it didn't happen halfway up the Baja)! Then just to make it interesting, two very expensive 21" Radius computer monitors decided it was time to expire! Had to replace those quickly as I had promised a very faithful old-time client I would do some photography and digital artwork for him. Then, to put the icing on the cake so to speak my big old Ford van seems to have a fuel problem, so I need to rebuild the carburetor before we head back south. What Fun!

The other factor to take into account as when to haul out, is that this is a really gorgeous season in the Sea of Cortez (in between two tropical weather systems so far this year). Yes, the air is hot but the water temperature is a fantastic 84 - 86 degrees F, and the visibility is on the average about 40 feet. Makes checking your anchor easy!

Decisions, decisions!



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Change of Course:

A Funny Thing Happened on the Way To Sucia Island

By Jack Hutteball • C34 Association Editor

There is nothing better than to get away to the San Juan Islands in September after Labor Day. Fall colors are coming on in the Pacific Northwest and the weather is generally beautiful for the first few weeks. With the



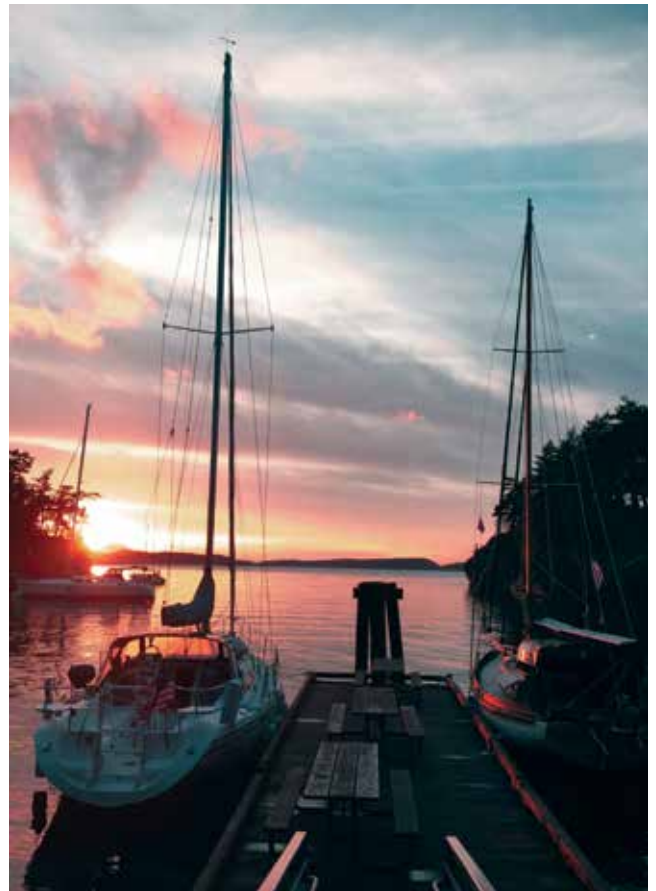
summer crowds gone, even a sailor can find space at the State Park docks that are usually full of power boats when we sail in during the summer months.

So it was that we set off at the end of the Labor Day weekend for a week of relaxation after what had been a hectic summer. Prior to departure I had checked everything — oil and filter change, check, new primary and

secondary fuel filters, check, dry bilge, check. Water and fuel tanks full, check, all necessary provisions for the week carefully stowed, check.

We motored out of our slip surrounded by a brown smoky haze so thick that the sun, a faint red ball in the sky, could barely cut through it. Our exceedingly dry summer in the Pacific Northwest had resulted in a number of large forest fires in Oregon and Washington that left a pall in the stagnant air mass over the Salish Sea. With not a breath of wind, we motored the twenty nautical miles over a glassy sea to Fossil Bay on Sucia Island and picked up a mooring buoy in the late afternoon. That gave us time to wander ashore and enjoy happy hour in the cockpit as the giant red ball dipped behind the horizon.

It wasn't until we were enjoying dinner under the soft glow of the oil lamp in the cabin that I realized that



I did not have my medications that I must take daily. Oops, all necessary medications on board... uncheck! Unfortunately, at 9:00 PM on a Sunday night there is no place in the Islands to replenish a medicine supply.

The only course of action was to return home to acquire the needed medication — drats!

It is now not only dark, but visibility is down to zero due to the smoky haze in the air. Even the full moon could not penetrate the darkness. I for one was not about to set out across the inky night with all the floating debris in our local waters, almost a guarantee our trusty C34 would become a boat magnet.

Fortunately, at first light (5:30 AM) we had a very favorable current that helped speed us home so I would only be a little late taking my meds. So we set off, another 20 nautical miles of motoring through the smoky haze as the wind eluded us a second day. Friends at our marina only chuckled as we told them we just returned for a quick breakfast. A speedy trip to the house (one mile from the boat) breakfast, a nice shower, pick up the meds, and back on the boat. All is not lost!

We cooled our heels for an hour waiting for the current to change, then we headed off motoring again over calm seas. Where is that wind anyway? Returning to Fossil Bay, it's just like it was the day before, except we have spent a total of nine hours motoring sixty nautical miles. But now we can enjoy ourselves and simply be in the moment.

The end of a perfect day. We have enjoyed kayaking under the big red orb in the sky, watching the wildlife

around us, and sitting under a red moon with fine ash filtering down on the boat covering the deck. As we ready for bed, I hear a strange noise and realize I have not checked the bilge which is normally a thing I do daily. Lifting the cover I am shocked to see two inches of water in the bilge, right to the bottom of the float switch! I never have had this much water in the bilge before. We are sinking! (Okay, that's a little overly dramatic!)

Manning the bilge pumps, the water was quickly pumped overboard. I checked all the thru hulls and their hose connections and found no problems. Digging under the stored items and

cushions in the aft cabin and lifting the cover over the stuffing box, I find the depression behind the engine pan full of water, right up to the limber-hole running under the engine pan. The stuffing box had a fast steady drip, so fast that I know it must have really been pouring out with the shaft turning for nine hours. The automatic bilge pump must have been cycling and we just did not notice it as we were out on deck.

Fortunately, I always carry the tools to adjust the packing nuts, so after some banging, clanking and a few sore knuckles, I assured the Admiral we would not sink while we were sleeping! We ended up having a nearly perfect

week in the San Juan Islands, and we even got to enjoy a sunset where we could see the sun and blue sky!

So what happened here? I realized that it had been a long time since I had adjusted the packing nuts, and I had not really checked them this year at all. (A check of my log book noted that I have really been derelict in my duty!) We have motored very little this year and the small amount of water I found in the bilge I picked up with a sponge, noting in the back of my mind I needed to check the stuffing box. Of course, I never got around to it! Lesson learned! Have you checked you bilge and stuffing box lately?

Lessons Learned:

Squared Away

By David Allred • C320 Commodore

Over the years, I have learned some valuable lessons. Here is one of them that may be useful to you as well. In 1999, I participated in the Marion to Bermuda race on a Catalina 36 with three other sailors. We had two foresails, a 150 genoa and a 110 jib. Our procedure was to stow below the one not in use. One evening, however, to save time and effort, we tied the 150 to the lifeline stanchions because we knew we would be using it after a brief increase in the wind. The



“brief” increase in wind turned into a squall with 40 knot winds and large waves. One such wave caught the 150 and washed much of it overboard, tearing one stanchion out of the deck and bending another stanchion. After great (and terrifying) effort we were able to recover the 150 from the sea and it was torn as well. Lesson learned? Not for me. Not yet.

Three years ago, my wife and I were sailing across the Chesapeake to spend a weekend at another marina. What started as a pleasant reach in eight to ten knot winds, became an upwind beat in 20 plus knot winds. In the process of trying to furl the 135 genoa, I managed to get it double wrapped around the forestay. Going forward, I finally got the sail

I neglected to return the sheets to the winches so they were free to wash overboard, which they did without my knowledge.

unwrapped after being severely flogged by the wildly whipping sail and sheets which I had taken off the winches to facilitate getting the sail unwrapped. When I got back to the cockpit and furled the foresail, I neglected to return the sheets to the winches so they were free to wash overboard, which they did without my knowledge. Motoring into the unfamiliar marina, both sheets, trailing in the water under the boat, caught the prop and promptly wrapped around the shaft, shutting down the engine. Thankfully, a marina employee was waiting for us and helped us coast into a slip without crashing into any of the other boats. Lesson learned? Still, not yet.

Earlier this summer, while anchored on the Rhode River, I decided a wee dram of scotch would be nice. I opened the bottle in the cockpit and realized I had forgotten to bring up a glass. I sat the open bottle down on the edge of the seat and went below to retrieve a glass. Just then, a large power boat came by creating a huge wake. The wake rolled *Romance* and the scotch fell into the cockpit. The bottle did not break, but many ounces of precious single malt scotch spilled onto the cockpit sole. Lesson learned? Yeah, finally. On a boat, one must make sure things are SQUARED AWAY at all times. That's really a good lesson for all aspects of life, but it is especially true on a boat. I hope I can remember it the next time I go sailing.

Sailing's Must-do List:

The Canadian Catalina Rendezvous

By Stu Jackson • C34/355 Secretary

C34IA Membership is at 530, back up to what it was earlier this year. This 530 includes 32 C355s (up four due to new boats).

The Canadian Catalina Rendezvous was held at Telegraph Harbor on Thetis Island on July 14-16. There were fourteen boats including C42, C36,



C34, C320, C310 and C30, most Canadian with a few Americans, one of whom I recognized from the earlier rendezvous in Roche Harbor. The festivities began on Friday evening with a great idea: bring a wine or craft beer of your choice, but local, for an informal taste test. It allowed all of us to get to know one

another. Saturday was jam-packed with activities. In addition to a sing-along, there were two excellent

presentations: a trip to Alaska and a discussion of the differences between crows and ravens. The commentary and photos of the Alaska trip were accompanied by a superbly written log. I learned that crows travel in groups, ravens are more individual and smarter. The dinghy race was a blindfolded-skipper event requiring the skipper to take directions from the crew! The evening dinner was a BYOB (bring your own beef) and the two skippers who volunteered to do all the cooking did a wonderful job. The evening concluded with gift sharing and a raffle. Rob & Sheri Johnson organized the event; their first time doing so was a great success. Rob wrote to me: "Feel free to publish my email as a contact." It is: sailorguyrob@gmail.com I look forward to returning next year. Our dock neighbor, with his Catalina 34 Mark II, was Stuart and Virginia Spracklan. We have a Stuart & Stu photo to prove it!

Our first season in our new cruising grounds exceeded all expectations. After the somber winter, the weather was superb and dry, although that contributed to the horrendous wildfires out here in the west and many smoke-filled days here. Our goal was to become familiar with the local cruising grounds and we covered a lot of territory. In addition to my May cruise to the Catalina Rendezvous in Roche Harbor, I returned in August to Friday Harbor to meet again with my new friend John on *Hadley*. I cruised for a few days with Ken and JoAnne Cross on their Hunter 30 and visited Lopez, Jones and Orcas before I returned to Sidney and then home. I had a blasting jib-only reach across Haro Strait with strong south winds against a large ebb. Sidney had their yearly old-time car event that reminded me of the American Graffiti show in Petaluma. In California we would have to motor almost an hour to get to San Francisco Bay via The Oakland Estuary, packed with all sorts of nautical activity and containerships. I found that the same amount of time here would get me from Maple Bay through Sansum Narrows to delightful afternoon sailing on Satellite Channel's regular afternoon breezes. And the views are much nicer! I spent a couple of days at Otter Bay. Morgan & I sailed to Tod Inlet and all the way down Finlayson Arm, capped by a fantastic light air downwind sail home. Cory & I returned to Telegraph Harbor. The season was a combination of day sails, out-and-backs, and short and longer cruises. While currents were part of my skill-set in California, learning about and actually sailing them here was an eye-opening new experience. The help I've received in gaining local knowledge from old and new friends alike has made it far easier and has been heartwarming. There is only a week from today until we celebrate the anniversary of our arrival here on *Aquavite*. "Time flies when you're havin' fun" is really true. I look forward to the next chapters and to meeting more of you.

Hope you enjoyed your season. I sure did in my new home, which actually does have seasons!

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View From The Bridge:

Annapolis – Bermuda Race "A2B"

This Issue: Preparing

By John Schafer • C445 Hull#54

As we prepare our Catalina 445 (#54) for the 2018, Annapolis - Bermuda Race (A2B), we are discovering that we need some modifications just to enter the race. A2B is 753 miles long, therefore we need to prepare as if we are going into a fight. This preparation begins with research, vessel configuration, training, team building and safety, safety, safety.

In order to fully experience and immerse ourselves into the offshore racing experience, various members of our crew started our research with the Heineken Regatta in St Martin. The lessons learned were mostly forgotten, but we did find tax free gear and had numerous discussions with professional crews. Researching the A2B race itself, we discovered on the US Sailing web page that the race is considered an ocean race and governed not only by US SER 2017 Requirements (SER) (<http://www.ussailing.org/safety/equipment-and-requirements/>) but that the race itself has additional safety requirements (<http://www.bermudaoceanrace.com/new-page-3/>). Therefore, the bulk of our preparation quickly became configuring the vessel to meet the SERs. The safety equipment itself is not difficult, all that takes is a checkbook (OUCH!) so that is the easy part. I highly recommend, for any boater, no matter if you want to take your 445 offshore or not, to read through the SERs. It is a very good document in preparation for even a day sail. The SERs, are very organized in their methodology, are easy to follow and they even have training requirements. If the easy part is buying equipment the more difficult task is the time needed to satisfy the training requirements. Currently our plan is to sail the Bermuda race with 8 people. In the Notice of Race for A2B, under safety requirements you will note, in section 4 that there is a skills requirement for the crew that must be met to enter the race. The skills required include:

On-board Training:

The captain and not less than 80% of crew shall:

- 1) Participate in on-board training, including annual man-overboard procedures, sailing with the storm trysail, use of the life raft, lifejackets, safety harnesses, main boom preventer, communications equipment, pyrotechnics, EPIRB(s), fire prevention, firefighting and the procedures for abandoning ship, dismasting and rudder/steering loss or failure.
- 2) All participating crew shall sign and date the On Board Training Certificate.
- 3) A boat's crew shall be aware of multiple methods of steering the boat with the rudder disabled...
- 4) Annual Man Overboard Drill.
- 5) Safety at Sea Training: At least 30% of those aboard the boat.
- 6) CPR and First Aid: A minimum of two crew members must have current CPR and First Aid certification.

Most of the onboard training can be accomplished through a regular sailing/racing schedule, but the Safety at Sea Seminar put on by the Maritime Trades Association of Maryland is a pass/fail exercise that takes two days to complete. There are numerous offerings throughout the year and again the US Sailing website will contain all of the information that you will need. Usually they are held nearby a location that hosts an offshore race, St Petersburg, Newport, Annapolis, San Francisco, etc. A few team members and I just completed a session at the US Naval Academy in Annapolis. The lessons learned that are provided by the instructors had our team reflecting on our own vessel constantly. It was an invaluable experience and well worth it. Going through the class with other teammates also was an enjoyable team building experience. The highlight for the first day was watching four different MOB drills, then a Helicopter rescue by the Coast Guard. The class, by far, will be the best class you and your crew will ever take. It was so good, I plan on attending again with my other teammates when they go through it. New this year, to the Safety at Sea is the online training portion, but I have to tell you that access to some professional offshore sailors is invaluable and cannot be duplicated on line.

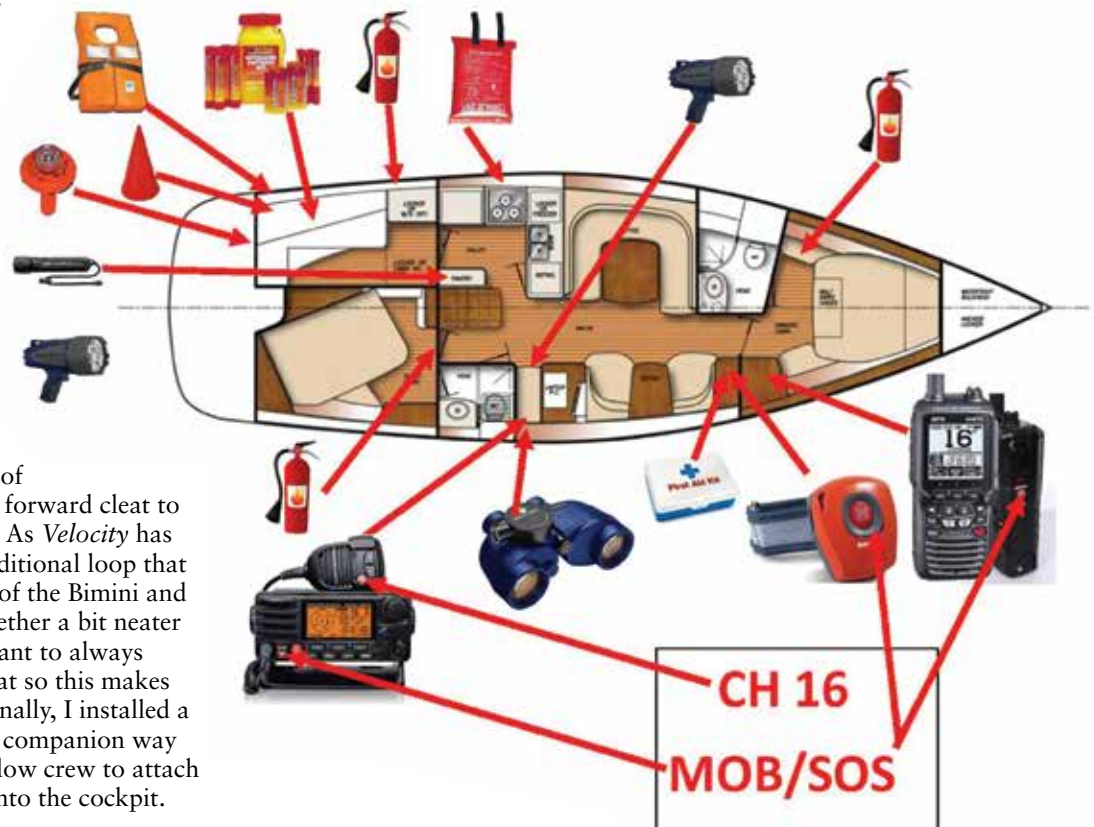
Velocity's steps for configuration offshore racing:

Step one – First, we un-stepped the mast. As we have a 2011, we thought it would be the perfect time to do it. While it was off we filled all of the slots with non-stretch halyards. Then we labeled each mast exit plate to clearly identify which line is coming through. One of the SERs is to have the ability to hoist a separate, standalone storm jib (SER 33.4 A boat shall carry a storm jib

not exceeding 5% of the yacht's I dimension squared, an equipped with an alternative means of attachment to the headstay in the event of a failure of the head foil. Storm sails manufactured after 01/01/2014 shall be constructed from a highly visible material). The 445 has two slots available for jib halyards. The unused halyards we put in will satisfy SER 33.3. We also added more turning blocks to the base of the mast and extra shackles.

Step Three – Jacklines were highlighted in almost every session during the Safety at Sea Seminar. The Course was initiated after the tragic 1979 Fastnet Race, where one of the winning vessels belonged to the Varsity Offshore Racing Squadron of the Naval Academy. *Alliance* a 54 foot boat with eight midshipman was unaccounted for at first, but later won the Intern-Regimental Trophy. The following spring a lessons learned briefing for local sailors turned into the annual Safety at Sea Seminar. If you do choose to go through the Safety at Sea, I recommend reading “Force Ten Fastnet” by John Rousmaniere, 2017. Between reading Force Ten and going through the seminar we purchased two sets of Jacklines that will run from the forward cleat to the aft cleat Jack on either side. As *Velocity* has a hard Bimini we created an additional loop that attaches to both forward posts of the Bimini and keeps the Jacklines pinched together a bit nearer towards amidships. It is important to always clip into the high side of the boat so this makes reaching the line easier. Additionally, I installed a water tight “U-Bolt” below the companion way doors (see photo) in order to allow crew to attach a tether before they transition into the cockpit.

Sail Safe, Sail Fast, Live Slow.



CATALINA MORGAN 440 NATIONAL ASSOCIATION

Voyage to Cuba



Joy, our 2006 CM440, hull #22, set sail for Cuba from Key West, Florida on February 28th, 2017. We left our homeport in Vandemere, NC in November and sailed south past Miami, then north to Tampa Bay prior to embarking on our passage to Cuba.

The process to gain legal approval to go to Cuba was relatively easy, and we had a good deal of time to prepare our travel plans for the journey and 14-day sojourn. There are only a couple of things necessary beyond what we normally do to venture beyond US borders. Our registration with the Small Vessel Reporting System (SVRS) was accomplished during previous journeys to the Bahamas, and we had purchased a border-crossing transponder from the Decal and Transponder Online Procurement System (DTOPS), making clearance a one-step process.

Two things necessary for Cuba are the General License and the Coast Guard 3300 (CG-3300) form. The General License can be obtained online and does not require submission to the government. To meet the requirements,

you must fit into 1 of 12 approved categories; strictly being a tourist doesn't qualify. Next, the CG-3300 is submitted, along with a copy of the General License. It took two weeks to receive approval signed by the Coast Guard. The approval form requires specific dates, together with ports of departure and return. While neither the US nor Cuba require boat insurance, we felt it important to have coverage of our CM440. At the time, our current insurer would not provide a rider for Cuba. Only two US companies offer coverage, and we talked with both Pantaenius and Falvey for quotes and conditions. Both require purchase of annual coverage and offer a rider for Cuba. Only after we moved our coverage to Pantaenius and received the annual policy, could we request the Cuba rider and pay the addi-

tional fee. In talking with other cruisers, we found that getting insurance was the biggest obstacle in planning to sail for Cuba, often because of an outdated survey or statements that a company would insure them that were later revoked. We met cruisers who canceled their trip because of insurance obstacles! Plan ahead, and be sure your company will provide the coverage necessary.

We moved from Tampa Bay south to Key West three days before our departure date to prepare the boat and provision. As we watched the weather conditions and prepared a passage plan, we became more excited about the opportunity to visit Cuba. Our destination was Marina Hemingway about 8 miles west of Havana. We decided to sail from Key West rather than the Dry Tortugas and studied the Gulf Stream

BY JOHN LARK AND DIANA BORJA • CM440 JOY

VOYAGE TO CUBA

(continued from previous page)

conditions to choose our departure date. We planned to leave Key West on a southwest heading until well into the Gulf Stream, then a turn southeast directly for Marina Hemingway. We used SailGrib WR software, with a plan for *Joy* to arrive at our intended destination following a detailed track and waypoints.

Leaving in the early afternoon, we expected an overnight passage with a morning arrival. The night sky was dark, with the moon rising late, and we made slow progress under full sail for the first half of the trip, generally moving 4 to 5 knots against the Gulf Stream. We were surprised by the amount of traffic in the Straits of Florida. Throughout the night, our AIS continually displayed large cargo and tankers passing in front or near us though the shipping channels. Twice we had to alter course to avoid the large cargo ships running east or west. With the traffic, we were happy to see first light and the rising sun. As we approached Cuba in the early morning, we could just make out silhouettes of the high-rise buildings and Morro Castle in Havana. Our last waypoint took us directly to the entrance buoy at Marina Hemingway. We hailed them on the VHF and were given directions for entering the harbor and stopping at Customs. As we approached the entrance, the three masted schooner Thor Heyerdahl was exiting. Our greeting was a wave and port-to-port pass with the beautiful tall ship.

Diana speaks Spanish, and we had been told that officials are especially cordial if there is a Spanish speaker aboard. While the officials spoke English, they were obviously more comfortable speaking Spanish with Diana. Customs was a really interesting experience. Everyone was extremely courteous and very efficient. We tied up at the Customs dock and two men in uniform helped with the lines. The first to board was a Doctor who took our temperatures, "All ok, no one sick?" He also told us it was okay to have meat, vegetables, or fruit on board as long as we ate them on board and didn't take them off the boat. Then came the Customs and Drug Enforcement officers, who walked through the boat and asked a few questions, accompanied by the most ador-



Havana from Morro Castle the Malecón

able black and white Cocker Spaniel drug-sniffing dog. He ran all through the boat, sniffing everything and was extremely well-trained! His handler simply pointed in a direction and the dog followed his hand motion. It was a real treat watching him! Then another Guardia in uniform came aboard. He asked about computers, phones, and whether we had a satellite phone. The satellite phone was not allowed off the boat, so he wrapped it in plastic and taped the covering so it couldn't be used. Cell phones and computers were okay, just not sat phones. As he walked through the boat, they took note of dinghies and outboard motors. We carry two-fold up bikes in the generous CM440 "garage" (aka starboard lazarette). He was concerned about the bikes, wanted to see them, and told us that bikes were a precious commodity in Cuba and would be the one thing most in jeopardy for theft. He suggested we keep them locked. After inspections, we were taken to the Customs office, where they issued our visas, took a photo, and asked politely if we wanted our passports stamped. As legal travelers to Cuba, we emphatically said "YES!"

We were assigned a slip and released. We had previously made arrangements for someone at Marina Hemingway to keep an eye on the boat during our stay, a reference through Facebook's Cuba Land and Sea site, and Joaquin and Jorge met us as we came down the canal, helped us tie up, and provided introductions all around. We rented an AirBnB in the Centro neighborhood of Havana, preferring to stay in-town rather than on the boat. The "Electrician" came to plug the boat into shore power, and two agriculture inspectors arrived. The Harbormaster stopped by with final paperwork, explained the marina charges, and provided a hearty

welcome. After getting our dock lines and fenders in place, we locked up the boat and Joaquin drove us to our apartment.

Havana is a truly amazing place. We visited Havana Viejo, the old walled historic City, as well as the suburbs of Centro, Vedado, and Miramar. Each was unique and represented a distinct pattern of history as the City expanded before the 1960's. There were diverse conditions, from large restoration projects in the historic town center, to renovations to individual buildings that were in dilapidated, nearly destroyed condition. It was interesting staying in Centro and walking through the narrow, busy streets. Food was at times a challenge. Finding a good restaurant was not the easiest thing to do, not because they didn't exist, but because they all offered nearly the same food and quality, regardless of price. We ventured back to Marina Hemingway after a week, to check on the boat and pick up a couple gifts for our host landlord at the BnB.

We had originally wanted to sail the south coast to Cienfuegos, a World Heritage Site, but since Cuba is a big island, getting there would take a week or more by boat, eating into our two-week permit. Our landlord suggested a car and arranged for someone to drive us to Cienfuegos. We rented a "casa particular" (Cuban name for a BnB) and drove to Cienfuegos for the night. The city was beautiful and the harbor and yacht club quite spectacular. While there we met a Cuban captain who gave us directions for the sailing route to Cienfuegos for our next trip!

We saw a lot of Havana during our two weeks, and the one thing that struck us the most is how friendly and kind the Cuban people are. The police are young, don't carry guns, walk among the people, and are extremely courteous,



Joy docked at Marina Hemingway



The opulent yacht club of Cienfuegos



Centro neighborhood where we stayed

kind, and helpful. While poverty is everywhere, smiling faces and enormous pride are evident. The stories, both in Centro and Cienfuegos were extraordinary. Life in Cuba has been difficult, but the Cuban people love this island and have survived so much together!

Oh, the one thing I forgot! The old cars! Yes, they are everywhere! Not what we expected, old cars are taxis in Cuba. Many are beautifully maintained and since the relaxation of private ownership, operated by individual owners. Most of the drivers are extremely helpful and will make every effort to provide you with a unique experience.

Our two-week stay was near the end. We said our goodbyes to our new friends in Centro and headed back to the boat at Marina Hemingway a day before our scheduled departure. A cold front had moved through and the seas and winds were not conducive to a passage. We sent an email to the Coast Guard informing them we had been delayed due to weather and received an email back that “safety first” was priority. Upon arrival at the boat, we also learned that a few days prior, 73 boats had arrived at Marina Hemingway with the first St. Petersburg to Havana Race since 1959! The marina was buzzing, and we talked to a lot of the crews and skippers about their passage and experiences in Havana. Among the boats was a new Catalina 445, and we were told that one of the crew was Gerry Douglas from Catalina, the designer of our CM440. The next day, we heard a knock on the hull and to our delight, Gerry and his wife stopped by for a visit! They came aboard to see how cruisers are using the boat he designed. It was especially comforting to learn that he has purchased hull 60, the last CM440 built!

We stayed three days on the boat at Marina Hemingway, waiting for the seas

to settle and favorable winds return. At the marina, you pay all of your fees on departure, so each afternoon all the boats preparing to leave have individual meetings with the Harbormaster to pay their bills. Everyone puts aside enough CUCs (“Kooks”; Cuban Convertible Currency) to be sure they can “get out.” The bill has to be paid in CUCs and credit cards are not accepted. Everyone was watching the weather, and we headed to the office one afternoon to find about 15 other boats thinking the same thing. It looked like the next day would be good for the passage. We paid our bills and talked about departure in the morning.

As predicted, the next morning looked good, with light winds and seas laid down. Ten or more boats left the harbor as we unplugged shore power, released lines and prepared fenders for the final stop at Customs on the way out of the Marina. Getting out was much simpler than arrival. After a quick inspection, they issued the “Despacho”, and we were released to head back across the Straits of Florida. As we exited the channel, we saw six boats in front of us and two more behind, all on 023° heading bound for Key West.

After an hour under full sail, the winds started to build. Thirty minutes later, we entered the Gulf Stream and the seas began rising. After two hours, we realized this wasn’t going to be the smooth passage we had envisioned. Seas continued to build to nearly 12 feet, with winds from the east opposing the Gulf Stream at 25 knots or more. The ride was uncomfortable as we took seas nearly abeam, neither of us able to go below. We changed course to 033° to try to get a slightly more comfortable ride with seas on the forward quarter. This caused our speed drop and then accelerate considerably as we

climbed the waves and then dove into the troughs between. Other boats who left with us experienced problems. One broke a backstay and we stayed with them as they jury-rigged a temporary and a safety in case of further trouble. Another had impeller issues and still another rudder problems. As night fell with rough conditions, the AIS flashed with cargo ships crossing in front of us making the crossing even more difficult. At one point as we neared The Key West entrance light, a tug hailed us on VHF to tell us they were crossing in front of us with a 1200-foot cable towing a barge! He could only see us on radar, but cautioned that we needed to change course and go behind him. After almost stopping and moving west, we finally found him on radar and AIS....behind us all along! As we came out of the Gulf Stream, conditions began to settle down. Winds were still high, but the seas dropped to a manageable 4 to 5 feet. Sixteen hours through rough seas had taken its toll, and upon entering the Key West harbor at about 1 am, we immediately dropped anchor and collapsed to sleep for a few hours before morning.

With the morning sun, came calm seas and light winds. We made the call for clearance and were given a number and told to bring our passports to the Customs and Border Protection office in Key West. We were home and moved safely to a slip at Key West Bight Marina. Our passage the night before had been a bit harrowing, but we sustained no damage to the boat. With sails up all the way, Joy had performed admirably, handling seas and winds as well as any blue water cruiser we have seen. We were extremely pleased with her performance. The next day, as we washed off layers of salt, we had never been so happy to own a CM440!

Tech Notes

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CATALINA 470 NATIONAL ASSOCIATION

Caulk It!



C470 Association
Technical Editor
Joe Rocchio

I had just finished a quiet and relaxing shower aboard *Onward*, C470-126. My daughter and two grandchildren had flown home to LA after a wonderful week together during the Corinthians 2017 Ocean State Cruise.

In the dim daylight, something caught my eye at the base of the shower forward bulkhead in the corner with the seat. I reached down to touch the shadow and my heart fell as I

realized it was a ripple in the laminate surface of the bulkhead. I left the shower and stern head doors open while Peggy and I headed off to Long Island by car for a few days – the plan being to let the area dry out so I could fix the de-lamination by cleverly injecting an adhesive of some type behind the problematic laminate layer. When I arrived back aboard, I was startled to find the de-lamination area was almost 18" high and 20" wide – a major problem. There was no alternative but to probe the area and this indicated the affected area of the 3/4" plywood bulkhead had lost structural integrity.

Major surgery was in order. In the C470 stern shower, the forward bulkhead is constructed from a panel of 3/4" teak plywood. The shower side is covered in a plastic laminate and the salon side is a ply of decorative teak. The former provides a waterproof surface in the shower and the latter forms part of the varnished teak finish of the salon. The salon-facing bottom section of this panel is concealed behind the seat of the nav station. To fix the problem, it would first be necessary to cut out the section that had become structurally damaged in what had apparently been long-term exposure to

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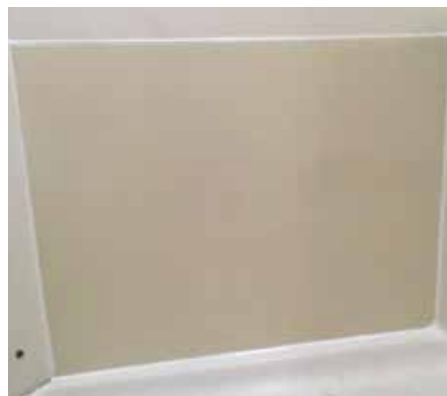
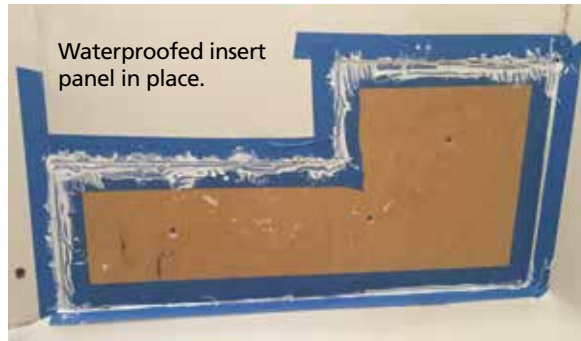
shower water. Next, a waterproofed plywood panel would need to be fitted to replace the damaged section and then fastened in place. Finally, a layer of plastic laminate (e.g. Formica) would be fitted in place, glued, and then caulked to again provide a waterproof surface. For some time, I had wondered if I should add a “multi-tool” head to my suite of Ryobi One+ 18V Li-ion battery powered tools. Well now I did the research and found that this tool was the only way I was going to be able to do the necessary surgery with plunge cuts to remove the damaged bulkhead section. To start, I used the multi-tool scraper attachment to remove the failed caulking along the edges of the base and side adjacent to the shower seat. Then, I used a 1.5" wide plunge-cutter blade to remove small sections of the bulkhead, increasing the perimeter until the remaining panel was undamaged by water penetration. See Photo 1 for example of damage. Next, I cut out as little as possible additional material to make a section that was more regular in shape to facilitate installing the insert. See Photo 2. I purchased a piece of 3/4" 7-ply birch plywood and a similar size piece of plastic laminate that matched the original color almost exactly. I made a cardboard template of the cutout area



Section of delaminated bulkhead. The plywood has lost all structural integrity.



Excised section of bulkhead; cut back to sound material.



Laminate panel in place and caulked.

before I cut the plywood to near net shape. Then, I used a plane and file to taper the edges back slightly for a firm but easy fit. Next, the plywood insert was waterproofed with two heavy coats of polyurethane varnish. The cut edges were thoroughly soaked with the varnish to prevent any future water infiltration; the same was done to the cut edges of the bulkhead. Once the varnish was thoroughly dry, I used 3M 5200 adhesive caulk to coat the edges of the bulkhead and the insert well. I masked both sides of the seams to allow liberal application of the 5200. Then, the insert was put in place and three SS 8 x 1.25" screws used to fasten it to the fiberglass that forms the aft face of the navstation seat. See photo 3. The 5200 adhesive caulk was allowed to set before I made a paper template of the rectangular section that would be covered with the new laminate that was then cut and carefully shaped to fit snugly. After carefully masking off the surrounding bulkhead area, spray contact cement was applied to the bulkhead and to the back of the laminate. When the contact cement was “tacky dry,” I covered all but a ~1" strip along the shower seat side with heavy brown paper and aligned the laminate carefully in place before removing the paper. I used a wallpaper

seam-roller to make sure there was good contact all over. After the laminate had set overnight, I masked off both sides of the perimeter leaving a ~1/4" unmasked area on each side of the seam. A robust caulk seam of 5200 was formed all around the laminate insert. Next, a silicone rubber tool was used to make the

surface of the seam continuous, even and smooth. The caulk was left to set and when safe to touch, the masking tape was removed to leave a fine looking caulk seam. Wow, that first shower was WONDERFUL (and badly needed). See Photo 4. Note that all of the salon face of the insert was hidden by the nav station seat except for a 1.5" x 6" section at the lower inboard corner below the seat cushion. Here I covered the entire 4" x 14" bulkhead area with a thin sheet of 1/16" thick teak veneer and varnished it. Why did this happen? Well, part of the problem was frequency of use as I have used the aft shower almost daily over the last 14 years! However, it points out that even the amazing 3M 5200 has a finite life and will develop micro cracks and pores that can allow water to penetrate. But, while necessary, these factors are not sufficient. The real issue was an oversight during construction by Catalina whose overall work is exemplary. In this case, they failed to seal the edges of the plywood panels used as bulkheads. Over the years, water had penetrated the caulking and the raw edges of the plywood soaked up water until de-lamination occurred. The affected area was backed by the fiberglass of the nav station seat and thus, could not get enough air circulation to dry. Recommendations: If you use any type of plywood or wood on a boat, take the time to seal the edges to be hidden using polyurethane varnish or old fashion but effective shellac. A multi-tool is a wonderful thing to have aboard. And, see that seam before it fails: Caulk It Now!!! Note: The sensors and editors have caused me to remove several pages of oaths and expletives that were uttered while painfully trying to make my body fit the space available to do the repair! Ouch! It hurts just to write about it. **-Joe Rocchio, jjr@onward.ws**

CATALINA 400/445 INTERNATIONAL ASSOCIATION

Personal Flotation Devices (PFD's)



C400 Association
Technical Editor
Olav N. Pedersen

We all know we should wear our PFD's while on the docks as well as while we are on the water. Unfortunately, as time goes by, we tend to witness unnecessary exposure to potentially dangerous situations.

While I did not witness this first hand I could clearly picture the scene. While

at a secluded anchorage, a friend of mine, VERY experienced sailor, went to inspect a crab trap in his dinghy. It was a short trip so why bother with a PFD? Why bother attaching the engine kill line from his outboard to his wrist? You know the drill. You know where this is going. His leg accidentally hit the throttle on the outboard, which threw him overboard. (In the Pacific NW, this is not a good thing.) The dinghy proceeded to make a 360 turn and run over him. With propeller cuts on his arm and

back, this was really turning into a very bad situation. Fortunately, others on his boat observed all of this and came to his aid. The good news is that he's okay.

I think we all do it from time to time. The short of it is always wear your PFD's and pay attention to what you're about to do before you do it and keep safe. Loved ones are counting on you returning safely from your adventures.

—Olav N. Pedersen, olavnp@gmail.com

CATALINA 36/375 INTERNATIONAL ASSOCIATION

Networking 102



C36 Association
Technical Editor
Pre Mk II hulls
Leslie Troyer

The purpose of this article is to go a bit deeper into the world of Marine Networking, but before I do I want to briefly discuss a recent thread on Catalina36.org Forums. A forum member posted that he came dangerously close to having a fire because his starter button stuck on and didn't realize it. This prompted me to think about two things: 1) how as an organization are we trying to prevent things like this from occurring and 2) can we engineer a solution to prevent the occurrence. It turns out this exact problem is documented under



C36 Association
Technical Editor
Pre Mk II hulls
Chic Lasser

Members->Important Notices "Corrosion and your Starting System" 2006. I will encourage all of you to go re-read all of these notices and see how they may apply to you. As far as engineering a solution, I will be testing two complimentary methods in the upcoming months and will report out back here next issue.

In the Fall 2016 *Mainsheet* Nick Caballero wrote a Networking 101 "Can You Hear Me Now? Data Com-

munication 101." This is a great introduction to networks, and this "Networking 102" will expand on that work. I encourage you to always make diagrams of your various networks and how the devices relate.

Networked equipment devices are the standard in the industry. For example, fairly soon it will be impossible to purchase wind indicators with dedicated displays. Most vendors are going to Multi-Function Displays that include the old standard wind data, but also allow you to have other screens, say engine data – so one display has many functions.

RECAPING the "101" article

There are two major networks on today's boats with two or more that are starting to gain traction. This article will be about the two major networks because I haven't had much experience with the "Bleeding Edge" networks. NMEA 0183 and NMEA 2000 are ubiquitous in most of today's marine instrumentation, with Ethernet (wired and wireless) starting to gain traction (with ANT and Bluetooth far behind).

In this "Networking 102" we will be discussing how NMEA 0183 and NMEA 2000 play and work together to ensure the greatest amount of information is available to you as you are either motoring or sailing to make decisions.

Of special note – It is important to have basic seamanship knowledge of your boat, weather conditions and

local hazards to make the best use of whatever instruments you have and are planning to install.

NMEA 0183

NMEA 0183 is a slower and more limited networking method when compared to NMEA 2000. The key thing to understand about NMEA 0183 is that it is a SINGLE Talker MULTI Listener network. What that means is only one device on the network can transmit any information on the TX (Transmit) line, while one or more devices can listen to the Talker on their RX (Receive) line. The upshot of this is on a boat with lots of devices communicating using NMEA 0183 – you will have as many NMEA 0183 networks as you have devices with things to say (TALKERS). A stand-alone GPS (Talker) may have a NMEA 0183 network to a chart plotter, VHF, Autopilot and Wind instruments all listening for updates on position, speed, heading.... There may be a network from the VHF (TALKER) to the chart-plotter (Listener) for AIS information. Each Talker will have a list of things they want to communicate – these are known as PGN's (Parameter Group Number – discussed later in this article). Likewise, each Listener will have a list of PGN's they will respond to. It is important that your Talker sends PGN's that the Listener wants to hear. The section on PGN's applies to both NMEA 0183 and NMEA 2000.

On *Mahalo*, I currently have one NMEA 0183 network, the chart plotter is the TALKER, and the VHF and Furuno depth sounder are Listeners, both looking for position data. The sounder is also listening for course and speed data. Before I added my standalone AIS I had a second NMEA 0183 network where the VHF was the TALKER and the chart plotter was the Listener so it could display AIS data. If you approach NMEA 0183 networks with Listener & Talker terminology it really helps keep things understandable. The following table is how I document these networks on my boat. This combined with my NMEA 2000 diagram really helps when installing and maintaining the boat's network(s).

Another important element of NMEA 0183 is the speed at which data flows. This was covered in Nick's 101 article referenced above but should be restated here. Standard NMEA 0183 is a 4800-baud network – what this means is only 480 characters can be transmitted per minute. This is much too slow for many applications, so faster speeds were introduced, 38400 baud is now the “standard” High-Speed value – whatever speed the TALKER is communicating at the Listeners much match.

TALKERS always use their TX line for communication, Listeners use their RX line.

NMEA 2000

NMEA 2000 is a much faster at data exchange. It allows for multiple Talkers as well as multiple Listeners. This means that a single cable can take the place of multiple NMEA 0183 networks. Adding equipment is also easier – add a “T”, a piece of backbone cable, and a length of device cable and the device is up and on the network, often without even the need to run power to the new device.

To give you a feel for the data – I've captured a very small segment of the NMEA 2000 traffic on *Mahalo*. This shows 7 of the over a hundred PGN's

NMEA 0183 Networks Table					
Network PGN's	Talker	Data Low/Hi	Listener 1	Listener 2	Comment
Position, Course, SOG	Ray e7D	Hi	VHF – SH 2150	Depth Sounder Furuno 4100	
AIS	VHF SH 2150	Hi	Ray e7D		removed

being communicated, many multiple times a second. The depth data is updated every second, while the wind data is updated 10 times a second. Upon Highlighting the depth PGN – the detailed data shows I have 4.8 Meters of water under the sensor. There is an offset of -1.52 Meters (Sensor to Bottom of Keel). This means the depth is 3.28M (4.8M-1.52M or ~10 feet) under the keel. I could have calibrated my depth instrument to read depth from water-line and it would have had an offset of ~+0.4M.

Wiring Issues with NMEA 2000

Split backbones and power issues are two areas that can pose problems. Imagine the NMEA 2000 backbone is the trunk of a tree and one device hangs off of each limb. If that tree goes up and then trunk splits into two competing trunks or crowns, the tree is dangerously weak. A split network backbone is much like where the tree splits into two trunks, the backbone has a “T” in a normal location, but instead of going to a device – goes to another T (with a device, and backbone cable with more devices), this is known as splitting the backbone and can cause data corruption and slow network performance. Raymarine's SeataalkNG makes it very easy to avoid split backbones – blue connectors are only on the backbone and device cables are always white. With NMEA 2000 Standard cables there is no distinction between backbone and device cables. For standard NMEA 2000 cables if you consistently have the backbone enters and leave a “T” connector directly across from each other and the device goes out the connectors

that are at 90 degrees. For distribution blocks the backbone should enter/leave at the outside connection, and devices connected to the center taps. Unless explicitly stated only one device can be hung off of a backbone connection. Raymarine i70/p70 is an exception which allows devices to be daisy chained to other devices. The newer Raymarine i70s/p70s adhere to the standard and no longer allow this. Some devices have both 0183 Listener and 2000 NMEA interfaces, if the data is available on NMEA 2000 do NOT also connect the same data via NMEA 0183. *Les's Takeaway: don't split the backbone.*

Power can be an issue if inserted into the network at or toward one end. This is easy to avoid by inserting your power tap in the middle of the backbone so a similar amount of current is flowing in each direction along the backbone. All NMEA 2000 devices are required to publish their power requirements from the NMEA 2000 cable. The power is listed as LEN or Load Equivalence Number (1 LEN is 500mA) – if the sum of the device LEN numbers upstream of the power tap is about the same as the number downstream – you have the optimal location for the tap. Be sure and fuse the power tap using a fuse recommended by the network vendor. Devices that have separately supplied power usually are listed as having a LEN of 1, but in actuality they draw on the backbone is closer to 0 than 500mA. *Les's Takeaway: don't sweat it if you have less than 10 devices. If you have more than 10 devices – check the LEN specs for the devices carefully)*

Line	PGN	SRC	DST	Name	Time	Interval	Data
65	130306	105	255	Wind Data	20:19:16:018	0.10	00 52 00 1B 6F FA FF FF
66	128267	105	255	Water Depth	20:19:15:118	1.00	00 E8 91 00 00 0C FA FF
67	128259	105	255	Speed, Water referenced	20:19:15:119	1.00	00 00 00 FF FF 00 FF FF
68	128275	105	255	Distance Log	20:19:15:120	1.00	FF FF FF FF FF FF 5C 6B ...
69	130310	105	255	Environmental Parameters	20:19:15:619	0.50	00 D9 71 FF FF FF FF FF
70	130822	105	255	Manu. Proprietary fast-packet non-addres...	20:19:15:123	1.00	3B 9F 5C 6B 03 00 5C 6B ...
71	130312	105	255	Temperature	20:19:15:122	2.00	00 00 00 D9 71 FF FF FF

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Physical Length

Physical Length of the backbone and device cables is rarely an issue on our size of boat. The specs are very generous for the devices typically installed on our boats. The only area you might get into trouble with cable lengths, is if you tried to connect a device on the top of the mast using only a device cable.

NMEA 2K Terminators, Blanking Plugs and Couplers

Each end of the NMEA2000 backbone must have a terminator. These are usually small devices that fit on the last "T". Some vendors make special "T"s that have the terminator built-in. When the data's electrical signal hits an unterminated backbone – the signal will bounce back and corrupt the next data coming down the line. Blanking plugs are used to close any unused device cable locations. These unused locations can be from removed equipment, place holders for future equipment, or unfilled multi-port adapters. If these unused locations are left unplugged, stray electrical signals can enter the network and cause problems. Couplers just connect two pieces of cable to make a longer. *Les's Takeaway; don't leave any NEMA 2000 connector with pins or sockets showing. Always install Terminators at each end of the backbone.*

Les's Plan Ahead Tip:

When running my backbone up into the helm Navpods. I used a short 2M cable and a coupler so I could disconnect and remove the helm guards if necessary without having to pull the wires up thru the guard again, just remove the coupler and other wires (all on terminal strips) now the helm guard can be pulled as one piece, with the wiring internal to the guard intact.

Wiring issues with NMEA 183

Wiring is typically shielded twisted pair and runs from the TALKER to all the Listeners on the network. Often vendors label the TX & RX connections as TX+ & RX+, if so the TX- and RX- are grounds and can be connected to a common ground. The shield should only be connected to chassis ground at one point in the network not at every device.

NMEA 0183 to NMEA 2000 Gateways

Gateways allow data to flow from one network into another network of a different type. All NMEA 0183 - NMEA 2000 gateways are unidirectional meaning data will flow only in one direction. These gateways usually will only support a limited list of PGN's so make sure what you are translating is part of the gateways configuration.

Analog to NMEA 2000

Rather than going with a NMEA 0183 gateway – if your display heads are end of life or not working – you might be better off with an Analog to NMEA 2000 converter. A friend of mine had a dead sounder, and water speed instrument. He purchased a Raymarine ITC5 which can interface to a common set of existing sensors and put depth and speed data on the NMEA 2000 network, where it can be displayed on a multitude of instruments. There are also engine sensor to NMEA 2000 converters, made by Actisense, Maretron, Furuno, and NoLand engineering (probably others by now). I have the RS11 by Noland – I piggybacked on water temp, RPM, Volts, Fuel Gauge signals and added an oil pressure sensor

– and now all my engine data is available for display complete with audio/visual alarms.

PGN or Parameter Group Number

Conceptually this is how instruments on a NMEA network decode what the data is describing. For example, PGN- 129026 describes our position, as reported by the GPS. There is some overlap of PGN data functionality, especially with NMEA 0183. This overlap can cause compatibility issues (especially with autopilots). Remember my caution above – stay with the same vendor and this isn't a problem, but mix vendors and be sure each is using compatible PGNs. NMEA 0183 uses 3 character "PGN's" rather than numbers to define the functionality but the concept is the same. *Les's Takeaway: if you go with a multi-vendor system – make sure PGN's sent/received are compatible.*

Firmware Updates

Firmware is the operational code in the various devices. Example: on your PC or Mac – they are riddled with bugs or "features". Computer Joke: - do you know what you call an error/bug in code that is older than 30 days?? It's

Sensor to Display Mapping Table

Data	Display 1 / Screen	Display 2 / Screen	Display 3 / screen	Comments
Depth	i70#2 / engine params	i70#1/ Wind Angle		
Water Speed	I70#1 / Wind Angle	I70#2 / Engine params		
Engine Sensor	I70#2 / Engine params	e7D / Data		Alarm on water temp (>190)and oil pressure (<15)

Device Firmware / Calibration Table

Device	Firmware Version/Date	Calibration Required	Update Device	Comment
E7D	19.03 / April 11 2017	Yes	E7D	
ITC5	2.03 / Sep 13 2016	Yes	E7D	Depth offsets and wind calibration
RS11	3.50/ ?	Yes	PC – usb connect	Calibration of each data element required

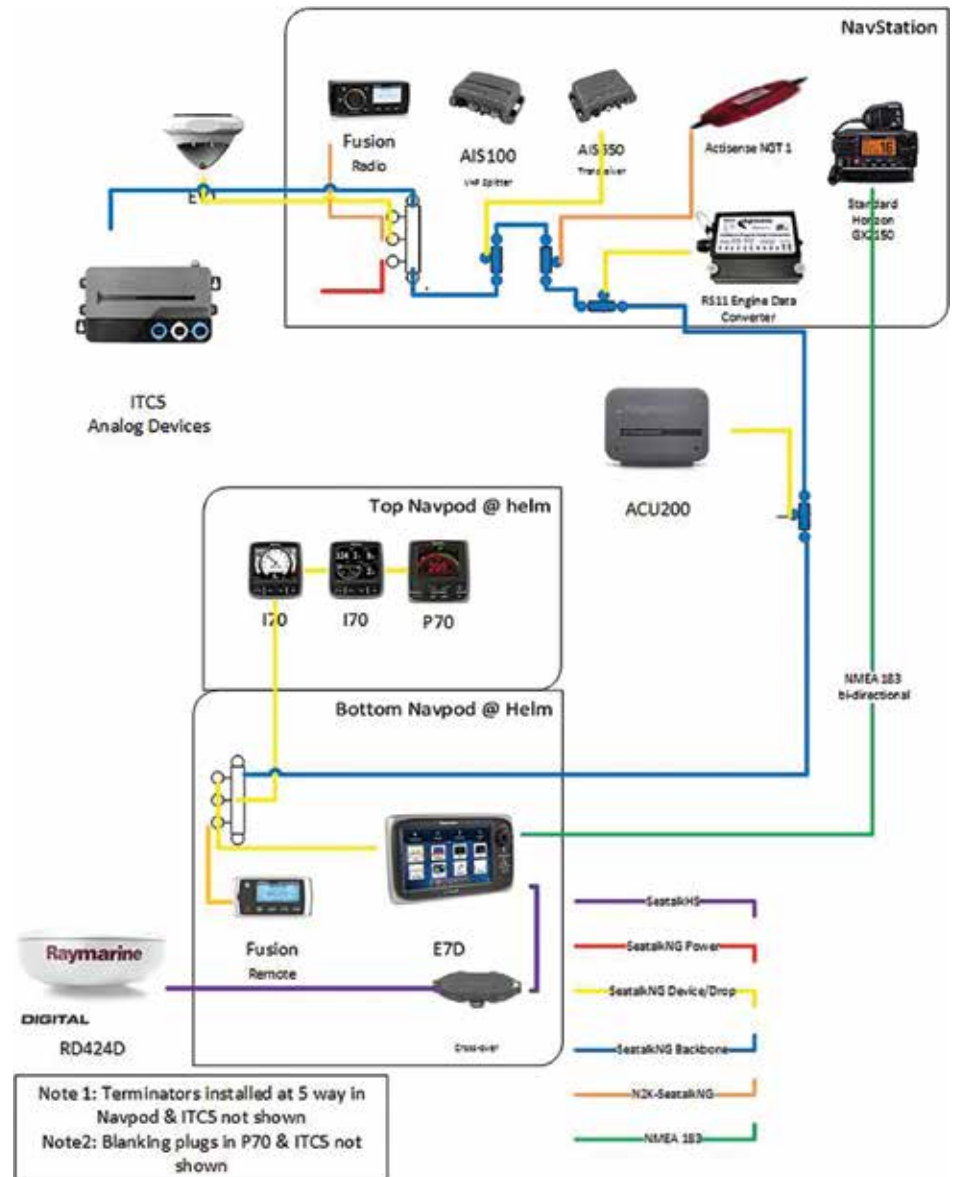
now a feature. Vendors periodically fix these bugs and release new versions of the code. NMEA 2000 doesn't have any non-proprietary PGN's for firmware updates, and I haven't read that they plan on tackling this issue. The problem is devices like the ubiquitous Raymarine Wheel Autopilot has absolutely no way to update its firmware (in either the course computer or P70) without the use of a Raymarine chart plotter. Yes, you could rip these devices out of your boat and send them back to the factory (or a good friend with Raymarine stuff) but really, who is going to do that. If you purchase a "new" Raymarine wheel autopilot the firmware you get could be more than a year or two old, with countless problems that have been fixed between then and now. So again, I say – it's best to stick with the same vendor. *Les's Takeaway: Make sure you can update firmware on each and every device you buy.*

Calibration

Like firmware NMEA doesn't have any non-proprietary PGN's that I'm aware of that allow for calibration of devices on NMEA 2000 networks. Example: if you have a Maretron tank depth gauge, it needs to be calibrated, you must purchase an additional device like the Maretron DSM250 or IPG100 to accomplish this. To continue to pick on Raymarine (this is what I have so know the most), if you have an ITC5 which is a fantastic piece of gear which lets you keep existing wind, depth, speed, temp... sensors, and put that data on the network – you need a Raymarine chart plotter or smart multi-function display (i.e. i70 or p70) to perform the calibration so it's useful. Depth is something which you would think doesn't need calibration does, does the device report the depth below the sensor, below the waterline or below the keel – everyone wants to display something different. *Les's Takeaway: Make sure you can calibrate each and every device you buy if it necessary.*

Network Diagrams/info

In the last issue, I advocated creating diagrams of how the major wiring systems are connected. For networks I advocate keeping even more data, tables and drawings. The tables as shown in



In the last issue, I advocated creating diagrams of how the major wiring systems are connected. For networks I advocate keeping even more data, tables and drawings. The tables as shown in this article, are the ones I maintain for *Mahalo*. They help show info that would clutter up a straight diagram. The device connection graphic is similar to that of the electrical systems presented last issue, only now it shows devices and the network connections to them.

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this article, are the ones I maintain for Mahalo. They help show info that would clutter up a straight diagram. The device connection graphic is similar to that of the electrical systems presented last issue, only now it shows devices and the network connections to them.

Resources:

Garmin.com and Maretron.com both have good white papers and tips on constructing bullet proof networks on their web sites. Major marine instrument vendors will have limited info on what PGN's are required to be supplied and PGN's that are transmitted by their devices, you will probably need to call tech support for that level of information.

- <https://www.maretron.com/products/pdf/Network%20Installation%20Guide.pdf>
- <https://www.maretron.com/support/knowledgebase/phpkbv7/index.php>
- http://static.garmincdn.com/pumac/2250_TechnicalReferenceforGarminNMEA2000Products.pdf

Please share your diagrams and tables with me, I'll compile them and find a space on the website. The really observant ones of you will notice a green line on my diagram listed as bi-directional 0183, which after reading the above know doesn't

exist. What was being displayed is two NMEA 0183 networks each running in the opposite direction. Additionally my power tap should be moved to balance the power better. The drawings were done in VISIO on my work computer, which I'm happy to say is no longer in my possession (I retired), I'm looking for an alternative low-cost application to maintain these in the future. **—Leslie Troyer**, leslie@e-troyer.com

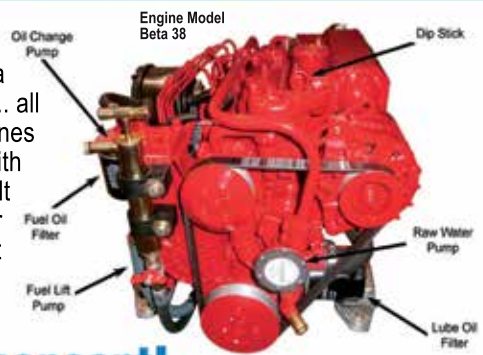
Marine Networking is a huge subject, there is enough info out there to make a third article in the series, but I need your direction and questions on how to proceed, so Email me. Next issue fuel filtering and bleeding.

Please share your diagrams and tables with me, I'll compile them and find a space on the website.

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Teak Cockpit Grate, Part II

Four of the six sections have now been made and fitted, to finish the project all I had to do was make the wings. Our boats have wings that slope outward up the deck at a 15 degree angle so to make them lay flat and align with the pedestal piece, the connecting piece had to be cut at that 15 degree angle. Once those two pieces were cut I took the template of the seat contours outside and inside circumferences and started to blend the pieces that made contact with those areas that joined the pedestal piece.

Working on one side of the boat at a time I created each wing section. Just as with the rear section the panels that wrapped around the port and starboard lazarette needed to be made with larger than 3-1/8" slat material since the smallest piece forward would not have enough material to attach to the under-structure. Again, to give it the correct appearance I routed 1/4" slots in the large pieces to make it look like a separate piece of lumber. Looking at the picture the first two pieces forward are really one piece with the routed slot for effect.

As you look at Photo 1 you will see the border that I created around the pedestal. This was done for a few reasons, I wanted a solid piece of wood so that the 15 degree angle could be cut into easily, I wanted a solid point of contact with the center section so that when weight was put on the wing while healing it would not damage the floor and lastly I wanted the aesthetic look of a border. On the final teak version I made the frame pieces on the front and rear of both front sections. This offset the floor beautifully.

In Photo 1 you will also see a notched out section on the upper part of what looks to be the second panel.



Template rear section

On our boat we do not have the escape hatch, that was added in the late 90's, but rather opening ports. This rout out allowed for the frame to clear the floor when dropping in place. Again, on the final version I made a number of similar routs for ports and hinges. Easy to do and made the drop in and take out effortless. To finish the template, I just repeated the procedure on the other side of the cockpit. Don't be misled to think they are symmetrical because they weren't and each side had to be templated and made to fit. But having done one side the second side was much easier.

So there you have the template making process, from start to finish it took about 6 weeks to get it done, that included everything from cutting to staining and varnishing pieces to fit cutting and assembling them. Each piece of the floor sits on feet so that the entire floor rests on less than a square foot of feet. This makes water flow easy, and allowed me to wash the boat without removing the floor.



Raw Teak

Converting to TEAK

With the boat covered and put away I started the conversion of my template to real teak. I looked at cheaper alternatives but in the end I choose teak for a couple of reasons, I liked the look and thought the maintenance would be easier and the quote I got was only a couple of hundred bucks more. I shopped the teak quote out extensively in the USA and all prices were pretty close. I then called a shop in Toronto that I had bought teak through before, with the exchange rate and shipping there price blew the competition out of the water. Landed in Buffalo New York the total cost for all my teak was \$900. One advantage of the template was I knew exactly what I needed, since I was duplicating my template basically so they did a lot of the cutting for me. Remember you pay by the board foot, so saved me scrap. I bought 2 extra pieces in case of a slip up, but never even used those so the cost would have been cheaper yet.

With template in hand and workshop setup I started varnishing undersides and sides of all the pieces. I used a high grade marine varnish and put at least two coats on everything (some got three). I used varnish to seal in the tannic acid that leaches from teak. The last thing I wanted was a teak stain on my gelcoat. Some might say why varnish but in fact this part of the floor does not see much UV light and I anticipate it will last as long as I am going to keep the boat.

Having spent time living with the template on the cockpit sole I got some good ideas about what I wanted to change in the design (another advantage of the template). I put the boarders on the front section, I removed the stair brackets and reversed the acorn nuts on the stairs with countersinking screws in the cockpit, this eliminated the notches in the slats and I bought numerous sizes (3/16, 1/4, 5/16) of clear plastic rubber feet on ebay from China to support the floor. These sizes would allow me to level the floor for imperfections in the mold and there were.

For the most part the duplication was straight forward with the exception that everything was built upside down so screw heads would not be

CATALINA 36/375 INTERNATIONAL ASSOCIATION

(continued from previous page)

visible. Some tips, my template was built with simple hand tools and a cheap table saw. I decided with the investment in teak I wanted some better tools, for \$125 I bought a nice band saw, oscillating drum sander and table scroll saw on Craigslist. This made cutting and fitting sooooo much easier and I got to keep all the tools for my workroom. Piece by piece each section was made and refitted to make sure everything was perfect. The total conversion process took less than four weeks working whenever I had a minute. Once completed, the feet were installed and then I had to finish the top surface of the floor. Years ago I learned about a product by Starbrite called Tropical Sun Sealer, it comes in light as well as dark shades I always liked the lighter color. This stuff goes on like paint and takes some time to dry preferably in the sun. Once dry, it lasts forever meaning 3-5 seasons in teak

years, but here is the best part, it comes off like PAINT. On this floor hit the top sections of the floor with a random orbital sander and the whole thing will be back to raw teak in a half and hour. So for those of you that said, "WHY TEAK?" my response is "WHY NOT?"

Here are two photos of the finished project in Spendin Time, we now have used it an entire summer and even the Admiral loves it, it feels great, looks great, a real shop stopper and keeps the sole spotless.

Side note: If anyone is interested in the template email me offline at chiclasser1@yahoo.com. I'll keep it for a while then put it in storage. Candidly, this was a big project and those that know me, not my first and probably not my last but what a rewarding experience. With the template, brass screws, feet, tools and all the asundries, I made a \$4-\$5 thousand teak cockpit sole for

under \$1400, not bad and I think nicer than what I could have bought. —**Chic Lasser**, chiclasser1@yahoo.com



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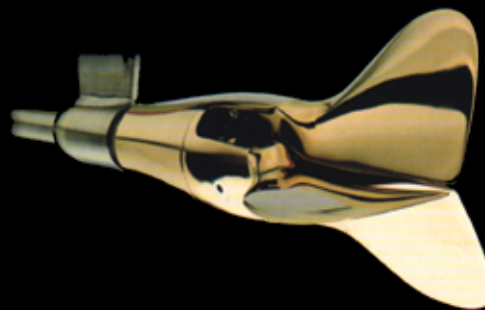
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C350 Association
Technical Editor
Bill Templeton

Before proceeding with new stuff please be warned about the manner by which I raised my dodger. I used standard wall (0.049") 7/8" stainless steel tubing to make internal sleeves for the extensions to the main bow of the dodger. On Memorial Day outside of Barnegat Inlet (my bad for trusting NOAA) we took an unusually large wave (rogue ?) that washed solid water over the deck and cabin into the cockpit. The force of the water broke 12 lift-a-dot studs, tore out seven lift-a-dot sockets, tore out the Sunbrella binding along the bottom and bent the bow at my junctions where I extended the dodger frame Poor Pat was completely "awash" and ended up on the opposite of the cockpit from where she was sitting. My warning here is if you sleeve the extensions like I did be sure to use thick-walled 7/8" tubing a minimum of 6" long.



This issue we have a submission from Bruce Whyte on multiple causes of engine "spluttering" and dying. With Bruce's write up take special note of the location of the engine block number (the pic is a Westerbeke but the block is the same as the Universal 35B). This is the number used by Bruce's mechanic to cross-reference and get a Kubota head gasket. I had contacted a local Kubota dealer for parts in the past and was told I had to have the cross-referenced part number....apparently parts can be gotten using the block number. I would like to hear of any and all experiences with obtaining Kubota parts for the Universal. Please shoot me an email of your successes...or failures in getting parts so I can share with our members.

—Bill Templeton, pbtemp6816@verizon.net

Spluttering May be Fuel for Thought

"Splutter . . splutter . . splutter". It lasted a brief few seconds on a quiet day moving the boat from its anchorage to a sail yard to repair the TV antenna on top of the mast, a trip of only one nautical mile. Nothing happened on the way back.

We left Oriental, NC the next day for Norfolk via Bellhaven and the Alligator River. One hour into the trip, "Splutter . . splutter . . splutter". Then the engine stopped. It restarted easily, if roughly, ran for a few minutes and then "Splutter . . splutter . . splutter" and died again. This was repeated twice more. At that point we decided to return to the Oriental anchorage that meant under sail and, of course, into the wind that only meant we were heading in the correct direction!

Since it was Easter Monday, we anchored and waited for Tuesday. The yard told us to get a with SeaTow. The diesel mechanic was waiting for us, jumped on as soon as we docked and started on the search. He thought initially, like us, that it was a fuel issue. But despite checking for almost 2 hours, could find nothing. Stuck his finger in the coolant under the radiator cap and pulled it out, black as spades. The only thing we all knew that could do that is a leaking head gasket. So off came the head, and everything else, and the gasket was found to have a perforation. Westerbecke was called and yes, they had one that they could get to us in about 6 weeks. Yeah, right! Another mechanic suggested we might actually have a Kubota engine. Kubota directed the mechanic to the area where the serial number could be found, which proved it was a Kubota. Their head gasket arrived the next day, the engine put together and run for about 4 hours at the dock and against the dock lines. No over heating, no spluttering, let alone death.

We left the next morning with another boat for company. We considered that as on-the-water insurance. Six hours after we left, in the middle of the channel east of Bellhaven, with a tug pushing a barge behind us, "Splutter . . splutter . . splutter". Twice! Died twice. Would not restart twice. We threw out the anchor and tried troubleshooting, quickly of course. Engine restarted and we were able to get out of the channel and into the anchorage we had selected for the night. And just to compound the

issue, we had the most severe thunder storm we have ever weathered on the boat with torrential rain, high winds and decent seas in the "protected" anchorage. We had all our lights on as we could not even see our companions 100 yards away. Despite some wild swinging, we did not drag.

Over the next 4 days we ran smoothly, except for when we spluttered and died multiple times each day. At Coinjock we checked the fuel lift pump that did not seem to be working. Indeed it produced no output. A local lad gave me a ride to town and I picked up a 12V fuel lift pump. Installed it on the boat and once again ran it for several hours against its dock lines. So all fixed.

Whoa there, not so fast. Before we even left the dock, "Splutter . . splutter . . splutter". Engine died again. Since it restarted immediately we decided to continue north as our safety did not really seem at risk. We had multiple marinas and resources en-route and our companion stayed with us, probably for entertainment. Every day we had the same pattern as before. We made it to Deltaville, VA in another few days. Having called ahead, we had 5 mechanics to choose from, all with a variety of reviews. We selected Deltaville Yachting Center, a relatively small outfit that could get to us in less than 2 weeks, in fact the next day it turned out. Co-owner and mechanic Bo docked us at 12:00 noon, jumped on and started. After 2 hours another of their mechanics joined him. By 5:00 pm, they had nothing to show for their efforts. But, they were not leaving until they had it licked, this on a Friday afternoon!

They decided to check for blockages using a vacuum gauge and found immediately an almost complete blockage in



the fuel line. By moving the gauge, they isolated it to the section between the external fuel filter and the supply line in the fuel tank. Once the supply line was pulled out, it became obvious. There was a "black plug" in the very top of the supply line where it does a right angle into the supply hose. After almost having to hammer it out, it turned out to be a piece of absorbent material that is used to collect any spill around the fuel nozzle at refueling. It was about 2 inches square and tight as a gnat's . . . The thought was that someone had stuffed the fuel nozzle through it and a piece had ripped off.

So at 5:30 pm we restarted the engine and wonder of wonders. Not only did it start straight away, but it also self bled the air in the system, apparently a normal with this M-35B Universal engine. Long and short, we had no problems with the engine from then on. We spent the next 2 weeks cruising some of the Chesapeake Bay with an engine that purred, ran at least 7 degrees cooler than before and never again "Spluttered . . spluttered . . spluttered".

But we still want to know, how in the heck did it ever get enough fuel to run at all, let alone for such relatively long periods? —**Bruce Whyte**, C350 #357 Aussie Mate

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We are happy to once again have a articles from Stu Jackson! —**John Nixon**, Orta Vez; Hull #728, c34hull728@gmail.com

I decided to stay on board the night before my trip to Roche Harbor for the May 2017 Catalina Rendezvous. I'm sure glad I did, because when I checked under the head sink door, something didn't look right – there was a dangling 3/8" hose. It was the fuel hose from the tank to the Racor. There oddly wasn't a bad diesel smell.

I inspected the end of the hanging hose and found the hose barb firmly embedded. I removed the still-intact hose clamps, sliced a small section of the end of the hose and removed the barb with needle nose pliers. The other end of the broken fitting was inside the top of the Racor, which I removed with a regular socket on an extender bar.



Broken Fitting

My family had dropped me off and gone home, so I was without a car. It was getting on late afternoon. I went up to the very small marine store in our marina and asked friendly Jim if he "had one of these" – showing him the broken fitting. "Oh, I have a bunch of things like that, but not that size. I can order it for you. Or you can just drive into Duncan and get one at the auto parts store." I explained my predicament with no car, and plans for leaving early tomorrow morning. He said he'd be glad to help me with another idea, but he had to call in an order first.

While he was doing that, I was silently trying to figure out what I'd do. It was getting almost too late to call my family to come back and get me and then hightail it to the auto parts store this afternoon before it closed, which could delay my departure the following morning. Jim finally got off the phone, and then gave me the phone number of the Yamaha diesel mechanic right next door. When I said I didn't have a phone either, he called and said, "Hey, Doug, where ya at? Anywhere near Maple Bay Marina? I gotta fella here who needs a part. Yeah, OK, I'll send him over." He said to me, "Doug's just getting in his truck, so hurry on over."

Sure enough, Doug had one foot in his truck as I approached. I showed him the fitting, and he rummaged around in a big bag of hose barbs that he pulled out from his glove compartment and found one. He asked if I wanted a 90 degree elbow one. Since I had to cut off that small slice of hose, I said, "Yes." He looked some more and said, "Sorry, don't got one." "Ok," I said, "do you have two feet of 3/8" fuel hose?" He did, in a big box inside his office. Now that I had the parts the time pressure was off, so I casually waited while he figured out how much to charge me, pulling his cell phone out to check the price of the parts. I said, "Here's five bucks." "Oh, no, that's not enough, the barb is more than four itself." "OK, here's ten, will that do it?" "OK." I thanked him and went back to the boat. A True Island Time story. West Marine was never this much fun.

I realized that the regular socket would not work to attach the new fitting to the Racor, because the barb stuck out so far. When we first got Aquavite in 1998, I had purchased sets of metric and SAE deep well sockets, which I had never had to use. Until now. I even knew where they were! I found the right sized one and installed the screw end into the Racor. Even though I had bought the two feet of extra fuel hose, I found that I could just get the remaining length of fuel hose onto the barb without too much persuasion. I tightened up the two hose clamps so the fuel input was complete.

I turned the cockpit key switch on, and opened up the engine compart-



Old & New Fittings and Deep Well Socket

ment. I opened the "knurled knob" on the injector pump and waited until the clicking of the fuel pump slowed down. I've found it helpful to open, close and reopen the knob to bleed the engine. Ken dcc Heyman (Whole Sailor, #535) has written the definitive guide to engine bleeding which can be found in the "101 Topics" on the forum. The engine started right up.

I didn't know how much fuel had leaked out from what was a full tank, so I filled up with enough fuel to get me to Roche Harbor, where I completely filled the tank with the much less expensive American fuel. I surmise that whatever fuel leaked out was pumped out by the bilge pump. When I got back home, I cleaned the bilge and adjusted the stuffing box to zero drips at rest and checked it again for heat while running.

Out of sight – out of mind. Those little things that you think will last forever simply don't. That's why our Critical Upgrades topic on the forum includes one that says: "Check Your Engine While It Is Running." After all that, while I was looking for that deep well socket set I came across a fuel hose shutoff valve that I had bought years ago that had, you guessed it, two of those very fittings. —**Stu Jackson**, Aquavite #224



New Fitting on Fuel Filter

Ignition Key Switch Replacement

While preparing for the May 2017 Catalina Rendezvous in Roche Harbor, I went through all the systems on the boat for this, my first real cruise since moving to Vancouver Island from San Francisco in 2016. After doing an oil change, I decided to take her out for a short run to make sure everything was working fine. I turned the key and nothing happened! No fuel pump ticking, no glow plug operation, no start, but also no alarm buzz. That last item indicated to me that the switch was bad.

I measured the diameter of the key switch and went off to one of my favorite marine stores: the auto parts store. Duncan Auto sold me a Cole Hersee 9577 on/off key switch for \$27.68 CDN as shown in Photo 1.

I opened up the panel by removing the six screws that hold the fiberglass cockpit panel enclosure. I used a box cutter to score the old silicone sealant around the top and side edges of the panel. I remembered that when I'd replaced my voltmeter many years ago the plastic silver plate was held on by machine screws, so the only way to get the panel open was the enclosure. You can see one of the machine screws for the faceplate in Photo 2. Once the panel was opened, I kept it from snapping closed with a block of wood. That small red piece of wood has been with me for a long time, and has served many

purposes: sanding block, cutting and drilling backup plate, space holder. I keep it in our tool kit in our navigation desk.

Before I removed the old switch, I jumpered the contacts and the alarm buzzer came on, confirming my diagnosis. I removed the trim ring from the front of the old key switch and slid it out the back, then pulled it far enough out to get to the tiny screws holding the wire ring terminals to the switch. I noticed that it was a two position switch with three terminals, but used only two. The blue tape was to hold the old wires together to keep the ring terminals lined up for screws for the new switch.

Once wired up (see Photo 3), I tested the new switch and it worked. I slid it into the opening and tightened the locking collars from the back and the front. I had to balance the depth of the switch with the panel and trim rings in front and back. I removed the red wood block and slid the fiberglass enclosure back into place, screwed it down and then resealed the top and side edges with silicone.

I went to the hardware store and got two additional replacement keys. Based on reports from other skippers and our



New Cole Hersee Key Switch

own experiences, we've found the brass keys tend to get bent due to their location in the panel, so I got replacement keys made while the new ones were still straight. The replacement keys are silver, similar to our companionway and locker locks, so I painted them for identification.

We keep our cockpit panel covered with a Sunbrella snap on cover. The new switch should last the same 30 years that the original one did, for 3,200 or so engine hours. —**Stu Jackson, Aquavite #224**



Cracking the Panel Open



New Switch Wired In

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CATALINA 320 INTERNATIONAL ASSOCIATION

Making Our C320 More User Friendly



C320 Association
Technical Editor
Chris Burti

Special thanks to Ken Keiger for submitting this article.
—Chris Burti, clburti@gmail.com

We have had our 2000 Catalina 320, Northern Dream #765 for 5 seasons now. She is a fresh water boat from day one and is sailed on Georgian Bay. Here I want to share with the community a few more or less simple things we have done to make her more “user friendly”

1. Parallel Light Switches in the Aft Cabin

We use the aft cabin as our main suite and found the high reading lights, while suitable for reading, quite inconvenient to turn off or on when lying down. I had two old lights, not unlike the 320's aft cabins lights, that I modified to make a dual switch base for two additional rocker switches that I parallel wired to the existing light's switches. The new switch location is just above the shelf midway across the bed.



Wiring the new switches involved fishing three wires down to the new lower switch position. I routed them by loosening the vertical panel and removing the horizontal trim that covers the overhead wire channel. With the aft part of the panel pulled out I could get the wire worked from the lower new switch base to the two original switches. So a +12 volt power wire was connected to a source at the aft original light and connected by soldering to one side of

the new switch and jumpered to the other switch. Then the other side of each switch was connected to its respective light.

Paralleling the new switch with the existing switch means that both switches can turn the light on and both switches must be off for that light to be off.

(Editor's comment: We did this by running wires through the wet locker, under the bed, and into the aft area to install two switches: one by the fore bunk, and one by the aft. Ken's approach is far easier and yields the same approach.)

2. Port Cockpit Locker Storage for Bosons Hooks and Broom

I noticed a space on the underside of the deck in the port side cockpit locker that could be used for storage of poles and the like. I glued two pieces of marine plywood to the underside



of the deck and mounted six stainless steel spring clips using SS screws to the plywood. The poles now clip to their mounts and are out of the way yet easily accessible.

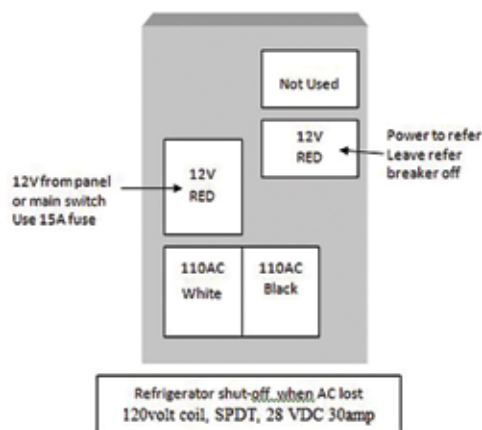
3. Refrigerator “ON” Light and Loss of AC Power Isolating Relay

The refrigerator is a big 12 volt DC power user and we manage it. To help with that I sourced (from Catalina Direct I believe) a red LED the same as that used for LPG Solenoid light and installed it in the panel and wired it to indicate at a glance when the fridge was powered.



We leave the refrigerator on while at dock and connected to AC power to keep the batteries charged. To protect the batteries in case of AC 110V power loss to the boat I placed a 120V/30 am DC solid state relay in a circuit that cuts the 12 volt power to the refrigerator if the 110 volt power was interrupted for some reason.

The relay is a Schneider Electric Magnecraft 120volt coil, SPDT, 28 VDC 30amp contacts. Magnecraft # 9A55A52-120; NEWARK 32C2652; SKU 74C2652 sourced from Newark/Element 14. Cost under \$10 at the time.



The relay's coil is powered from the 110 volt source in the panel. The 12 volt contact side is powered through a 15 Amp fuse from the main supply from the batteries in the switch panel and the 12 V DC switched side is wired to bypass the refrigerator switch supplying power to the refrigerator. The main 12 volt power switch is left on to energize the switch panel and the refrigerator switch is turned off.

(Editor's comment: I have been planning on something similar by using a “12 Disconnect” sold by Blue Sea and others. They work by sensing low battery voltage, and cost \$50-100. It never occurred to me to sense the AC, and disconnect the refrigerator when AC is lost. After all, the risk is mainly when the refer is on and we are away from the boat and AC power is available. When aboard, we are monitoring systems and would know



of a failure. Still, since the issue is protecting the batteries, and I grant that the 12V sense offers the most protection. The better devices will have built-in delays around disconnect and reconnect voltages to prevent “stuttering” around those points... not an issue with Ken’s el-cheapo relay. Don’t choose an option strictly on cost. Consider your need and choose accordingly. There are good “12V Disconnects” at affordable prices. After all, what’s \$50 to \$100 when we are talking about \$400+ batteries?)

I hope you will find these improvements of interest and for further clarification I may be emailed. **—Ken Geiger,** kendgb@aol.com

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CATALINA 30/309 INTERNATIONAL ASSOCIATION

Water Lift Muffler Replacement



C30/309
Association
Technical Editor
Max Munger

Special thanks to Ed, Don, Chet, and Andy for these articles.

—Max Munger, max-munger@verizon.net

After 36 years my Aqua Lift muffler began to leak around the inlet. I tried fixing it with glass tape and polyester resin last year but that didn't work. I purchased my new muffler from Weekend-R-Products (Ken@WeekendRProducts.com) at a very reasonable price. It is a Centek model 1500002W, I chose this model because it was the only unit that was not taller than the original AquaLift muffler in fact this unit is slightly shorter than the original so I was able to slide it on without removing the exhaust pipe. I

used to reciprocating saw to cut the inlet hose but a hacksaw would do just as well. The hardest part was getting the old muffler out because Catalina smeared their polyester goop around it and I had to cut some of that away with my angle grinder before I could pry it up and slide it out. After removing the muffler and I added three layers of glass cloth using white tinted polyester resin to cover the raw wood. With the silicone hump hose slipped on the new muffler I was able to slip the new muffler in the place without removing the exhaust pipe. The volume of water that the new muffler holds is somewhat less than the original but that's not a problem for me as my Atomic-4 always starts within a few seconds. I now have about four hours on the engine running with the new muffler, everything is working great, no leaks and a dry bilge.

—Ed Reimbold, Troika 1980 TRBS #1914, Atomic 4, Lake Lanier, GA, c30troika@gmail.com. You can see a Video of my exterior UPGRADES at the following site: <http://youtu.be/Tk0jmQW3DkE>



Old muffler



New muffler

1988 Catalina 30 Bow Anchor Support

Okay, so you're wondering how to store your anchor on the bow of your Catalina 30 (or any similar boat). The stock pair of bow rollers attached to the forestay hardware leave a lot to be desired. If you try to use these rollers you'll likely have to cut into the anchor

locker hatch if you want to have your anchoring equipment "at the ready." You may also have considered cutting off one side of the dual roller set-up and bolting on a longer anchor roller and bail. I considered the latter but did not want to drill more holes in the boat and was looking for a simpler solution which would allow the anchor to be stored at the bow, be fully attached to the chain and rode, and would be readily deployable. It also had to be sufficiently secure that it wouldn't bump or float around on the bow or deck, and would not deploy without my approval. Here is my setup:

The anchor is obviously a Rocna 10 which made the bracket design fairly straightforward given the tubular semi-circle around the top of the front of the anchor. The total cost is less than \$15 and the materials consist of a knot free redwood 2x4 approximately 20" long and ripped to a 3" width (although not necessary); approximately a 5" square ¾" piece of redwood; and four 1 1/8" by 3" SS u-bolts from Lowes to attached to the bow pulpit. Note that the anchor



Rocna Anchor



Rocna top view

is deliberately a bit off center and "twisted" to provide clearance for the furler. Note also the brass clip attached to the anchor as a safety precaution. I've set the bracket so that when the anchor is "loaded," the shank of the anchor set in the SS hardware of the existing starboard side bow roller; I tie a small piece of line around the shank and roller to keep it set. After the bracket was first installed (note that I oiled it with linseed oil). Depending on how it holds up, I may need to re-fabricate with oak or a more durable wood. After securing the u-bolts (I added flat and lock washers to the original hardware) I cut the excess threads off with an angle grinder). —Don Dame, donald.b.dame@gmail.com 1988 C30 #5380, Ventura, CA

V-Berth Step Details

I finally was able to take some clear photos of my V Berth step and do up some drawings with dimensions. The photo shows the step in place and shows the support on the head bulkhead and the small piano hinge attaching the step to the bulkhead. If you look closely, you can see an oak support I screwed to the plywood for additional strength. There is one on the back side as well. The oak support piece also serves as a dress edge to the plywood. I cut a dado groove out to enable better vertical support as the plywood panel sits on the oak strip. You can cut a poster board to the dimensions and angles included and then trim it to your particular situation as every boat is just a little bit different. Also in the photo you can see a shelf above and behind the step. I found this to be great for additional storage of clothing while I lived aboard. **—Andy Normand**, Star Lifter, '83 TRBS Must rider@cox.net



ChainPlate Modification

Things that go bump in the night:
It was a dark and stormy night.
The Skipper and I had just retired
into the cozy vee berth while the
howling winds rocked the boat.
But we were safely tied up in the
slip and there was nothing to fear,
so we drifted off to sleep.

A big gust came up and shook the boat violently and then suddenly the sound of a loud bang seemed to leap from the hanging locker. I'd heard that sound before, when we'd been out sailing. "That makes me nervous" said the Skipper. "Yeah, me too" I replied, and made a mental note to put that at the top of the to-do list.

It is not a unique story. Perhaps being new on the scene, I am the last to find and face this weak point of how the load on the starboard upper shroud chain-

plate is brought down to the hull on the early boats. Somewhere in the back of mind was memory of forum discussions about a failure prone attachment at the bottom of the bulkhead. So I was shocked but not surprised to find that the bolts at the bottom had enlarged the holes in the plywood and had pulled out of the lower edge. Yikes! We postponed our planned trip to Mystic. Searching through the archives I found past discussions from the forum's stalwarts and Dan was very helpful in pointing me to his photo album with comments.

After considering steel bar stock or wire rope, the solution I chose was the "Dan method" – reinforce the inside of the settee, and then run a threaded rod down from the chainplate to steel angle pieces bolted between there and the inside of the locker (drawer area in our case). One day was spent taking measurements of the available space and fabrication of parts, and yesterday was spent in installation.

One concern I had was in bolting the steel angle pieces together. The wall inside the settee is not flat and I was afraid that tightening the bolts clamping the plate onto it would concentrate the stress on just the high points and crack it. So before attaching the angles, I built little dams of putty tape worms on their backside and applied thickened epoxy in between. The idea was that the putty tape would keep the epoxy off of the bolts and from running out the bottom, and that excess epoxy would squeeze out the top. This appears to have worked well..

So, as of last night, I was able to crank down on the threaded rod and pull that end of the hanging locker down, but more importantly, now have the load on the chainplate coming down to the hull again. **—Chet S**, SV: Miracleau 1977 C-30 MKI #633 SRSK Beta20 Westbrook, CT



I reinforced the inside of the settee, and then ran a threaded rod down from the chainplate to steel angle pieces bolted between there and the inside of the locker (drawer area in our case).

CATALINA 28 INTERNATIONAL ASSOCIATION

Not All Non-Start Issues Are Created Equal



C28 Association
Technical Editor
Dick Barnes

Special thanks to Ken Cox for submitting this article.

—Dick Barnes, dick-barnes@earthlink.net.

In recent weeks it seems we have had a great deal of starter issues within the group. This is not unique to the C28 but also with other models. I'm going to try and address some of the whys and how to find the fix for your particular issue. Not all non-start issues are created equal. If you remember an article that I did about a year ago, I discussed the logic to viewing whatever system you're having problems with in either the parts or service manual diagrams. This gives you an unobstructed view of all the components that you will be considering for the cause of your problem. In the case of the starting circuit, you may need to research two different photo's or wiring schematics to see it all as there is a high amp circuit and a low amp controls circuit.

You may simply have nothing, perhaps a slow turn over, maybe only a click, or even a quick rotating starter with no engagement. You could even have the issue that I dealt with, while simply sailing along the starter engaged for no apparent reason and would not stop until I shut down all power to the boat. The approach would not be the same for a fast and efficient diagnosis for each of these issues. The problem is generally simple but often times the solution is not. So how do we start?

Let's start by looking at the system as a whole. We have batteries, large positive wires going to the battery selector,

another going to the starter on the engine, a large negative one attaching to the engine. Then we have the smaller voltage control wires that go to the distribution panel at the navigation station and power going to the engine panel in the cockpit. Then that pesky connecting harness from the engine control panel to the engine and those plugs, those problematic plugs. I'll come back to these. Let's look at problem by problem going from the easiest to the hardest.

You're getting a slow turn over. Everything is working just not turning hard enough to let it start. This is generally simple; you're not getting sufficient power to the starter. It can also be a high amp draw starter due to wear, but generally this happens over time with much warning rarely just overnight. There is also an inexpensive amp draw tester that is good to have. The most likely issue here however is either batteries that have lost their capacity and working ability or dirty connections, most likely in the ground circuit if the batteries are up to the load. Start by load testing them, if you don't have a load tester it will be one of the best investments you can make and about \$30-35. If they fail, replace them and consider going up in size. Many came with group 24's; the next size up is 27's and then 31's. Each one is also slightly bigger physically. I personally prefer 31's, slightly higher in both cost and size than the other two sizes but much more power for the dollar in my opinion. They will give you faster longer cranking capability. If they load test out fine, then clean all of the connections of the high amp wires both ends and don't forget the connections at the battery switch behind the panel

or the ground at the engine. The most common cause of a burned out starter is starting it with a low voltage supply source. In fact the same could be said of all electrical circuits. Low voltage creates much more heat causes components to fail prematurely, destroys connections and promotes corrosion.

Next issue, the starter turns over like wild fire but does not engage. Again, load test the battery's, make sure that you have sufficient voltage to the solenoid under load, if not correct low voltage as above, is so, then you either have a weak magnet in the solenoid or an internal disk that is not transmitting sufficient flow to allow the starter drive to engage or a bad starter drive.

Or you only get that CLICK! Here you could also have a low power supply or dirty connections just like above. Check all of those and from there you have pretty much narrowed it down to two things, either the solenoid is burned out disk or pin inside or the starter is worn beyond service. To tell which, you can take a jumper cable from a hot positive high voltage source. If the starter turns, the most likely culprit is the solenoid, if not, then the starter. You can also always take a set of jumper wires direct from the battery to the starter, black to case or mounting bolt, red to large voltage lead into the starter directly, if this fails to turn it, the starter is bad. You can also perform this test on the bench.

Now for the old no response, this could be any of the above. You could have either no supply voltage or no control wire voltage telling the starter to turn over. I would start by first testing for voltage at the starter. Take a volt meter to the high voltage lead and see what you have. If you have voltage have someone press the starter with the key on. If the voltage drops off you have bad supply or connections, if constant, you have no call to start. Now put your volt meter on the yellow wire with the red strip going to the solenoid, pull this wire off the solenoid, have someone again press the starter button. If no voltage you have a signal supply issue that could be a broken wire from the engine panel or a bad ignition switch as the most likely problems. Now check for voltage at the output of the ignition

Ken Cox will be the new Technical Editor.
In the early '80s a friend took him sailing
and the bug hit hard.

switch to see if it is sending voltage to the starter, if it is, then you have what is most like a short in the harness or one of the harness plugs.

A word about the harness plugs. Why do we have them? Well these engines are used in many applications and many models of sailboats. They are in tractors, electrical generators, water irrigation pumps and even our sailboats. When the engine is made they could go to any number of applications so they have a harness plug to connect to whatever type of control is needed and can be any length. They then specify a control panel for the application and not knowing how far away the two will be for any given application, they use an intermediate harness of various lengths to connect the two together. Most are installed in a well vented installation, those for the sailboats, well, not so much. We put them in closed damp areas and expect them to last forever. They work wonderfully.....until.... they don't. Due to heat, moisture and lack of ventilation they fail in various ways including no starts, hard starts due to no voltage to the glow pugs, erratic read-

ings on the instruments to name a few. Over time they can corrode, overheat prematurely wear out electrical components etc. So if you have odd and erratic electrical issues a deep inspection of the harness plugs is warranted, better yet, replace them.

The issue I had on my boat was that I was sailing along on a most glorious day and I heard this odd thing, the diesel was cranking over and over and over and then it started and it still kept cranking and cranking and cranking sounding very ugly down there until I went below and killed the power at the battery switch. The switch was off, nothing should have caused this. Of course these things happen at the most advantageous of times as you all know.

Upon investigation my lower harness plug back behind the engine had done a partial melt down, the red supply wire had shorted to the yellow wire with the red stripe that energized the solenoid and told the starter to engage just as if I had the starter button pressed with the key on. After installing the upgrade kit at both ends the problem was solved. The upper harness connector had its

own case of ugly and would have failed soon also so it was also replaced.

So if you have not upgraded the harness connections my recommendation is to do you, you can get all the parts from Catalina Direct or assemble them yourself but the CD kit has the solution to upgrade the charging circuit also as well as schematics to do the work. These harnesses can also create charging issues and have even caused some fires, the last thing you want on a boat.

While this won't cover every possible starting issue it also won't miss many. Hope this helps you feel more confident in future possible starting issues and save you some time in finding the problem when not if you encounter them. Should you have questions or comments you can find me online in the C28 Yahoo Group or contact me directly at: kenneth_cox@sbcglobal.net

Fix it fast, sail it faster,

Because you would rather be out there. **-Ken Cox**

Note from Mainsheet Magazine: Thank you Dick. We have enjoyed working with you. -Jim and Carol



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CATALINA 25/250 & CAPRI 25 INTERNATIONAL ASSOCIATION

Do-It-Yourself Arid/Dry Bilge System

C25 Association
Technical Editor
Seth Martin



C250 Association
Technical Editor
David Gonsalves

Capri 25
Association
Technical Editor
Position Open

Manual and automatic bilge pumps, whether submersible centrifugal pumps or remotely mounted diaphragm pumps, cannot completely clear a bilge of water. Typically 1-3" of water remains. In a shallow bilge boat like the Catalina 25, this can lead to a substantial volume of water remaining in the bilge.

Water in the bilge, while common, can cause serious problems. Water in a Catalina 25 bilge can cause the wood stringers to

rot. Although not typical of Catalina 25s, internal blistering has been reported in fiberglass boats that continuously have water in the bilge. Bilge water is also the primary source of that distinctive "boat smell".

There are two commercially available products that address this problem, with advantages and disadvantages compared to this DIY system. Arid Bilge makes a very smart, very expensive system. The more recently introduced Dry Bilge system is smart, but less so than the Arid Bilge, and is much less expensive. The Dry Bilge system leaves more water in the bilge than the Arid Bilge system, and appears less robustly constructed than the Arid Bilge system.

Both of these commercially available systems are intelligent, only operating their pumps when water is detected in the bilge, which results in less power consumption. As a less intelligent and much less expensive alternative, this DIY system runs on a programmable timer, which draws power on a schedule regardless of whether or not water remains in the bilge. Both of the commercial systems cannot remove the last remnants of moisture from a bilge because they do not use sponges, and are subject to clogging at their water pickup points. This DIY system can remove the last remnants of moisture from a bilge, does not clog like the others, and costs less than \$100.



DIY Arid/Dry Bilge Water Pickup

This DIY system starts with common household sponges, which absorb moisture in the bilge areas. The moisture in the sponges is sucked through small feeder tubing, leading to a simple suction manifold, with the suction generated by an inexpensive DC-electric diaphragm pump. The discharge from this pump can be plumbed into the manual bilge pump outlet hose near where it drains to the through-hull at the transom (Plumbing to the hose near the through-hull at the transom may be considered important for safety.), or routed to the lifting cable through-hull on swing-keel boats.

The pump is controlled by an inexpensive DC-electric programmable timer, which can be installed on the electrical bulkhead. For the test installation, the



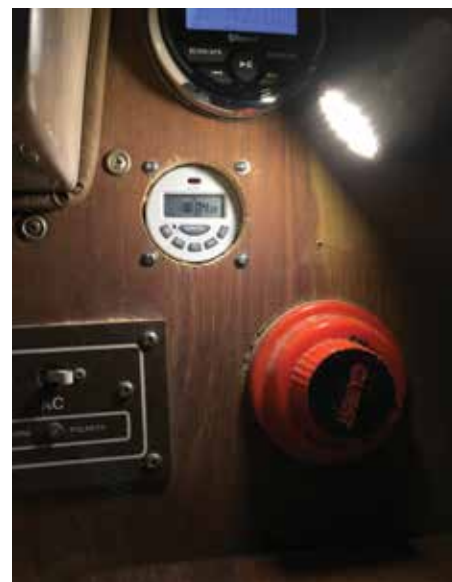
DIY Arid/Dry Suction Manifold and Diaphragm Pump



DIY Arid/Dry Bilge Pump Discharge Through Swing Keel Lifting Hardware Through-hull

timer was programmed to engage the pump for two minutes every six hours, which resulted in a completely dry bilge in all seasons and weather, regardless of leaks and sailing conditions. In this case, the programming could be changed to pump less, such as for two minutes every twelve hours or one minute every six hours.

There are three separate bilge areas in the Catalina 25 in which water typically collects. For the test system, there is a separate pickup in each of these areas, for a total of three pickups for the system. There is one pickup beneath the forward v-berth, accessible through the wooden hatch beneath the v-berth; one beneath the starboard salon floor, accessible through the small wooden bilge access panel; and one beneath the port



DIY Arid/Dry Bilge Pump Control Timer

starboard salon floor, accessible through the large wooden bilge access panel.

Regarding ongoing maintenance, the pickup sponges need periodic replacement when they begin to deteriorate, at least annually in this test system. Allowing the sponges to deteriorate could cause the tubing to become clogged with sponge debris.

A note about pickup-to-manifold tube sizing: four different internal diameter tube sizes were tested, 1/16", 1/8", 1/4", and 3/8". The 1/8" internal diameter tubing yielded the greatest volume of water removed when one of the sponges was wet while one of the sponges was dry, which is likely to occur in this system.

—**Seth Martin** sails Outlier, a 1987 swing-keel, standard rig, standard interior Catalina 25, primarily on Smith Mountain Lake, Virginia

Editor's Note: electrical connections should be tinned and covered with heat shrink or liquid electrical tape.

Parts:

- Seaflo 1.2gpm diaphragm pump, available from Amazon.com
- Generic 12v DC timer, available from Amazon.com
- 3/8" clear vinyl tubing, available from most hardware stores for manifold, and inlet and outlet to pump
- Rubber stopper, available from most hardware stores for capping end of 3/8" suction manifold
- 1/8" clear vinyl tubing, available from most hardware stores for line from pickups to suction manifold
- 1/8" to 3/8" plastic barb fittings, available from most hardware stores for sponge pickups, and at suction manifold
- Household wall faceplates with center hole, available from most hardware stores for mounting sponge, and holding plastic barb fittings to 1/8" tube
- #12 fine thread stainless steel screws, available from most hardware stores for mounting sponges to faceplates, and mounting pump to bulkhead
- #6 stainless-steel through-bolts with nuts, available from most hardware stores for mounting timer to electrical bulkhead
- Cable ties, available from most hardware stores for mounting tubing to existing systems
- 16 gauge wire, available from most hardware stores

CATALINA 22 NATIONAL ASSOCIATION

Inside A New Catalina 22 Sport

The first Catalina 22 Sports of the new 2018 model year recently shipped from Catalina Yachts. Brian Tacy of Strictly Sail, a Catalina Yachts dealer in Cincinnati, Ohio shares his photographs of the interior of #15781 just prior to sending this Sport off to her new owner. Contact Brian if he can help you with ordering a new Sport!

Although the Catalina Yachts marketing collateral also shows interior shots of the Sport, it does not show how much better the boat looks with cloth cushions, which are available in a variety of color options.

The interior cushions of the Catalina 22 Sport are long and wide. The V-berth cushions are 69" long and 81" wide. The two settee cushions are 29" wide by 89" (nearly 7-1/2 feet long). There is plenty of available storage under the settees, but there is no hull liner. The interior of the Catalina 22 Sport is nearly identical to the Capri 22, except the Sport has the keel trunk in the middle of the cabin.

A 48-quart cooler is standard and also serves as a very large step into the

cabin. There is no galley in the Sport, this was one of the requests of the Catalina 22 National Sailing Association when work with Catalina Yachts on the boat's design over 15 years ago. A porti-potty is available, as option, and is located under the middle v-berth insert.

Above the v-berth insert, the forward hatch is all fiberglass, so there is no concern of damage when stepped on by crew working the foredeck. A compression post is located immediately behind the forward hatch.

In the top right photograph, the ridge located above the starboard teak hides the wiring to the nearby light, and wiring to the external mast lights.

The electrical panel, shown in the middle photograph, is located to starboard, and can be reached with a long-stretch from the cockpit. A cover hides the swing keel winch. The battery is on a tray located behind the cooler. The volcano is easily accessible.

A nice feature on the nice Sports is the removable floor panel next to the swing keel trunk that allows inside access to the weldments, should they



ever need replacement. The swing keel trunk cover is also entirely removable, allowing complete access to the keel trunk for repair work, if ever needed. The teak cover on the floor also provides access to the bilge.

The Sport also includes three interior red-white lights. The overall craftsmanship of the Catalina 22 Sport is simple, clean and very well done.

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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**Catalina Owners without
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Coming soon!

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#13, Lake Lanier Georgia
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#14, Florida East Coast
bob@s-i-inc.com

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#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 &
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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.sailcyc.org

#12 North Atlantic (MA)
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#13 San Diego, CA
www.sd.catalinaassoc.com

#18 Long Island Sound (CT)
www.sailisla.com

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#21 Chicago, IL
www.catfleet21.org

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www.capsfleet1.com

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#26 Lake Texoma, TX/OK
512.835.8680

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salcerniglia@optonline.net

#30 Hampton Roads, VA
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#32 Lake Lanier, GA
rrrose@deltaenv.com

#35 Southwest Florida
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#36 Lake Perry, KS
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#37 Vancouver Island, BC
gm@bonnor.com

#38 West Michigan, MI
http://www.lmca.com/

#40 Lake Pleasant, AZ
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thegreenwoods@sbcglobal.net

#44 Santa Cruz, CA
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#45 Columbia, SC
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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
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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 36/375 INTERNATIONAL ASSOCIATION

In It for the Long Haul



C36/375
Commodore
Laura Olsen

I write this in the aftermath of two major hurricanes. From a sailboat owning perspective, that is a sobering statement.

I'm not here to address the obvious human tragedy wreaked by Harvey and Irma. It is above

my pay grade to attempt to put that into adequate words. My thoughts and prayers go out to all affected: sailors or not.

However, this *Mainsheet* platform and those connected to it, have an

opportunity to keep the assistance to our fellow sailing humanity moving forward long after the storms pass. Consider reaching out to your fellow sailors. You never know how much help may be needed or how significant a little gesture might assist.

I'm not sure that happens at many levels after these tragedies. The news moves on, the weather images are no longer full color graphic, and we go out to sail again, quickly forgetting lives were impacted.

In the years spanning my C36 ownership, it has been clear to me that I'm part of a true Catalina family. Every Catalina owner I've had the pleasure to encounter would throw me a line if I

ever had to ask. There is a special bond that's just naturally occurred through chat groups, forums, tech help, and even some face to face meetings.

I am honored to have served such a great community for a number of years. However, I'm obligated to point out that new leadership needs to step up to many positions at our C36/375 Association, including Commodore and Vice Commodore.

Please consider serving your fellow sailors.

At some point, my watch will be relieved, but as a Catalina family member, I'm in it for the long haul.

—Laura Olsen, safetsuper@gmail.com

CATALINA 34/355 INTERNATIONAL ASSOCIATION

A Strong Fleet 13 Continues To Grow

Fleet 13 friendships are strong and secure! We have endured the storms of aging backs and knees, surgeries, time for grandchildren and family, older boats, and interest in crawlers creeping into conversations! We have several members who have moved their boats to the coast and generously invite us as their guests for coastal sailing, too. In turn, they are often guests on the boats of the lake sailors for fleet activities. Such was the case of a star-gazing raft-up

in the middle of August when shooting stars were promised in the forecasts.

But we also have attracted new sailors, one who said, "How do you stop this thing?" In fact, we have added three new boats to our fold in just the last few months. And our on-land events are VERY well attended. Andy Wilson, who has added great entertainment at our many raft-ups with his guitar-playing and singing, performed in his band's last charity concert

of the season and drew 18 fleet members who sang, danced, and loved being together over Labor Day weekend.

We look forward to the fall breezes that power our sails and lift our spirits. At this moment we are watching and waiting for Irma, the uninvited guest to our sailing enjoyment!

(Editor's Note: To see why this fleet is so successful and continues to grow, see the article in last Summer Issue of *Mainsheet*)



Fleet 13 always enjoys a great raft-up



The ever-growing Fleet 13 members enjoy shore outings

CATALINA 320 INTERNATIONAL ASSOCIATION

Bone Island Regatta 2017 • Part 2 – The Regatta

SEE LAST ISSUE FOR PART 1: THE PREPARATION

By Diane Folwer

In January, I met a recent retiree named Bill. Just down from Wisconsin, trailering his 22' Catalina, he was living aboard in Punta Gorda. We met at a race in Burnt Store marina and he and I raced together for the spring season. I belong to a crazy club called CMCS (Caloosahatchee Marching and Chowder Society) out of Cape Coral. We race off Fort Myers Beach and Sanibel Island. So, Bill was planning to go back to Wisconsin early May; until I told him about this race.

We started off from my dock in Cape Coral on Wednesday and motored most of the way to the Naples Sailing and Yacht Club in order to be on time for the skipper's meeting at 1800.

My other four crew members (Jenn, Bud, Greg, and Terri) live in Naples, and they attended the skipper's meeting, too. Thursday morning, we headed out the Gordon River and north to the Naples Pier for the big start. Unfortunately, this year we had just eight boats at the starting line at 1100. Winds were 3-5 knots. Regatta rules called for all crew to be on deck, visible to the race committee on the pier, and wearing PFD's. We had four boats in the CRUISING fleet and for the first six hours, we were neck-in-neck with a 35' Beneteau. They decided to go right; we decided to stay the rhumb line, so we lost them in the dark.

Windy City does well in light air with crew weight on the low side, so we kept everyone on deck during the day. I had arranged two shifts of three people, so we could catch some sleep during the night. We did four hour shifts; but found this really dragged, so on return we changed to three hour shifts.

The sunsets and moon rises were



some of the most spectacular ones I have ever seen; and I have lived in Florida for over twenty four years! The moon was blood red orange as it crept over the horizon!

Winds were varied, but never got above 8 knots.

When we entered the Northwest Channel on Friday morning, we spotted a beautiful ketch, *White Hawk*, nearby. They had started the race in Sarasota! We crossed tacks with them 17 times heading to the finish line. This was very exciting and challenging. Alice, the organizer, and her husband, Greg, own *White Hawk*, so it was even more special when we both crossed the finish line within seconds of each other. At the Awards Dinner Saturday night, we even got a special award for providing excitement for the race committee on the finish line.

At 11:15 Friday morning, we crossed the finish line: 24 hours and 15 minutes. No one told us how we did, so the suspense mounted. After being safely tied up at the Key West Bight Marina, we all napped, showered, and went out "on the town". Bill called his girlfriend in Idaho to let her know we were safe. I texted my emergency contact (Float plan filed at skipper's meeting) and let them know I was safe, too. When we cross Florida Bay, there is no cell service. Everyone was safe and sound. The boat performed well, my crew was wonderful, and we had no injuries or repairs to be made. AMAZING!

Saturday morning brought a colorful red open air bus to take us to Alice and Greg's house on the other side of the island. The committee did a wonderful job of planning. Scrumptious brunch with Bloody Marys' and Mimosas, plenty of commemorative hats and Tee-shirts were for sale.

My crew spent the afternoon at the Conch Harbor Pool, bike riding around town, visiting a few bars where the "Songwriters Festival" was being held, and hanging out on the dock – exchanging stories. The Awards Dinner was at Dante's Restaurant. *Windy City* was awarded 2nd place and we were proud to receive this special, handmade,



virgin teak, one-of-a-kind award. 1st place trophies were made of black walnut. Greg Petraut is a master wood-worker and comes up with amazing trophies for us each year.

On Sunday, we had the option to enter the "Race back to Reality". This was the same course – but we all would finish at the Naples Pier. We started the race with the tide pushing us about two knots sideways. Just eight boats started and we sailed up the Northwest Channel with ease in 5-6 Knots wind. We, again, marveled at the sunset and moonrise. At midnight, I was coming up for my shift, and asked the helmsman, "How many more miles do we have?" Answer: 58. Since the deadline to finish was 1300 Monday, I knew we would not make it, since the forecast was for winds at 3-4 knots. The crew voted, the engine was turned on, as well as the auto pilot. The Naples Yacht Club hosted us for a fabulous buffet dinner that night and we all shared stories and memories of the weekend together.

One day, I hope to go on extended cruises; but for now, racing gets me on the water on a regular basis.

The week aboard *Windy City* was a delight, as the Catalina continues to provide so much comfort and luxury. I continue to love my little boat and thank God for the beauty we enjoy in Florida - a most special place.



CATALINA 310/315 INTERNATIONAL ASSOCIATION

Oh, What a Summer!



C310
Association Editor
Bob James

Well, tis the end of the summer and just following the multiple hurricanes that battered Texas and the Gulf Coast, the Caribbean Islands, Florida and the East Coast of the US. We all saw the pictures and videos of devastation including piles of boats blown onto land. Hopefully, none of you were victims. If you were or might have been, I'm sure the C310/315 Association members would be interested in your preparation for the storms and the good (hopefully not bad) results. Send any articles and/or pictures to me and we'll get them into the next issue of *Mainsheet*.

As you may recall, our Association Technical Editor Jesse Krawiec is currently living aboard in the US Virgin Islands. After the storm passed, Jesse and Stacey prepared SV *Smitty* for the return trip from Marina Puerto Del Rey, Puerto Rico where they weathered out the storm. We are thankful that all is well on *Smitty*.

Other officers had "interesting" summers, as well, although not as adrenalin producing as Jesse. Our Commodore Alan Clark sustained some damage to the stern from a "fender bender" in the marina. Repairs will be made after the fall haul-out. My Admiral Bonnie contracted Lime Disease that kept her "out of the sun" for a month while on antibiotics. Not easy to be out of the sun on our Catalina 310s.

We hope that your sailing season was fun and that you might share some of your stories and pictures with us. Got any technical insights? Send them in also and we will get them to Jesse.


Since you will be reading this in December, your C310/315 officers wish you a wonderful holiday season and if you boat year-round, smooth sailing.


During the multiple hurricanes that battered Texas and the Gulf Coast, we all saw the pictures and videos of devastation—including piles of boats blown onto land.

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CATALINA 28 INTERNATIONAL ASSOCIATION

Change Is Everywhere

C28
Association Editor
Dave Brower

Change, it's everywhere, the weather, seasons, we change items to maintain our boats, our needs change and so we change our boats to fit them and the C28 Group is no exception. Our volunteer staff will be changing.

Charles Valade has been our IT guy as well as the Secretary/Treasurer. He has been the behind the scenes guy that has kept it all flowing and together for many years now. He has sold his Catalina 28 and feels the need to move on.

Dick Barnes for the last four years has been our Technical Editor. Having owned 3 different Catalina's of varying sizes the past 25 years he and his wife have sold *Newsboy* having vowed that it would never become a "Slip Queen" after sailing it up and down the West Coast but will be continuing to sail with friends, hint, hint Bob Thomas. Dick and his wife will continue to travel but more inland, tend to their bees and maintain the quality of California wine with some sampling along the way.

He wanted me to pass along his thanks to all of you that have, as he puts it, "propped him up in a job he was manifestly unqualified to hold".

But from all of us to both Charles and Dick our most heartfelt thank you for all of your time and devotion to this group, without volunteers like you groups like this that try to further a group of like minded people we could not exist and so for whatever you continue to do and where ever the paths of your lives may take you we wish you both continued, joy, success and health in all of what you do.

Mike Smalter will be our new Secretary/Treasurer, Mike has been involved with the C28 group for as long as I can remember and has contributed a wealth of knowledge and information in many areas. I am sure that Mike will keep us in check and headed in the right direction. Mike sails in the Ontario area and enjoys cruising in the Great Lakes.

Justin Wright will be our new IT & website guru with his experience being from software companies for over 20 years. He started sailing when he was very young and by the age of 12 took to racing first inshore then offshore on

boats in the 30-40' range in the waters of southern UK and Ireland, the north coast of France, Belgium and Holland. Justin got his C28 #558 in the spring of 2016 and has been doing updates to make it "his" boat with many upgrades including running and standing rigging, instruments, rewiring, LED lights, storm sails and spinnaker an all related gear. Justin now hails from Boston's north shore near Ipswich MA.

Ken Cox will be our new Technical Editor. Ken started around power boats as a teen and got away from boating when raising children became a higher priority. In the early 80's a friend took him sailing and the bug bit hard. From that time he has been active with sailboats has worked on both power and sail since then. He then focused primarily on sailboats but still tends to a few old antique power boats as well. He was tagged with the nickname "Boat Dr." when a friend from the Yacht Club saw him walking down the docks to repair one with his little black bag and said, there goes the Boat Dr., he still makes house calls. He still works on and delivers boats all over the US and wet delivers along primarily the East Coast and islands. Being a flat land sailor one has to be pretty diverse and he has resurrected a C28 from the bottom of a mid-west lake and still watches over her today. So Ken brings a diverse mix of skills to the team as well.

On behalf of the new team, we all look forward to keeping the C28 group going as it has been a viable asset to each of us in our own way. We will be looking forward as what we can do, to better serve the C28 group and we may try some different things along the way. In the mean time bear with us as we all learn our new roles, functions and responsibilities. Don't be afraid to participate both on line and here in the *Mainsheet*, may it continue to be a valuable resource for each of us.

But from all of us to both Charles and Dick our most heartfelt thank you for all of your time and devotion to this group

From Mainsheet also. -Jim and Carol

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