

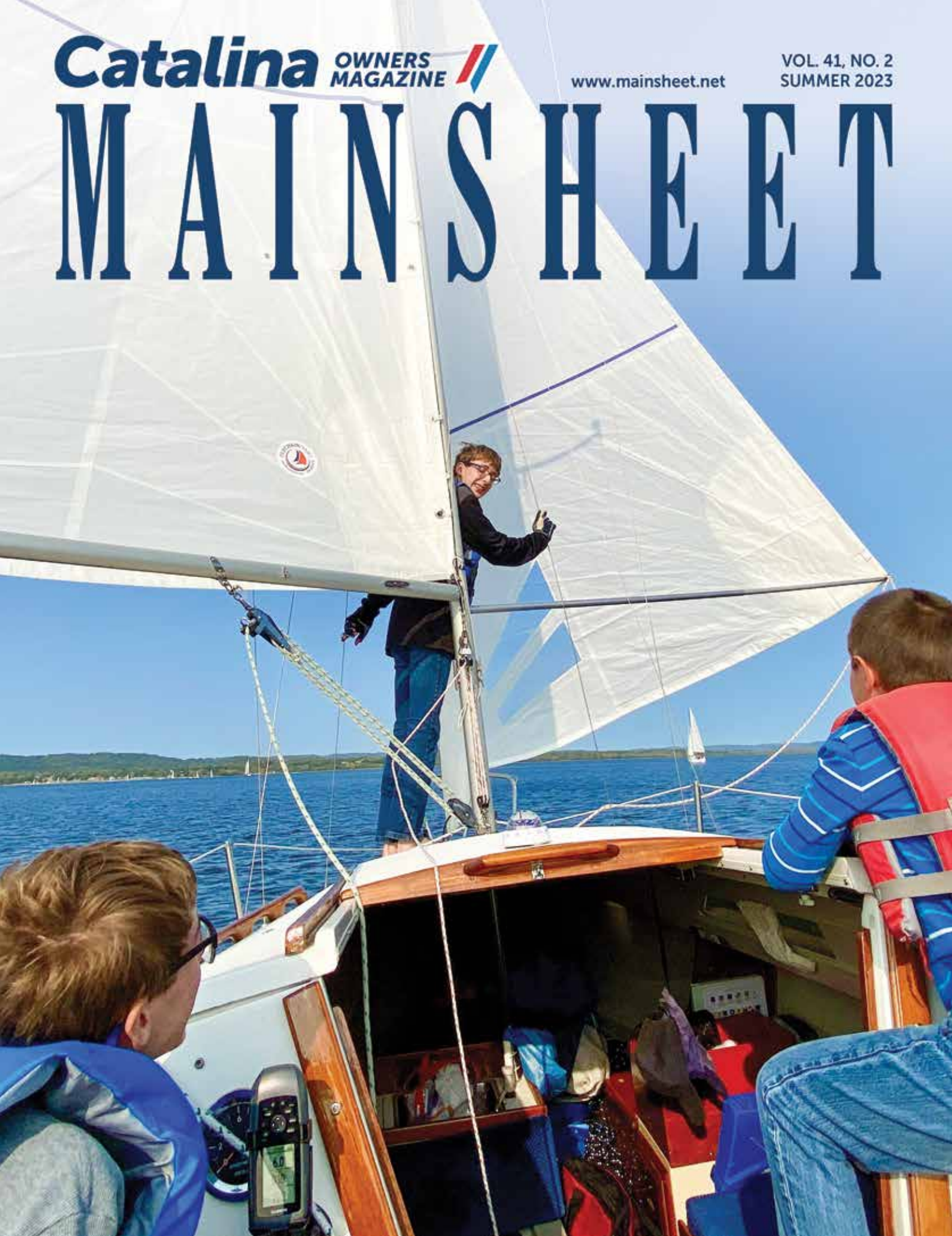
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VOL. 41, NO. 2
SUMMER 2023

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EDITORIAL:

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Publisher

Jim Holder
3504 Amberley Trail
Evans, GA 30809
Phone (706) 951-4282
Fax (706) 651-0533
cv.jholder@mainsheet.net

Editor

Carol VandenBerg
3504 Amberley Trail
Evans, GA 30809
Phone (706) 951-4282
Fax (706) 651-0533
carol@mainsheet.net

Technical Material

Technical articles published herein reflect the opinion and experience of the individual author solely. Catalina Yachts, *Catalina Mainsheet*, the National Associations and their Editors and the authors are not liable or responsible in any way for their contents or consequences.

Tech Editor

Jon Ames
jon@catalinayachts.com

Tech Advisor

Gerry Douglas
gerard.douglas@gmail.com

PRODUCTION:



1911 Huguenot Road
Suite 301
Richmond, VA 23235
(804) 897-0495 phone
email: david@landisproductions.com
website: www.landisproductions.com

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

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

All Catalina Association Fleet 21, Chicago Region

Association News & Tech Notes: Dave DeAre, 630-842-8544, ddeare34@gmail.com

Catalina 470 National Association • www.catalina470.org

Association News: Julie Olson, (650) 347-3589, voyagerC470@yahoo.com

Tech Notes: Joe Rocchio, jjr@onward.ws

Catalina 4 Series Association - www.catalina4series.org

Association News: Bruce M. Whyte, MD, 404-402-3357 (c), bmwhyte47@gmail.com

Jessie Mackelprang-Carter, sv.theredhead@gmail.com, (440 News)

Tech Notes: C400 Hulls: Tom Sokoloski, 860-316-5437 (h), 860-614-6758 (c), tomsoko@gmail.com

C42 Hulls: Position Open

C425 Hulls: Position Open

C440 Hulls: Position Open

C445 Hulls: Position Open

Catalina 380/385/387/390 Int'l Association • www.catalina380.org

Association News: Kathy Ahillen, kahillen@comcast.net

Tech Notes C380, C390 Hulls: Jim Turner, jimturner@comcast.net

C387 Hulls: Position Open

C385 Hulls: Chuck Couture, Clcouture@ymail.com

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

Association News: Position Vacant

Tech Notes C36 Pre Mk II Hulls: Leslie Troyer, leslie@e-troyer.com

C36 Mk II Hulls: Chic Lasser, chicclasser1@yahoo.com

C375 Hulls: Position Open

Catalina 350 International Association • www.catalina350.com

Association News: George Thor, (585) 794-3108, outlander.35@outlook.com

Tech Notes: Jason Crew, jason.crew@gmail.com

Catalina 34/355 International Association • www.c34.org

Association News: Jack Hutteball (Fleet 5), jhutteball@comcast.net

Tech Notes: John Nixon, c34hull728@gmail.com

(Associate Technical Editor): Ron Hill (Fleet 12), ronphyllhill@comcast.net

ABOUT OUR COVER:

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Photo by Eric Weist
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Lake Pepin is a beautiful lake on the Mississippi River dividing Minnesota from Wisconsin. Nicholas Weist, his twin brother Eric, and Lucas Weist looking back to make sure (dad) was happy with the Genoa position and pole length while racing at the Pepin Yacht Club, Pepin Wisconsin.



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Association News: Mark Cole, 253-446-9003, boatnboot@me.com

Tech Notes: Jason Reynolds, jereyns@hotmail.com

Catalina 310/315 International Association • www.catalina310.org

Association News: Gary Hattan, 678-756-9929, gfhattan@gmail.com

Tech Notes: Jesse Krawiec, jessek65@gmail.com

Catalina 30/309 International Association • www.catalina30.com

Association News & Tech Notes: Michael Dupin, dupin.catalina30@yahoo.com

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Tech Notes C25 Hulls: Seth Martin, catalina25tech@catalina-capri-25s.org

C250 Hulls: catalina250tech@catalina-capri-25s.org

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Catalina 22 National Association • www.catalina22.org

Association News: Rich Fox, 317-815-8599, rich_fox@yahoo.com

Catalina 15 National Association

Association News: c/o Mainsheet, cv.jholder@mainsheet.net

EDITORS BARQUE

Mainsheet, 41 Years Later

A friend of mine named Frank Butler lived in my neighborhood of houses built around a manmade lake in Southern California. Frank created Catalina Yachts, building boats from 16 to 30 feet. Owners of each size boat created an association and were sending newsletters to their members.

Frank wanted to take this a lot further by combining their information into a magazine. *Mainsheet* was created and soon became a 48 page to share Catalina ideas and adventures.

It is always fun to look back to see where we have been and what we have done with our boat over the years, but it's great to keep moving forward sharing stories, technical info and sailing adventures. Keep those articles coming. See you on the water.

—Jim Holder, Publisher



A photo of the bow taken at the C22 Nationals, Pensacola FL 2022.

With everyone on the bow lifting the stern to gain downwind speed.

On starboard is Nicholas, his twin brother Eric is to port and their Younger brother Lucas in the red life jacket. My wife Michelle far right.

The Weist family having fun. —Stuart

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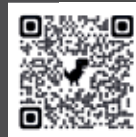
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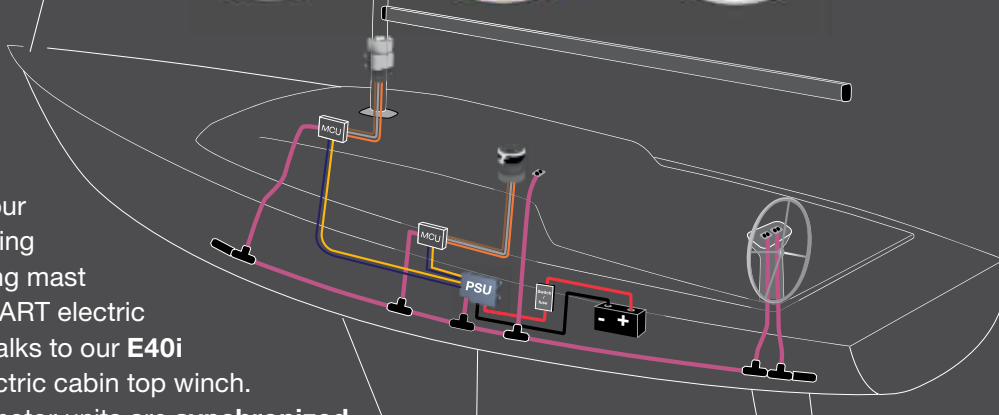
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Change of Course: The Electrifying C400

By Don and Ceci Snyder, Catalina 400

After sailing a Catalina 30 for just three years, we decided it was time to get a larger boat for cruising around the Chesapeake Bay. In February 2022 we bought a Catalina 400, hull number 80, and renamed her *Just Chillin Too*.

Our first solo one day cruise on *Just Chillin Too* was perfect with a motor that purred, decent wind of 10-15 knots, and sailing at 5-6 knots. Fantastic!

Until, it ended. There was a sudden change in the engine's tone, we slowed, with smoke billowing from below.

We could fix the engine but they are noisy, need constant maintenance and checking of fluids, and winterizing in our area. We wanted a turn key system: get to the boat, turn it on, leave the dock. As a sailing family we do not like the maintenance, noise, fumes, and a myriad of connections with diesel engines. And



Burnt engine



we were keen to reduce our carbon footprint without being fanatically “Give us green or give us death”.

We decided to go with electric power. We selected a Quiet Torque 30 (QT30) from the Electric Yacht Company based in Minnesota. The QT30 is recommended for boats up to 45 feet with displacement up to 22,000lbs. The power roughly equates to a diesel of 60hp. Our major questions about electric engines were how long a charge will last on a full day of day sailing, what happens if it runs out of power while we are in the Bay, and does it support our type of sailing? Engine specifications suggest the QT30 can run at 7.4 knots for up to 90 minutes covering 11 nM.

Next, we needed help as these are not my expertise, and we found Bob Blood whose company, is located in Waldorf. He has done many of this type of conversion and was highly recommended by the Electric Yacht guys. I, in the meantime, went to work removing the fuel tank. A simple task until I found it was still half full. After emptying the tank, it was still stuck. Subsequently found a small piece of wood holding the tank in. Once out it was easily manhandled out of the boat. Removal of the engine was next after disconnecting everything we could find. But removal was another story. It could not be lifted out by just hooking it to a crane and lifting it out. We had to move the engine aft and slide it around the companionway before being able to lift it out.

Now it was time to consider batteries. How much do we NEED versus WANT, how many can we fit into the boat, what type of batteries, do we need additional power for sudden storms? We may add solar panels

CHANGE OF COURSE

(continued from previous page)

or auxiliary power sources later. We selected eight 279Ah 12 volt LiFePO4 Deep Cycle GC3 batteries giving us a 48-volt 540Ah system. Yes, they were expensive at \$2,375 each, but with our predicted usage pattern we should be able to get the predicted 10 - 15-year performance period, and they came with a ten-year warranty. Existing electrical and fuel conduits were used to run the new battery cables.

The other advantage of these batteries was that they fitted the space, where the fuel tank had been and the starboard storage space beneath



Motor installed front

the sofa. However, the handle of the macerator through hull was blocked and was relocated while we were on the hard, as was the engine through hull that had a hidden crack.



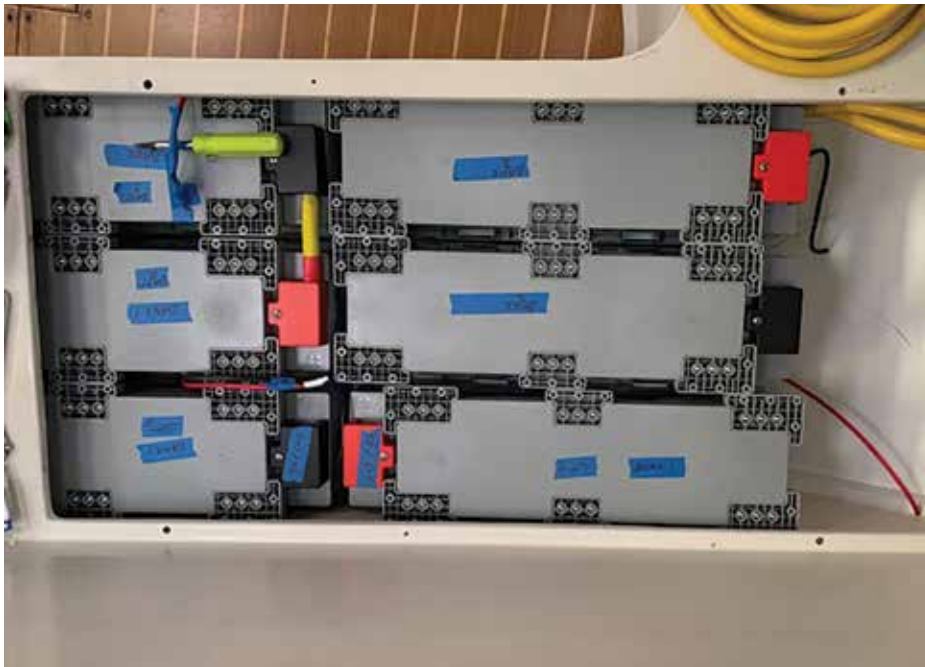
New helm display

Several related tasks remained including removing the engine bus harness, prop shaft realignment and relocation of the raw water strainer before the new engine could be installed. Most important, deep cleaning of all the various compartments below the floor, and removing additional diesel related drive parts and circuits.

The engine was lifted into the cabin, temporary mounts were placed, and the engine was moved into its space, but only with two inches to spare all around. Permanent mounts and the motor were adjusted and the shaft coupler met the shaft at the same point that the diesel had.

It was time to connect the other components. The strainer used from the diesel was retained and relocated for the QT30 LC. The exchanger was positioned near the strainer to reduce the flow distance and the final outflow was the same as that for the diesel engine, but with new parts of course. On/off switches were attached to each power bank. These were the second task once we reached the boat in the future, arrive, turn on, leave the dock.

The battery switches previously connected during the battery install were then connected to the motor electronics. The house All-1-2 switch was replaced at this time due to corrosion. One of the many quality features of the Electric Yacht motors is that they come assembled and only needed to be connected to a power



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source . The old throttle was replaced with the new. There was no need for the engine shutoff pull required of diesel engine.

Having already removed the engine electronics harness, the motor control display panel was installed along with the single display info line between the engine and the panel. As with the throttle, the connection between the display panel and the motor was simple and clean.

With this, we were ready for a short on land test. The system was turned on and ran in each direction for about 30 seconds. Since there is no transmission, motor control was simply the direction that the throttle was pushed or pulled. The results were absolutely amazing. Very quiet with instant throttle response. It makes us really look forward to the sea trials in summer.

Note from Gerry Douglas, Tech Advisor:

This is a very nice installation and should serve the owners well for their intended purposes. Though not practical for many due to the limited range with available technology, electric propulsion will become an attractive alternative to diesel as battery technology improves.

Note from Catalina Yachts, Jon Ames, Tech Editor:

The ABYC standard E-30 Electric propulsion systems applies to DC voltages over 60 volts. Although this is an article about modifying the C400 to use electric propulsion if we look at the specs on the QT30 we find that it is a 48 volt DC system, so E-30 does not apply. The caveat here is that with new battery and propulsion systems coming out every day we should use caution in designing the electrical system, wires , fuses, etc. and be sure to apply the correct standards guidelines. In this case ABYC E-11 is the guide. Once again, it highly desirable to involve a certified electrician to ensure a safe system. Charging, range, and safety margin in range will dictate the use of these systems in the future. We expect to see many more installations that will include a diesel generator as a source of range extension. I look forward toward the future with broad range of safe systems that will allow everyone to have a customized installation that perfectly suites their sailing style!

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View from the Bridge:

Replacing Bulkheads on *Lilly*

By Dick O'Connell and Brian Connelly Capri 25 Owners at Aspen Yacht Club



Original Bulkhead

This fall Aspen Yacht Club had a new boat join the fleet, Lilly, a Capri 25 hull #7. Brian Connelly found the boat in Vermont at Mallets Bay Boat Club and as a bonus; it came with a complete set of spare rigging including pulpit stations, a rudder and three set of sails. A friend gave the boat a positive survey, so Brian made the long trip from Colorado to get the boat. Arriving in Vermont the old owners quickly loaded the boat full of the old sails and as a bonus an outboard. Before heading down the freeway to Colorado, Brian carefully inspected

the tires and found a lot of dry rot on the tires, a not too uncommon problem with older boat trailer as they are typically just used to store the boats at the local yard. After getting new tires on the trailer, he made a relatively uneventful trip back to Ruedi Reservoir, home of Aspen Yacht Club where the boat joined our fleet of 4 Capri 25s.

As we unloaded the three set of sails from the boat and a lot of gear, we realized that perhaps a better survey would have helped Brian get a better price. It appeared that some time in its

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Bulkhead Removed



New Bulkhead

life Misty had a bilge full of water and that the bulkheads had delaminated and rotted in the bottom part of the boards and damaged the teak and holly floor boards. This is not an unusual occurrence for older boats that have lost their active owners and been stored outdoors. Fortunately, many of the Catalina designed boats have solid fiberglass hulls and decks so a little water in hull for a time is not the start of a core replacement project. The bulkhead replacement project was born to get Lilly in sailing order.

The Capri 25 has two bulkheads at the front of the cockpit and two bulkheads at the mast section. We also found that the two seat locker fronts where rotted. Removing the rear bulkheads, aside from the required yoga positions was surprisingly easy. The two rear bulkheads are held in place by three screws each into the ~ 1' fiberglass boxes which help form the steps and although a tight fit, pulled out toward the rear of the boat. Structurally they appear to help stiffen the hull but are not tied to the deck. The seat fronts are ~9" x 57" and each of the bulkheads are ~ 40" x 33".

The two bulkheads at the mast, are a different story, as they support the shroud through-deck chainplate bolts and are linked to the hull's lower fiberglass bulkheads. After undoing the shroud bolts and the bottom fiberglass bulkhead bolts we still could not remove the port bulkhead. It

appears that the port bulkhead was put in before the deck. The problem was solved by cutting off a 6" x 1" tab at the inner fiberglass box and the mast. This was not a structural feature but did stiffen the bulkhead.

To determine the amount of plywood, we laid the old boards out and found that we needed three 4'x8' sheets of plywood. The plywood used in the Capri 25 is 1/2" paneling perhaps, marine grade with what appears to be walnut or teak veneer. As the western slope of the Rockies is not exactly home to a boat building industry, marine grade plywood with a furniture grade veneer is hard to find, without some hefty shipping charges. We were pleasantly surprised that the local Lowes could get 1/2" marine grade plywood, although without the veneer. It cost a little more than standard plywood but would do the job. Marine grade plywood uses a water proof glue and should have no voids in the laminates. Although not fully rot proof, it is structurally stronger than regular plywood.

Using the old bulkheads as templates, we cut the new bulkheads out with a saber saw. After sanding, Brian applied two coats of marine finish and the bulkheads were ready to install. With a little trimming the new bulkheads went in and then we carefully reinstalled the old fasteners to bring the boat and rig to full sailing condition.

The floor boards required another 4' x 8' sheet of plywood but as we were fitting them in we realized the original teak and holly floor boards were about a 1/16 of an inch thinner. We solved the problem by routing out the edges, but in retrospect perhaps we should have spent the big bucks and got the teak and holly plywood.

All in all, we were pleased with the results and enjoyed the sailing up at Ruedi Reservoir this, year.

Note from Gerry Douglas, Tech Advisor:

It's great to learn the Capri 25 fleet at the Aspen Yacht Club is active and adding to the fleet. Congratulations to Dick and Brian on their new boat. It is fairly easy to replace the wood components of the interior, to make removing the port bulkhead easier the teak compression post should be moved slightly to starboard allowing the port bulkhead to be moved inboard, this will eliminate the need for any cutting. All the interior components on the Capri 25 were installed after the boat was decked. Birch veneer plywood is available at home improvement stores, it is attractive and will look more finished than raw plywood and is a good economical alternative to teak veneer plywood.

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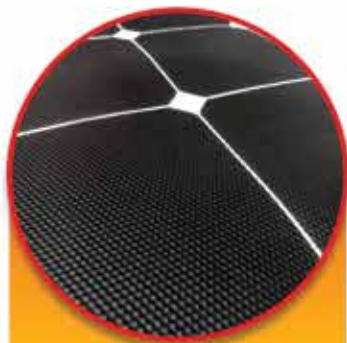
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Lessons Learned:

Failure and Replacement of the In-mast Furling Mechanism

By Jessica Heinicke • Photos by Adam Heinicke • *Volare*, CM440 Hull #43

Why does it always happen at night?

There we were, sailing gently downwind on an overnight passage from Manzanillo to Zihuatanejo, Mexico. All had been going well. We were buddy boating with two other boats, one with a traditional main sail with lazy jacks and one with an in-boom furler. Our own rig, the Selden in-mast furler, had thus far performed flawlessly for us. Until tonight.

I was off watch attempting to get a little rest in the v-berth. I awoke to Adam at the foot of the bed shaking me. “We have to take in sail. It’s gotten pretty windy.” He had already furled the jib but was having trouble getting the main to reef with so much pressure on it from behind. The wind had rather quickly increased from 10 to 15 knots to 20 to 25 knots and the seas were 8 to 10 feet from behind.

I pulled on my sailing gloves and stood in the forward part of the cockpit with him. He pulled the continuous furling line, while I manned the outhaul to pay out just enough to bring in sail without it flogging out of control. Nothing happened. He pulled harder. The furling line came in a bit. The sail did not. We struggled this way for a while, even trying the furling line on the electric winch, to no avail. We could get the line to move, but it was not bringing in the sail.

The wind by now was steadily over 30 knots and the seas continued to push up underneath us, steep and

rough. During some fearful and heated discussion, we decided the wind from behind was too much for the furling gear. We would need to turn upwind to furl. Well, one brief attempt at that quickly convinced us it was not a safe alternative. The sea state was simply too rough. We discussed dropping the sail to the deck, but Adam was convinced that a pile of sail washing overboard and possibly fouling the prop was not a good answer either. The only option was to ride it out. We had sea room. We had each other. We had friends on the other end of the radio offering support, even if they had no better suggestions, not having any experience with this scenario themselves.

As the night progressed, the wind diminished. The sun came up. The sea returned to a glassy state, and we were able to finally furl the main. No harm had come to us or *Volare*, but it was now time to address the mystery. We asked ourselves why this had happened and what we could do to make sure it never happened again?

Finding the problem

In Zihuatanejo, we sat down with a cruising friend who has sailed extensively with the Selden in-mast furling on his Bavaria, Paradigm 2.0. He had seen some rough conditions on passages from the east coast of the United States and across the Caribbean, and while single-handing from the Galapagos to San Diego. He had never had such a failure.

He is a big proponent of the Selden in-mast furling system and even after examining our rig was unable to explain why the sail had refused to come in.

After a couple of days of thought and examination, Adam realized that the root of the problem was the plastic line drivers. These two plastic discs are nestled in the furling mechanism on the mast. The continuous furling line passes up in between them. They are supposed to be slightly beveled so that as more force is applied to the furling line, they grip it harder. However, our line drivers were just worn out. The bevel in the plastic had been worn down over years of sailing, allowing the line to slide through without turning the furling mechanism. We could pull as much line as we wanted, but the sail would never come in.



LESSONS LEARNED

(continued from previous page)



In light air or when sailing more upwind, the furling line worked as it was designed, but too much wind from behind rendered it useless. In hindsight, one solution would have been to use a short winch handle directly in the furling assembly at the base of the mast to bring in the sail. We encourage anyone sailing with this type of furler to carry a short winch handle to actuate the furler, if needed. It was also instrumental in the repair we eventually completed months later.



We were unable to obtain the line drivers in Mexico, so returned north to the Sea of Cortez cautiously at the end of the season.

Finally fixed!

Fast forward several calls and emails to riggers and attempts to get replacement parts from Selden. We managed to order the line drivers from a San Diego-based rigging shop and had them in hand when we returned to Volare where she had been stored on the hard in Puerto Penasco, Mexico, during the off-season. We had hundreds of downwind sailing miles ahead of us, but no idea how to remove the old line drivers and replace them. Selden was no help and all the riggers we spoke to had never done such a thing. After all the brick walls we hit trying to find out how to replace the parts, we began to feel like we were the only sailors who had experienced this problem. I sure hope that is the case!

We had a schematic from Selden that shows an exploded view of the furling mechanism. This only compounded our confusion. It illustrates quite a few ball and needle bearings, and some split pins and backing plates, all of which seemed to have to come apart INSIDE the mast to get to the point where the line drivers could come free. Adam poured over the schematic and examined and re-examined the furler, finding no way to get it apart. So we sailed south.

Somewhat miraculously, we sailed and motored another 1,000 NM. The line drivers worked well enough as conditions were never bad enough to repeat the problem. Until they were.

Less than a week ago, the wind built quickly from behind and the main would not reef. This time, however, we knew what the problem was and the sun was shining! The seas were safe and turning up allowed us the furl the



sail, even if in a disheveled fashion, and we reached our destination in 100% agreement that the main would not again see the wind until we replaced the line drivers.

I've seen YouTube used as a how-to in myriad situations from hair styling to emergency medicine. So, it was to this platform we turned and sincerely dedicated ourselves to figuring out the puzzle. In a true example of cruisers helping cruisers, a vessel called Grateful had experienced a failure of their in-mast furler and repaired it on a stopover in Ibiza, Spain. Lucky for us, they filmed their repair. By examining their video, we found the missing link: a clevis pin that links the furling mechanism to the foil that holds the sail has to be removed. Then the furling mechanism can easily be pulled from the mast, intact, without the disassembly of any bearings. Interestingly, this clevis pin is not depicted in the Selden schematic but was clearly shown in the video from Grateful.

The process required dropping the main to the deck. Yesterday, on a calm morning at anchor, we flaked our sail and replaced the line drivers. Of



course, there were a number of speed bumps along the way, but nothing dental floss couldn't solve. You will have to wait for our forthcoming video to understand that one! The whole process took about four hours and afforded us the opportunity to inspect the main sail and lube the bearings at the top and bottom of the foil, which I'm embarrassed to say had gotten a bit dry. We rehoisted the sail, furled it away effortlessly, and toasted with an ice-cold beer!

Paying it forward

In an effort to help other cruisers and to show our gratitude to everyone who has helped us, we are in the process of editing a video of our repair process. If you find yourself in a pinch before we manage to decipher the video editing software, feel free to contact us!

Author bio: Jessica and Adam Heinicke have sailed aboard their CM440 (Hull #43), Volare, since she was commissioned in 2007. After living aboard in San Diego, California, for a decade, they set sail in 2017 and have since cruised from southern California to El Salvador. They particularly enjoy all Mexico has to offer and are excited to see where the future will lead them. -volare440@gmail.com

Note from Gerry Douglas, Tech Advisor:

Jessica and Adam did an admiral job of dealing with a tough situation, great seamanship! I have asked Selden's Scott Alexander to weigh in on the cause of the problem and recommend practices to avoid the problem you encountered and provide contacts for Selden parts, his comments follow.

Note from Catalina Yachts, Jon Ames, Tech Editor:

When someone has trouble with a system it is an opportunity for everyone to learn something new so we asked Selden mast to comment. They provided the following response.

"Excessive wear on the line driver is normally the result of using the endless furling line as a brake when unfurling the sail. The friction of the line on the spinning line driver burns the line driver. This is clearly seen in the photo. Proper unfurling of sail involves releasing all tension on the endless line. Deploy the furled sail by pulling on the outhaul until the sail is **completely out**. Reef or furl using the starboard side of the endless line. This will provide a tight reefed sail with less wrinkles and save your line driver.

See operating hints and use of a winch handle in emergency from our on line manual. Also note annual maintenance details and tension of your luff extrusion. Pages 4-7 and 12-13 <https://support.seldenmast.com/files/1426855956/595-063-E.pdf>

Another item to consider is the diameter of the endless line. The system is designed and delivered with a 3/8 soft double braid. A line that is over or undersized or one that is rotten and hard wont help. Link to endless furling line replacement from our web site: <https://support.seldenmast.com/files/1539154449/595-673.pdf>

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LESSONS LEARNED

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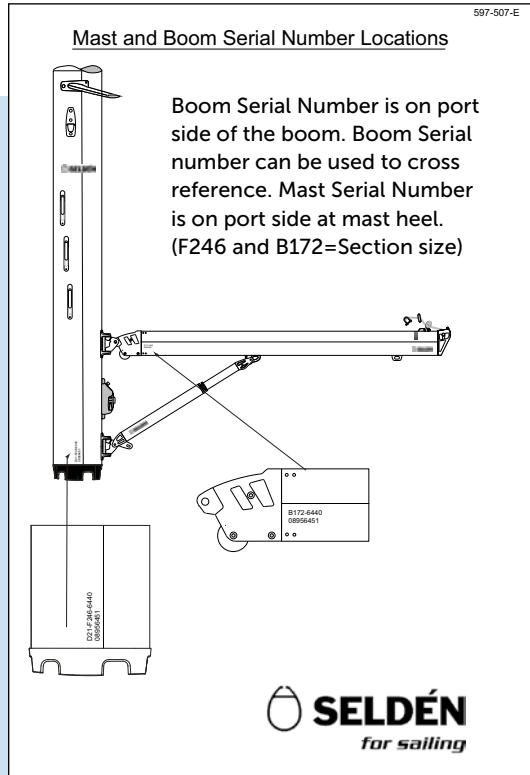
We do offer detailed manuals and spares for all our products on our web site and can be found here: https://support.seldenmast.com/en/technical_info/manuals_for_assembly.html

To help with more detailed questions about your rig please have your serial number handy and access our world wide dealer network list online to get service and know how: https://support.seldenmast.com/en/start/shortcuts/find_a_dealer.html

Location of your serial number see attached

Some really great information on the care and feeding of your mast can be found here: <https://support.seldenmast.com/files/1605537330/595-540-E.pdf>

Fair winds and following seas.
 –Scott Alexander Seldén Mast Inc



We greatly appreciate Selden's response. The in mast mainsail furling system has proven to be rugged and reliable and a great addition to Catalina's line of cruising yachts. Hopefully this provides a chance for everyone to understand the system a bit better.

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By Captain John D. Hooper
Commodore, Catalina 4 Series Association
Master, *S/V Liberty*, C400, #136

WEATHER TIPS FOR THE WEEKEND SAILOR

Whether you're a commercial ship captain, airline pilot, commanding officer of a large Navy or Coast Guard ship, yacht delivery captain, or professional fisherman — marine weather is always on your mind.

Weather is constantly changing.

It requires continuous observation and checking—particularly if you're on a sailboat, because getting to safe refuge or back to homeport is going to take a long time at 5-6 kts if you're caught unprepared. This can be even more precarious if you have inexperienced crew or guests aboard.

What follows is a short "primer" with key things to keep in mind; checking the weather before leaving the harbor; how to evaluate the wind, sky and clouds; tools you've got available to stay apprised of the weather and get updates; how to judge the weather on the horizon; things to do to keep your crew, passengers and boat safe; and boat-handing tips in case you're caught on the water and must persevere for several hours in terrible weather.

Before leaving the dock

Part of your preparations before leaving the dock should be a check of the weather. Observe the current weather (wind direction, speed, visibility, sea state, temperature) and then go to your marine weather broadcast (VHF NOAA Marine weather) and listen to the current and expected weather for where you going to be operating. If you have the capability, turn on the weather radar picture on your radar (if equipped) or i-phone to see if any inclement weather is coming to your location from over the horizon over the next 8-16 hours. Because weather is always changing, ensure that you've got plenty of foul weather gear, or rain gear, aboard sufficient for the crew and

passengers. Check your equipment for foul weather operations (horn, navigation lights, anchor chain and rode, VHF radio, AIS system, heavy weather harness, USCG approved life jackets for adults and children, a sea anchor/drogue, binoculars, complete and up-to-date First Aid Kit, etc).

When in port, and it is opportune, talk to other sailors who may have "local knowledge" about the typical weather for that location, season, and time of the day so you know what can be expected, and what to keep a lookout for.

Keeping a "Weather Eye" at All Times while Underway

Because weather is always changing, and the meteorologists are not always right, this is critically important! Enjoy your guests and a nice sailing day, but periodically keep checking the horizon (all around) for incoming weather. Keep your VHF radio on and listen for any urgent marine weather broadcasts for your area. If you have a portable, battery-operated radio and are listening to music that is good. Local radio stations will often report incoming weather in the area too (sometimes before NOAA). If you have a barometer aboard check that periodically. Barometers indicate the presence of high and low pressure systems in the area. If the barometer falls more than .04 of an inch quickly that is an indicator of a low-pressure system (rain or a storm) moving into the area. Learn how to understand the barometer, what it can tell you about weather, and take care of it.

Clouds and What They Mean:

Clouds are very important to sailors. Spend some time to understand them, and what they are conveying to you about existing and forthcoming weather. Clouds form at three different heights/elevations and in ten main types:

Cirrostratus: Cirrostratus clouds can be best described as a transparent veil of clouds. Unlike the two previously mentioned high-level clouds, they have a very smooth appearance. The veil of milky looking clouds can sometimes cover almost the entire sky. Due to the refraction of light by ice crystals, these clouds form the *rainbow-colored halos* we often see forming around the sun. These clouds are an indication of high moisture levels in the upper atmosphere, which often precedes the arrival of a warm front.

Cirrus: Cirrus clouds are the familiar thin, feathery looking clouds you see high up in the sky on an otherwise clear and sunny day. Some parts of these flaky clouds have an almost transparent look due to their light nature. As is common with many high-level clouds, they always occur in during clear and pleasant weather conditions. However, as I already pointed out, they may be early indicators of stormy weather or warm fronts.

Cirrocumulus: Cirrocumulus clouds are a variation of Cirrus clouds. They are patchy looking clouds which are often arranged in rows. Some meteorologists see them as a degraded form of Cirrus clouds. These high-altitude clouds are small and very

WEATHER TIPS FOR THE WEEKEND SAILOR

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short-lived and are sometimes referred to as cloudlets. As with Cirrus clouds, they appear and are associated with clear and pleasant weather conditions.

Altostratus: Altostratus clouds are a very common sight across the world. They are characterized by their woolly, round/oval shaped appearance. These patchy clouds have a white to light grey appearance and are sometimes formed in parallel rows. Often observed during warm and humid mornings in the middle atmosphere, these clouds can signal the onset of thunderstorms or cold fronts. The time of year and your location will determine the type of weather to expect.

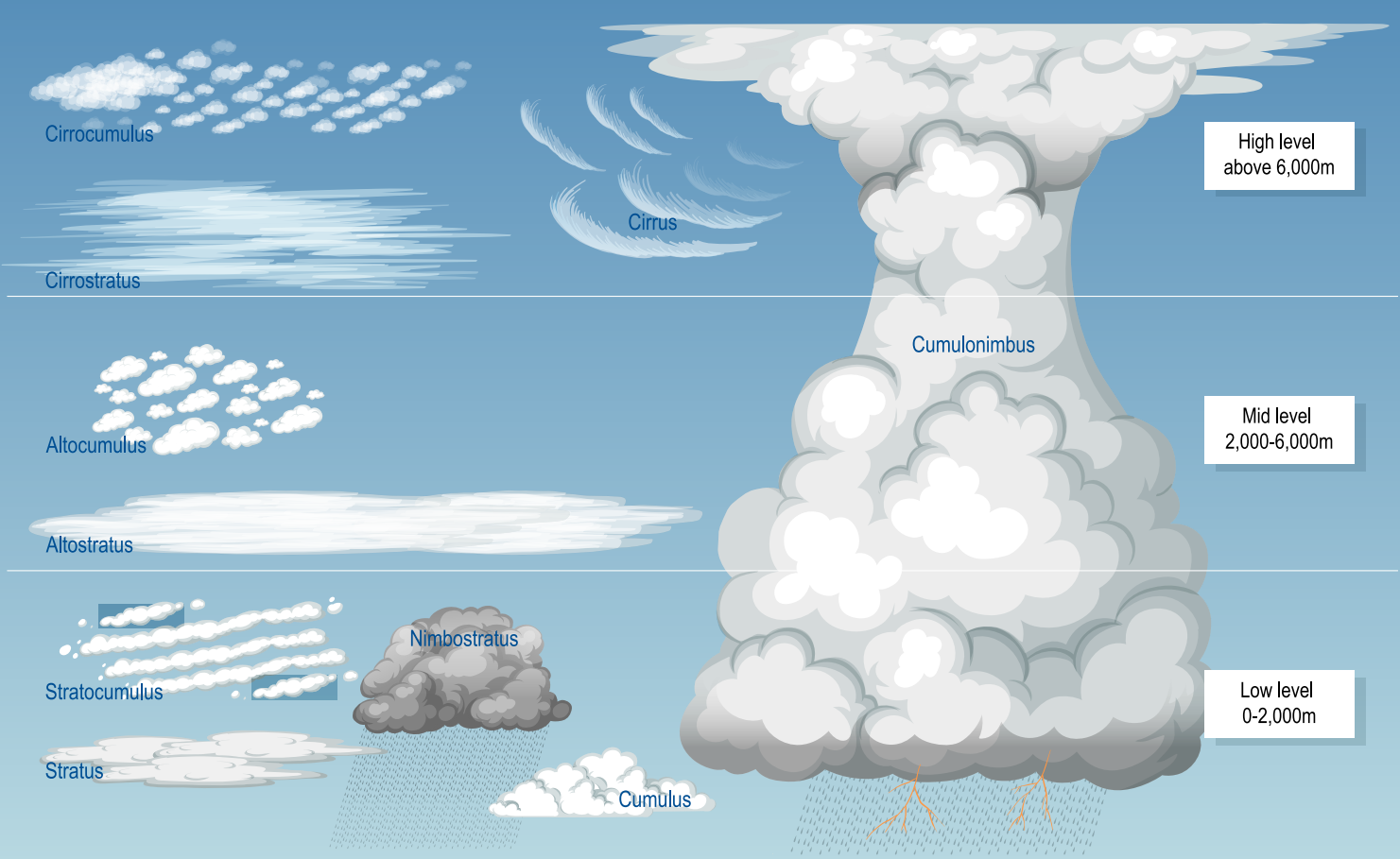
Stratocumulus: These low-lying, puffy looking clouds are spaced closely together, with small pieces of *blue sky* visible in between them. When viewed from below they have a honeycomb appearance. With colors ranging from white to grayish, and their tendency to cover substantial parts of the sky, people often associate rain with these clouds. In reality, stratocumulus clouds are pretty benign when it comes to precipitation. A light drizzle may be the most you will get out of this cloud system.

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Stratus: Stratus clouds are made up of thin layers of clouds that are formed close to the ground. They are mostly featureless with a grayish color. One of their standout features is taking up large portions of the sky at a time. (*Often stretching from horizon to horizon.*) Stratus clouds are closely related to fog. In fact, *fog* is nothing more than a form of stratus cloud that forms at ground level. The precipitation associated with these dreary looking clouds mostly consists of mist or a light drizzle.

Nimbostratus: Nimbostratus clouds typically cover the entire sky. It is a



dark, thick layer of clouds, capable of completely blotting out the sun. Starting at a low level and building up in height, the clouds are usually loaded with moisture and associated with long periods of persistent rain or snowfall. That is why it is known as your typical rain cloud, with the precipitation usually spread out over a large area. Alongside cumulonimbus clouds, nimbostratus clouds are almost guaranteed to provide the area it covers with a substantial amount of precipitation. However, they do not have the uniquely identifiable shape of cumulonimbus clouds, and it's harder to judge where the rainfall will take place due to the large area it covers.

Cumulus: The light, puffy looking clouds scattered across the sky, are arguably the most well-known of all the clouds. (*It's probably the first image that comes to mind when you think of a cloud.*) They are instantly recognizable with their white, fluffy round tops and flat bottoms. They are fairly evenly spread out with a fair amount of blue skies visible between them. (*Their shape is often compared to that of a cauliflower.*)

Cumulonimbus: Starting out as a humble cumulus cloud, strong vertical air movement (*updrafts*) combined with enough humid air allow this type of cloud to develop. Cumulonimbus clouds are seen as your typical storm clouds. They start at a low cloud level and can grow and expand up to the highest level. It is within this space, dominated by updrafts and downdrafts, that all the elements necessary for the development of a storm system are formed.

When viewed from a distance, cumulonimbus clouds appear to have a low dark base, with the clouds above it building up to great heights, creating a spectacular towering effect. The lower levels of a cumulonimbus cloud consists mainly of water droplets, while the upper level, where temperatures are well below zero, mainly consists of ice crystals and super-cooled water. As far

If and when you see inclement weather coming over the horizon, you need to act quickly...

as precipitation goes, these clouds are known for producing heavy rainfall and hailstorms. They are also responsible for producing violent winds, and it is within this cloud system that *tornadoes* can occur.

Tools to Help Predict/Forecast Marine Weather

- Barometer
- VHF Radio
- Portable radio
- Binoculars
- A "Marine Weather Guide"

Daily, and particularly before I head out onto the water, I go to the NOAA National Weather Service local stations web-pages; for me, because our weather comes largely from the south and west, on Chesapeake Bay that would be Wakefield, VA and Sterling, VA. I look at their regional and local interactive radar images to see the movement of weather. Additionally, as you may know, NOAA has *weather buoys* located all over the world at strategic locations, particularly the U.S. coastal areas. After looking at and studying the radar picture, I then go to the NOAA "Interpretative Buoy Station" to see the weather and sea state near where I anticipate sailing that day or weekend. For me that would be the NOAA weather Bouy #44035 off Stingray Point in Chesapeake Bay. From that I get real-time local temperature, sea state, wind direction and speed, tides (direction and speed), and water temperature. With this preparation you should be ready and confident of the current and forecast weather.

Use these free Government tools at your location to improve your analysis and forecasting and enhance your safety and enjoyment on the water."

Proper Actions When Weather is Incoming

If and when you see inclement weather coming over the horizon, you need to act quickly, but do not panic and cause injury. Doff all sails and secure them tightly; turn your engine on and head for your homeport, or the nearest port or anchorage at best speed. Close all the hatches and portholes. Bring up foul weather gear, secure everything loose down below and on deck, get lifejackets ready, keep binoculars and a portable VHF radio handy, listen to the NOAA weather broadcast.

Proper Actions When in Inclement Weather and Reduced Visibility

Boat: Maneuver the boat so the seas are 45* off the bow to reduce violent movement of the boat. Head for a nearby port or sheltered anchorage if possible. **Have everyone don a lifejacket.** In heavy seas and open water it might be worth considering turning to the boat "hove to", with the seas coming from astern, and stream a bucket or sea anchor (drogue) off the stern. Secure everything for sea on deck and down below so it is not flying around damaging equipment, or people. Avoid putting people on deck, out of the cockpit, if possible; if people need to go forward for any reason ensure they put on a safety harness. Sail the boat to the destination if comfortable; or, if you have enough fuel onboard, lower the sails and turn your engine on powering through the weather for better speed. **If in fog,** the *Rules of the Road* require slowing the boat to bare steerageway under power (being prepared to maneuver on short notice to avoid other boats); turning your navigation lights on; sounding

WEATHER TIPS FOR THE WEEKEND SAILOR

(continued from previous page)

your horn at regular intervals (every 2 mins while underway); ensure your AIS is on and working; placing a lookout with binoculars on the bow; and avoiding any extraneous noise so you can hear the signals of other boats around you. Keep a VHF radio handy to contact other boats in the fog, or notify the U.S. Coast Guard in an emergency. If you are in fog, and are in a secure location, put the anchor down and wait until the visibility clears.

Crew: Get the majority of crew, *and all passengers*, below decks out of the weather. This keeps them warm, dry and ready for when they are needed on deck. Some fresh air may be able to reduce seasickness, so those who are prone to seasickness should stay on deck with fresh air (with proper outerwear), but out of the rain and spray and in a secure spot so they won't go overboard.

What to do in a Thunderstorm

Operating in the thunderstorm, particularly in a sailboat with a tall mast, is very dangerous for the boat and the crew. Some might say, this is the most dangerous event on the water. The goal is to ***get into a port or anchorage as quickly as possible.*** Drop the anchor and ensure it is secure (because there can be hefty winds from a thunderstorm), and turn off all of the boats internal, fixed electronics. All personnel should stay below decks inside the boat. If you can, get off the boat and ashore; serious damage has been done to boats from a lightning strike—including “St. Elmo’s Fire” radiating down the stays and shrouds, and blowing holes in the sides of the boat above the waterline. If you have a portable, battery-operated radio turn it on and listen to the weather broadcast for the area.

The good news is that all boats, particularly sailboats, are required

by ABYC standards to have a full grounding system (“Faraday Cage”) in the boat that will ensure if the mast is struck by the lightning bolt the energy will flow straight down to the keel and out of the boat. ***Any hard-wired electronics or lighting in the boat that are on/operating will be destroyed upon the lightning strike.*** If you are inport, moored alongside your dock, turn off all electric lighting and electronics, get off the boat and inside a secure building.

A word about “waterspouts”. Waterspouts are tornadoes on the water. They are less dangerous and powerful on the water but can still cause damage to your boat. If you see a waterspout coming in your direction, quickly take down the sails, or if there is not enough time to do that, let the sheets loose and the sails luff freely. Get all personnel below and close hatches and portholes until the waterspout passes. Large cruising auxiliary sailboats are heavy, which will preclude them from being lifted out of the water and thrown around. Still, it is possible the sails will be shredded. Smaller, lighter sailboats could be lifted and thrown around causing damage and injuries to personnel onboard.

Safety for Boat and Passengers

As the Captain of your boat you, and you alone, are responsible for the safety of your boat and those aboard. That is maritime law. As such, it is incumbent upon you to think about, and prepare for unusual and dangerous situations that could arise while underway. Weather is one danger, collisions with other boats is another, running aground, injuries to crew from equipment/sails, the boat catching fire, an engine explosion, etc. are all dangerous situations and could happen unexpectedly. Be responsible, take advantage of the many boating/

sailing classes from the USCG Auxiliary or U.S. Power Squadron given throughout the season to learn about how to prepare for, and handle these emergencies. Both the USCG Auxiliary and USPS offer classes in marine weather. You will be a better, more professional owner/operator/captain, and such *will build your crew’s and passengers confidence in your abilities to take care of them.* And, with this knowledge and preparation you will be ready to really enjoy your boat, and the wonders of sailing and cruising !



Captain John Hooper is a retired USCG Cutterman, who has sailed since he was six years old, racing one-design dinghy’s and on family-owned cruising auxiliaries from 22’ to 40’ on the Great Lakes and long distance cruising in the Atlantic. He currently sails “Liberty”, a C400 homeported in Deltaville, VA, in the Chesapeake Bay. During his 30+ years in the Coast Guard he served aboard several USCG cutters rescuing mariners in all kinds of conditions. He holds an USCG Unlimited Tonnage, Oceans, Master’s license.

WHEN YOU FIND YOURSELF IN THE MIDDLE OF THIS...

WILL YOU BE READY?

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THE NETHERLANDS: HALCYON IN HOME WATERS

By Jos and Jenny de Sonneville, Halcyon, C380 #33

Halcyon, our 38-foot C380 Hull # 33 is berthed in The Netherlands. In 2020 we wrote an article describing a sailing trip to the Isles of Scilly. This time we would like to describe our home waters and the sailing we enjoy at weekends when we are not on a long trip to France, England or Scandinavia.

The Rhine-Meuse-Scheldt Delta

Our home port is located in the Rhine-Meuse-Scheldt Delta, a river delta formed by the confluence of Rhine, Meuse and Scheldt rivers in the southwest of The Netherlands, covering part of the province of South Holland and all of Zeeland. The delta covers 25,347 km² (9,787 sq mi), making it the largest in Europe.



Satellite image of the South-Holland and Zeeland Delta

Our berth is in the small harbour of Burghsluis, located in the NW corner of the Eastern Scheldt estuary. On 1st February 1953, a fierce NW storm that coincided with a very high spring tide. The event broke many dikes and flooded large parts of the islands in Zeeland. A total of 1,853 people drowned. I was 6 years old at the time, but still remember that my parents were horrified by this terrible news.

This caused a “once but never again” outcry, which led to the construction of the Delta Works to protect the islands from future flooding. The islands were connected by large enclosure dams (except for the Western Scheldt that gives direct access to Antwerp) which shortens the coastline exposed to storms considerably and protects the hinterland. The Haringvliet sea arm has become a fresh water lake, the Grevelingen a salt water lake and the Eastern Scheldt has remained a salt water tidal area protected by an open dam with gates that can be closed in storm conditions. The whole estuary is interconnected by locks so it is possible to cruise the entire delta, making it a sailor’s paradise.

Home port of WSV Burghsluis



Satellite image of Burghsluis Harbor



West-east photo of Burghsluis

We are members of the Yacht Club Burghsluis. Our club is an association owning the port. We lease the water area inside the harbour and the western quay from the Waterboard of Zeeland. All the facilities, such as the club house and restaurant, sanitary facilities, harbour office and pontoons are operated and maintained by the club. Costs are covered by income from membership berth fees, visitors fees, rent from the restaurant catering manager and rent from a commercial

passenger vessel offering tours on the Eastern Scheldt.

The harbour has a total of 124 berths, of which 92 are regular berths (24-50 ft) and 35 berths alongside pontoons (18-30 ft). In addition, we have two separate pontoons for about 62 visitors to moor alongside and double or triple up on busy days.

The harbour borders the Eastern Scheldt, which is a Natura 2000 area, part of a European network of protected nature areas where certain

species of animal and their natural habitats are protected in order to preserve biodiversity.

The red-domed construction above is actually the top of the old lighthouse of the Island of Westenschouwen where Burghsluis is located. It was replaced as it could not bear the heavy weight of the radar dome then required, so the top was moved to Burghsluis to become our “harbour office”. After the construction of a new restaurant, harbour office and sanitary facilities, we converted the interior into a “mini” clubhouse, seating a maximum of 14 people. The wind vane still works and the wind rose has been restored beautifully.

Cruising the Eastern Scheldt

The map below shows the cruising area of the Eastern Scheldt. The red circles are ports mostly converted to yachting harbours and marinas, identified by a number by this article. De port of Burghsluis (1) is located in the NW corner of the Eastern Scheldt, close to the dam and lock. From Burghsluis to Tholen (5) the distance is about 25 nautical miles which



Our “mini”clubhouse



The old top of the island’s lighthouse



Entrance on east side of our harbour

HALCYON IN HOME WATERS

(continued from previous page)



Google map of Eastern Scheldt cruising area

makes for a good day sailing. For our summer sailing trip, we pass the lock in the enclosure dam and venture out to the North Sea but for the rest of the season, we sail the (long) weekends in our home waters, the Eastern Scheldt, but also neighbouring waters. The Eastern Scheldt is a tidal area, with a tidal difference of about 9 feet. There are many shallow areas, sand banks and areas that fall dry at low tide (see satellite image of the delta) so due care needs to be taken. Tidal currents must also be considered in route planning, as they can reach 2 knots. The blue circles are places where you can anchor out safely.

The anchoring spot close to Burghsluis, the “Schelphoek” (2) is actually an area where in 1953 the dike was breached. It was impossible to rebuild the at the original location so a new dike was placed more inland, creating this anchoring place.

Often, we see porpoises in the Eastern Scheldt, swimming close to our harbour waiting at the edge of a deep well in the tidal channel for the fish coming in on the flood tide.

A small tower is the only remaining edifice of a village that was swallowed by the flood waters centuries ago. Under the water you can still see the street plan.

The first harbour we come to sailing down the estuary is the port of Zierikzee (3), home to a large fleet harvesting mussels in the Eastern Scheldt. It used to be an important port in the 17th century, exporting Meekrab (*Rubia tinctorum*) a red dye used for textiles, which was grown extensively in the province of Zeeland.

Here, Halcyon is leaving Zierikzee in SE direction where you come upon the Zeeland Causeway spanning the width of the Eastern Scheldt. The causeway has a bridge, opening every half hour.



Leaving Zierikzee



Restored Windmill

On this trip we went to Tholen (4) at the far end of the Eastern Scheldt. There you have to pass a lock to enter the canal leading to Tholen. Because of our draft of 7ft2” we need to arrive at high water to pass the lock sill!

Then you arrive at the lovely little village of Tholen where we moored Halcyon in the old harbour. Further away is a large marina.

The village is still surrounded by old ramparts with a beautifully restored windmill on a high foundation to catch the wind. Most of these windmills in the Netherlands



Zeeland Causeway

belong to the national heritage and are maintained accordingly.

Another long weekend took us to De Heen (5), a harbour located in the Grevelingen sea arm north of the Eastern Scheld, see the Google map, on the right-hand side. It is a charming tiny village. Again, you have to pass a lock before you arrive at the yacht harbour.

Here you see Jenny standing by the lock. In the picture to the right, you see the yacht harbour in the distance.

Sailing east, then south and then west from Burghsluis you arrive at the medieval town of Veere (6), on “Veere Lake”, south of the Eastern Scheldt. In the 17th century it was an important city but its value diminished after the harbour silted up. Now it is an attractive place for tourists and yachtsmen to visit.

The picture shows the quay, with the old city hall in the background.



Halcyon romping along



Moored in Tholen

Lazy days in our home waters

It was a privilege to show you some of the cruising area where Halcyon has her home port. When not abroad on a long trip, we never seem to get tired of the area as many harbours are close by and there is lots to choose from. If you ever decide to cross the Atlantic, we would love to welcome you in our tiny harbour of Burghsluis and spend some lazy days in our home waters.



Jenny on watch

Replacing our AGM House Battery Bank with Lithium Batteries

By Rick McGregor, 1999 Catalina 380, #145, San Pedro, CA

I start this article with the statement, “I am not a licensed electrician. I am a fairly handy guy with a healthy limit on an American Express card. I am writing this to share my experience and solutions, but your boat is different and your installation should be inspected by a licensed electrician upon completion”. I am not endorsing any particular products, and I am not sponsored. There are many options on the market today for Lithium Batteries and their support components, as well as different ways to wire this project; these are simply the choices I made for my boat.

My wife and I (always suitable to include your wife in these things, it makes the mutual reviewing of the credit card statements less painful) obtained our 1999 Catalina 380, Highlander II, in February of 2020, stepping up from our first sailboat, a 1984 Catalina 30.

We are approaching retirement, and besides regular maintenance, all my upgrades have the long-term goal of taking our boat on an extended cruise throughout Baja and the Sea of Cortez. Since purchasing the 380, I have methodically gone through her, replacing, refitting, and bringing her up to modern standards, making her comfortable and safe.

I started researching replacing my AGMs with Lithium batteries a couple years ago when the original alternator burned out, and I decided to upgrade

to a high amp output alternator with an external regulator. At the time they were still pretty pricey.

Being a self-taught jack-of-all-trades, I am addicted to how-to videos and articles. I am so appreciative of those who have spent the time to share their experiences and knowledge. These resources are invaluable.

Here are some of the sources I recommend that have extensive tutorials on the Lithium Battery upgrade.

- Compass Marine <https://marinehowto.com>
- Ryan & Sophie Sailing: They have a YouTube channel, and Ryan is a co-founder of Dakota Lithium Pacific Yacht Systems Websites: pysystems.ca and Boatingtechtalk.com
- YouTube Channel: Pacific Yacht Systems
- Will Prowse YouTube: DIY Solar Power with Will Prowse
- Victron Energy victronenergy.com and Blue Sea Systems blueseasystems.com

I am sharing 23 key points I gleaned from my research and installation.

The first is so important, that it does not get a number, it gets exclamation points.

!!! Quality tools are not an option.

Only do the project if you can afford or can borrow high quality tools to cut

and terminate the heavy-duty cables. Poor terminations are a fire hazard and will cause significant strains to the system.

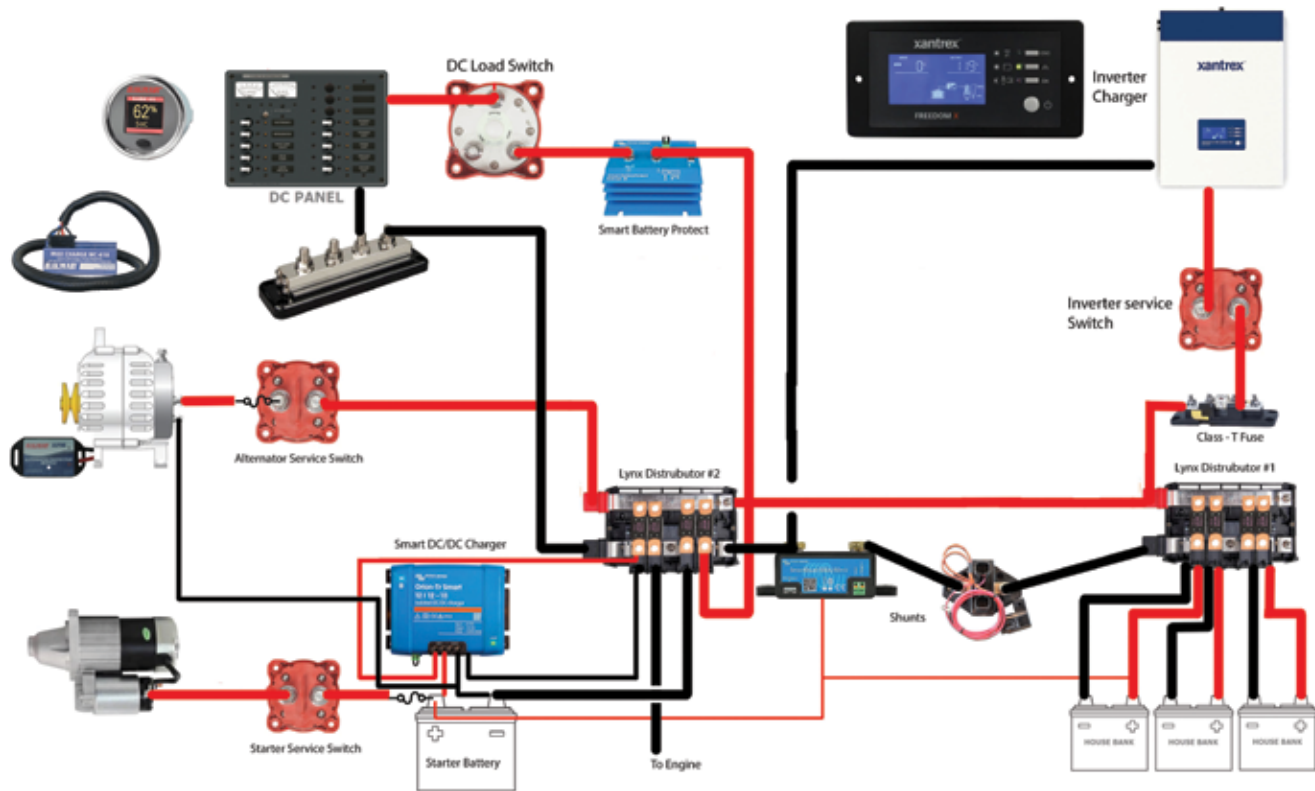
1. LiFePO4 (Lithium iron phosphate) batteries are not cobalt-based Li-Ion (Lithium-ion) batteries. LiFePO4 is a much safer chemistry than Li-Ion; unlike other lithium batteries, LiFePO4 does not have the risk of catching on fire or exploding. And, they have the benefit of being faster charging, lighter in weight, and last longer than traditional lead-acid batteries.

LiFePO4 batteries can be depleted to about 95% of charge before shutting down, whereas an AGM or Flooded Lead Acid bank only allows you to use 50% of the bank’s total storage capacity. This means that you basically get twice as many Amp hours from the same sized lead bank.

2. Planning and creating a comprehensive wiring plan is essential to make sure you buy the right components, spec the right size wire, wire everything correctly, and can troubleshoot in the future, long after you’ve forgotten how you installed it.

3. You must have charging systems that can handle both the high charge rate LiFePO4 allows, but is also adequate to fill a bank that can be depleted up to 95% in a reasonable time frame.

4. **Important Fun Fact:** When wired in parallel, and wired correctly,



This is the wiring plan I used for lithium project on Highlander II

each battery of the bank will absorb and discharge equally. When charging, this means if you have (3) 200Ah batteries making a 600Ah bank, and for example your new hi-tech alternator charges at 170 amps, each battery will only be receiving 56 charging amps. If you take each battery down to zero, and you don't have solar or shore power, you will need to run your alternator or generator for about 4 hours to bring them to 100% state of charge.

5. Wire size and wire length are critical. When in doubt, go bigger. No matter what the brochures tell you, chances are that you will need to rewire your entire battery and charging system to meet the needs of the new power loads. The Blue Sea Systems website has an excellent calculator for wire size, and fuse size and type calculations.

6. Fuses protect the wire, not the powered component. They must be used everywhere, as close to the source of power as possible. As for the size of the fuse, rule of thumb is load x 125%, Example: A 60A Load x 125% = 75A Fuse (rounding to the nearest standard fuse size)

7. Each part of the system should be isolated with a load switch so that each system can be isolated and turned off independently for failure or repair. I.e. Panel Load, House Bank, Starter Battery, Alternator.

8. The Inverter must have both a circuit breaker from AC shore power and a battery load switch. Both must be off when working on either the AC or DC electrical system. Modern inverters will turn themselves on automatically when they sense a load which makes not being able to control all power sources going into it very dangerous.

Inverters must have the case ground attached, ABYC standards say that the ground wire must be no less than one size than the load wire. If you use 4/0 wire from your battery bank to the inverter, then the ground must be no smaller than one size down. 9. 99% of the "drop-in" LiFePO4 batteries sold today include a Battery Management System or BMS, for short. Not every BMS is created equal. Some have blue tooth so you can monitor each battery in the system, some can handle higher charge rates, some have low-

temperature sensors and heaters, and some connect via ethernet cables to work together as a team or as a port for firmware upgrades. Make sure you choose the correct battery for your needs.

10. LiFePO4 batteries don't like cold; you can't charge them if the temperatures are below 32° F. The higher quality and more expensive batteries include a heating system. If you plan to use your boat in cold climates, read the spec sheets carefully.

11. When LiFePO4 batteries are charged with an alternator, a little problem must be addressed. The BMS, if sensing a charging overload or other potentially damaging input to the battery, the BMS will shut the battery down. Alternators generating lots of power with no place to put it will blow the alternators diodes and render it useless. (More on this later)

12. If you choose not to spend the money on an upgraded alternator with an external regulator, you will lose one of the main benefits of a lithium house bank, namely its speed of charging. (More on this later)

REPLACING OUR AGM HOUSE BATTERY BANK WITH LITHIUM BATTERIES

(continued from previous page)



The stock battery box was used for 1 batter, a panel load switch, Victron Lynx Distribuion box, Victron Smart Battery Manager, and Victron DC to DC Charger for Starter Battery

13. Be prepared to be creative. Our boat designer in 1995 never imagined a Lithium, solar or a 3000 watt inverter. You will need to find creative places to install all the necessary components.

14. Size your house bank to your needs, then size your alternator, inverter/charger, and solar panels to fit it. **Important:** Plan for how large a house bank you need before you buy the batteries. Adding batteries in the future to the bank is not recommended. Unlike an AGM or Flooded bank, a Lithium bank is extremely sensitive to differences in wiring and internal battery resistance. A lithium house bank must be made of the same batteries and same manufacturing period.

15. I wired the system so there is no more standard 1/2/Both switch.



Storage area fore of sink contains two Kilovault 200Ah batteries, Xantrex Inverter Charger, Victron Lynx Battery Bus Bar, Battery Load Switch, two battery monitoring shunts and Class T fuse

The LiFePO4 house batteries cannot be used as a starter battery, except for a very small few designed as a starter/house battery. Your starter battery system is entirely independent of your house bank. If that worries you, carry a portable battery jumper on board so you can start your engine if the starter battery goes bad.

16. When wiring in parallel, the batteries must connect to a bus bar. Each wire from the batteries to the bus bar must be precisely the same length to keep the conductor resistance the same for each battery. If (as in my case) one of your batteries is further away from the bus bar than the others, you must make them the same and creatively figure out how to coil the extra wire.

17. Solar works excellently with LiFePO4 batteries. Solar panels are my next project. My goal is to have enough solar input to cover about 80% of my house load.

18. The costs of the batteries and the support components are finally coming down to a price that, while still expensive, is justifiable. It's a boat, everything is pricey.

19. New DC components built for using a Lithium House bank are coming online daily, including low draw Air Conditioning, Starlink, Electric Winches, Induction cooktops, and Water-makers. All pricey, but now doable without a generator.

20. Because of my limited space, finding a battery that would fit was step one of my battery research, not the manufacturer. From the 2 or 3 options I had for size, I then chose the brand.

21. Chances are excellent that you'll need to replace your existing Inverter/Charger with one that can charge at the voltage that your LiFePO4 needs to bring it to 100% state of charge, depending on the battery it averages between 14.1 - 14.7 volts.

22. In my opinion, no matter what you see in literature, YouTube, and advertisements, LiFePO4 is not a "drop-in replacement" solution. No how, no way. You will have to do a lot of rewiring to make it safe and efficient.

23. Lastly, here is what I believe to be the honest truth about converting to LiFePO4: If you can't charge them fast, don't want to spend the time and money to rewire the boat, can't see installing lots of support components, or you are not going to be running accessories with significant power needs in the future, your old-school flooded or AGM batteries will work just great. Please don't touch them and save your money!

If, on the other hand, you have plans for lots of power-hungry additions, including the 12-volt rotating disco ball you've always wanted in the main saloon, read on.

So, when I was replacing my busted alternator, Lithium Batteries were still out of my budget, and my 660 Ah AGM bank was almost brand new. I carefully chose components I could use with the AGMs but would not have to be replaced when I eventually switched to LiFeO4.

In consultation with Compass Marine, I replaced the stock alternator with the Balmar's XT-170Ah, which is built to deliver high amps at low RPM, which is perfect for a diesel cruising at

2500. It also has a small case that will fit under our stairs.

To regulate the alternator, I chose the programmable Balmar MC-614 regulator (now superseded by the MC-618 with Bluetooth programming). An external alternator temperature sensor kit, connected to the back of the alternator, allows you to program a temperature at which you have the alternator to turn off and protect itself. A battery temperature sensor is NOT used for LiFeO4, this is handled by the batteries internal BMS. On a side note, I have not seen increases in Lithium battery temperature of more than 5-10 degrees F during charging.

The Balmar external "smart regulator" allows the ability to program to match the needs of the battery bank you chose, from charging voltage, output amperage, float voltage, bulk voltage, etc.

To drive this high torque alternator without belt slippage, I replaced the single belt with a Balmar Serpentine Pulley Kit for my Westerbeke 42B. I found a little noise insulation removal and some minor grinding of the underside of the stairs is required for its installation.

Hot Tip: Balmar knows all our set-ups are different and the stock belt supplied in the kit will not fit. I installed the alternator and new serpentine pulleys then used a string to measure the belt length and ordered that size, along with two incremental sizes above it in length and two incremental sizes below it. Once you find a belt size that both allows the stairs to be returned to the original position and you can get tensioned properly, Balmar is good about letting you return the belts not used. Don't forget to order another belt of the size that does fit as your spare.

I added a Balmar SG-200 shunt with its bluetooth gateway to monitor battery health, draw amperage, charging amperage, state of charge, and overall state of health. The gateway is

necessary for firmware upgrades and monitoring on your smart phone.

The last component I installed was the Sterling Alternator Protection device which protects the alternator diodes from a back spike voltage.

This setup allowed me to quickly charge my existing AGM's with haste but would allow me to use the same components for my future LiFePO4 bank.

When reviewing which LiFePO4 batteries I would purchase, I looked at all the top brands, including Victron, Battle Born, Dakota, and Renogy. All were excellent, but didn't really fit my prospective mounting spaces.

Based on recommendations from a Compass Marine tutorial, I went with three KiloVault HLX+ 2400Wh (200Ah) 12-volt batteries to create a 600Ah house bank. KiloVault is not as well known as the others, but have been around for some time and have proven to be excellent so far.

For those interested in this upgrade, I encourage you to wait until PART 2 is printed in the Fall issue for the complete recommendations and use this time for planning and research.

– Rick McGregor



Balmar's MC-614 (now bluetooth capable MC-618) controls works with the Balmar XT alternator to safely charge the Lithium battery bank with high amperage without overheating the alternator.



Using components that can be monitored remotely via bluetooth are invaluable, especially because most of the components of this system will be hard to access after installation.

Note from Gerry Douglas, Tech Advisor:

Mr. McGregor has done a great deal of research and generosity shared details in this article. This is provided as a reference only to Catalina owners. It is not recommended as an owner or amateur project.

Note from Catalina Yachts, Jon Ames, Tech Editor:

Mr. McGregor's project and article on installing lithium batteries is extremely well researched and written. On a project of this scope and cost safety is always a first consideration. The ABYC has electrical standards that cover much of this material to ensure a safe installation. However, beyond safety there infinite ways to create a custom electrical system so I will second Mr. McGregor's suggestion to involve a licensed, trained ABYC electrician to ensure that the system is both safe and acceptable to your surveyor and insurance company and your peace of mind. <https://abycinc.org/page/StandardsSupp58>

Refer to the following standards: E-2 Cathodic Protection, E-10 Storage Batteries, E-11 AC and DC electrical systems on boats, E-13 Lithium Batteries, E-30 Electric propulsion systems for further information.

Tech Notes

from Association Technical Editors



Tech Notes are also available at www.mainsheet.net in PDF format for printing or reading on digital devices. Summer 2023 password: S412

Note from Catalina Yachts, Jon Ames, Tech Editor: If anyone has questions about their keel contact our technical desk manager Warren Pandy, warren@catalinayachts.com

Catalina 470 National Association

Project Planning



C470
Association
Technical Editor
Joe Rocchio

Yanmar engine exhaust elbow—an important follow-up on engine exhaust elbows [See Mainsheet C470 Tech Note Catalina Mainsheet 40-1-Spring-2022].

I wrote about the catastrophic failure of *Onward's* (C470-126) engine exhaust elbow in September 2021, which due to a stack-up of factors led to the seizing up of the Yanmar and the need to repower. I wrote about repowering in two succeeding Tech Notes [Catalina Mainsheet 40-3-Fall-2022, Catalina-Mainsheet-40-4-Winter-2022].

Since the failure of *Onward's* elbow, I have become aware of at least four C470s that have suffered similar failures. Takeaway: inspect the weld joint of the elbow at the mating flange to the turbo/engine at least every six months. Better yet, remove it, clean out any carbon/salt build up and have the weld inspected and remediated if indicated. Better to do this on your terms and in benign conditions.

This year I find myself in the unusual, for me, position of planning the re-launch of *Onward* for the 2023 Spring-Fall cruising season.

Last October, *Onward* was hauled for the winter for the first time since commissioning in August 2003. Over 14 of these intervening years, I'd managed to follow the 75° thermocline each year north to south – I like that much better! And so, on to planning...

There are two items that are on my list for replacement: the PYI rotating shaft seal and the cutlass bearing. Both of these are original components. Both give no evidence of actually needing to be changed – a rather amazing fact given the ~80,000 nm & >15,000 engine hours that *Onward* has sailed with them!

My PYI shaft seal is the non-vented version. I know that many C470 owners have experienced problems with these deteriorating and leaking or needing to be “burped” regularly by pulling the spring-loaded seal back to allow water (and any trapped air) to flow out. Also cleaning and water-lubricating the sliding carbon seal surfaces. Perhaps by sheer luck (or maybe because I used it so much) I did this about three times in 19 years and it performed amazingly well. I did carefully follow the practice of putting double set screws on the collars to make sure the inner screw did not come loose allowing the seal to slide forward causing a significant leak. I also have a heavy-duty hose clamp around the shaft just forward of the seal as an emergency measure to prevent the shaft from slipping out

the aft end should it fail at the coupling to the engine (the suspected reason a C470 was lost in the Great Lakes). A regular check of the rubber bellows was also done.

The new PYI seal design comes with a hose barb to allow seawater to flow up to the seal to prevent air pockets that would cause the seal to dry out and overheat. In high-rpm applications, raw water flow from the engine is circulated through. On the lower rpm applications such as on the C470, owners have found it sufficient to connect a hose from the PYI seal to an above-waterline vent. I plan to do this.

Onward's cutlass bearing had no play in it when checked in 2022 – but there is a time for all things. So I plan to install a new bearing.

During the repowering process last year, I had intended to have the prop shaft and prop removed and reconditioned. There was no indication of a problem, but I would because I could. However, the yard did not find it necessary to haul *Onward* for the repowering, so this item was put on the maybe future action list. Time to reconsider.

Re-launch musings remind me that there are a good number of new-to-C470 owners and they are making good use of the C470 Association's excellent record of knowledge-sharing via their email group (info at: www.catalina470.org). To assist fellow C470

owners, I built the website www.c470techarchive.net, to archive important technical data for the C470 fleet based upon *Onward's* experiences as well as those from other owners. C470 Association Treasurer Mike Davis has also created an archive of C470 photos and projects at <https://jerodisys.com/C470/photos.htm>

Those of us who have been fortunate to live aboard our C470 for extended periods are familiar with being so totally immersed in the sailing and maintenance of the boat that most important items are kept fresh in our minds and experience. Not so if one is a seasonal sailor, as I've now become. One of the areas I will be upgrading on [C470techarchive.net](http://www.c470techarchive.net) is advice on important lists of infrequently encountered things. Here are just a few examples:

1. Location, type, amperage, spare stores of all the "hidden fuses" that exist in the C470 wiring system and, even more so, in ancillary electronic equipment. These little buggers, when they fail, can present quite a troubleshooting/diagnostic problem – ALWAYS at a bad time.
2. Location, type, size, date last replaced, stores supply of those ubiquitous stainless steel hose clamps.
3. Electric wire-run location drawings and schematics – especially for new/upgraded systems. All this may be so fresh in your mind (or that of your tech) that it doesn't seem it needs to be recorded. Then, again under adverse conditions, you will need to know. So start a program to update/create drawings and schematics.

Looking back from 2007 when *Onward* first began its wanderings between Maine and the Bahamas, the impact of technology since then is amazing. Advances in LED lighting, GPS, electronic charts, chart plotters, integrated networked instruments, and solar power have all seen one or more revolutions.

Communication technology has had tremendous impact. Thinking back to 2007-2008, *Onward's* first season in the Bahamas, I remember how clever and fortunate I felt when an open Wi-Fi network was encountered and internet cafes began to spring up on the cays. I was "connected!" A revitalized Bahamian cellular network brought 3G data to most of the cruising grounds except for a just a few gaps. Now, Starlink is causing yet another revolution with very high-speed internet just about anywhere. As with all things Elon Musk, usage rules, service, costs, and equipment change rapidly – but several C470 are successfully using this

system for an initial cost of ~\$600 and a ~\$150/month fee. This will be another area to report ~C470 experiences in a future Tech Note.

One of the principal reasons I decided not to install a large Code Zero sail was because I single-handed *Onward* for most of eight years on the Maine to Bahamas circuit, and did not want to take on the added risk of handling a large sail by myself (no longer being 25 years old). Now Wichard has come out with a light-weight, very compact, and highly efficient electric furler that changes the calculus and can be implemented with almost no change to existing Code Zero sails and rigging.

Technology for electric propulsion and exploitation of high energy density Lithium Iron Phosphate (LiFePO4) batteries for marine power continues to accelerate and an update is in order – building on the experience of several C470s – so stay tuned. Keep sailing your C470! Enjoy! –**Joe Rocchio**

Note from Catalina Yachts, Jon Ames, Tech Editor:

We would just like to mention that we will be offering a new electric code 0 furling system with Selden in the near future.

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Catalina 28 International Association

Replacement Life Sling Cover

C28 Association
 Technical Editor
 Ken Cox

Special thanks to Mike Smalter for submitting this article. – **Ken Cox**

Many of you have a Life Sling on your stern rail. The original bag was not very UV resistant, and your bag may be looking a little (lot) worse for the wear. I designed a new replacement cover several years ago. At that time the only commercially available replacement covers were the original covers (expensive and still subject to UV deterioration) and Sunbrella covers designed for the original cover to fit into (with all its messy shedding flakes). Today you can buy a fiberglass case (\$260) or a Pacific Blue Sunbrella cover (\$99) at either of the two big marine outlets.

I believe my design is excellent and want to share it with the Catalina community so those who wish to can make their own. I believe it is beyond the scope of the Mainsheet to publish detailed patterns and step-by-step instructions so I will just provide an overview. I have made a half dozen of them. One of them has been in the Bahamas the last 6 winters and still looks brand new. The key features of my design are:

- Plastic corrugated box provides rigidity and makes it much easier to remove the Life Sling (it is slippery)
- Mesh bottom allows for drainage/ventilation
- You can use a Sunbrella color that matches your dodger/bimini or cushions



I made the Life Sling 2 cover 1" wider than the original. The finished fabric panels are 22" tall x 5 5/8" deep x 13" wide. Don't forget to add in material to accommodate the seams. The lid is 1/4" larger than the fabric box. I made the lid depth 1.5" (tried 1" and didn't like it as much). I have made the attachments for the rail in both Velcro (as shown) and a zippered pocket.

The big corrugated box is 12.75" x 5.25" (36" perimeter) x 21.75" high. The small box in the center is 5" x 5" x 12.5" high. The corrugations should

be vertical to aid in making the folds. I used white duct tape to form the boxes and double stick carpet tape to attach the small box to the larger box.

I used Phifertex mesh for the bottom. Fabric stores sell less expensive alternatives that are probably not as UV resistant.

If you want to retain the original instructions on how to deploy the Life Sling, you can find a picture of the instructions on the internet, print them, and laminate them in plastic. Punch a hole in one corner for a light attachment line and slide the

instructions between the corrugated and the cover fabric.

The finished product looks great and will last for a very long time.

—Mike Smalter

Materials needed:

- 1 yd. Sunbrella Marine fabric (46" W for solid or horizontal tweed, 60" W for vertical tweed)
- 18" x 24" and 24" x 36" white plastic corrugated sheet (from Home Depot or Lowes)
- Mesh 12.5" x 5.5"
- Hook and Loop fastener

Note from Gerry Douglas, Tech Advisor:

The Life Sling is an essential tool for offshore sailors and highly recommended for all. It is well designed, but the cover is the weakest part. The covers depicted in the article is a vast improvement over the original. Check the Line provided with the Life Sling, it is polypropylene and subject to u.v. deterioration also.

Note from Catalina Yachts, Jon Ames, Tech Editor:

Mr. Smalter's attitude toward caring for equipment on the boat is excellent. The life sling could literally mean the difference between life and death and to see that it is well maintained should be applied to all critical sailing gear. I would also add to please practice and rehearse with this and other safety equipment as often as possible. <https://www.youtube.com/watch?v=VnhjOhWD4j0>

Bits and pieces:

In the past few months I have had seven different owners contact me, either on our Yahoo site or directly telling me that they were told to replace their engines. All had Universals, five were Catalina's, two other brands but with our same engines. Six of these are already running and back in service, one is awaiting parts and I have no doubt that it will run fine once the parts arrive. Most of these were repaired for less than \$500, one about \$600 and one about \$900. One had fresh water pump seals leak, contaminate the oil and plungers galled and springs broken. He had just purchased the boat and did notice the oil contamination so he changed the oil but it came back, he did find the problem and repair it but the damage was done. When checking the oil, the color and feel is just as important as the level of the oil, you do check your oil don't you? All of the damage done to these engines seemed to be lack of preventative maintenance, maybe a previous owner selling that no longer cared or payed attention to details. I also recommend that oil be change by number our hours or every fall. I stress fall in order to get the acids and contaminants out of the engine so they don't just set there and erode the interior of the engine's hard parts and gaskets for leaks. These engines had broken springs, galled plungers in both the injection pump as well as injectors. The clearances in these parts can be about 1/4th of .001 inches, less than a thousands of an inch, very close tolerances and there is not place for lack of lubrication or contamination. The engine oil must lubricate the large

hard parts and the diesel oil/fuel lubricate the inside of both the injection pump and the injectors which also helps to keep the parts cool and not expand in physical size. These small clearances also will not tolerate debris or lack of lubrication. So be sure to change the oil at time dictates per the manufacturer or prior to a long lay up.

As for fuel I use a couple of guidelines, if I will not use all of the fuel I purchase in 90 days I add a stabilizer. If I don't use the fuel up or turn it over every two years I pump it out and replace with new, installing stabilizer and Bio-bore JR. If I turned over a lot of fuel per year or sail all year, I just change my filters a normal dictation of time and use the larger 10 micron filters. If as I do, use a very small amount of fuel each year, I change the fuel filters every other fall and use the 2 micron filters and chemicals as outlined above.

Check your tank vents as well, the better it breathes, the less it builds moisture and breeds contaminants. While your at it check the water tank vents and holding tank as well. They all need it.

This article should be a mid-season issue so a good time to take some time and go over the things you always rush to do when you launch and pull your boat, checked, cleaned, lubricated and adjusted your steering lately? How about that emergency tiller, have any idea where it is and will it still fit? Have you ever really tried it? Maybe a good hot day to tank test your auto inflatable PFD's, check for leaks overnight, dry, re-load and re-pack? —Ken Cox

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!*

CATALINA 36/375 FLEETS:

C36/375IA Board Member, Fleet Relations

byrontobin600@hotmail.com

#1, Santa Monica Bay, CA
smwyc06@gmail.com

#2, Long Beach

mbierei@pirnie.com

#3, Chesapeake Bay

wjhomes@zoominternet.net

#4, Puget Sound

rodj2@msn.com

#5, Long Island Sound

tjl2000@optonline.net

#6, San Diego

dmumby3@cox.net

#7, Lake Ontario

crew@ceibaone.ca

#8, New Jersey Coast

calypso36@comcast.net

#9, San Francisco Bay

jennai1@sbcglobal.net

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

Catalina 470 National Association

Vancouver to La Paz, South to Warm Weather!

C470 Association Editor
Julie Olson

Special thanks to Dan Streiff for submitting this wonderful article.

—Julie Olson

We had generally planned this adventure for the last decade and finally had all our ducks in a row to start. The plan was to sail down the Pacific coast, darting into as many towns as possible and taking our time using the weather to our best advantage and to not repeat getting into any horrific weather like we did on the way up when we moved from San Diego to Vancouver (a story for another time – 40-50' life-threatening

waves). This time around we had an amazing set of weather forecasting tools, and no specific timeline.

We've owned our C470 since its birth and have outfitted it for offshore sailing, but due to Covid-19 closures and family emergencies, had to put off our adventure until last year. Our plan was to sail down the coast as a shakedown, spend a couple months in Mexico, then return to replenish the cruising kitty. Finally, we would head back down to ready the boat for a push on to Nuku Hiva in March/April 2023. I will try to focus on our lessons learned throughout this article.

We pushed off without fanfare from Point Roberts on a nice day with little wind. Within the first hour after revving the engine up, the high water



Lucky Dog is the little pink icon as she shoots between the Point Conception traffic. The large ships knew we were transitioning at a 90 degree angle to cross the channel quickly.



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CATALINA 470 NATIONAL ASSOCIATION

(continued from previous page)



Dan and Jeanne Streiff at the Wrigley Memorial on Catalina Island.

bilge alarm began screaming. After some assessment, we deemed the cause was that the mechanic hadn't tightened the set screws on the PYI seal, nor replaced the backup hose clamps. Not a big deal, but I hadn't caught it earlier because I just ran the engine easily after the mechanic left, but not heavily or for long.

A later even worse issue, the raw water pump outlet hose came loose, as the hose clamps were not at all tightened, along with many other clamps. OK, lesson learned – check everything! Some things were easy to spot, others not so much. After talking to a friend and with much angst, we have come to realize we must accept the philosophy - "If it ain't broke, it's not



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Lucky Dog with battle flag, ready for Point Conception.

on my boat.” A few other things broke too, but we tackled them as needed. (Autopilot head, and tranny flange bolts were the last of it, which set us back one week).

Our push-off point was Neah Bay, which was fantastic, although the dock isn't the prettiest. Nice folks there and we met some kids with a wheelbarrow of fresh caught salmon who happily gave us a couple of really nice ones. Very generous and we will pay it

forward. Things are looking up! We hooked up with a PNW cruising group and started to openly chat with like-minded cruisers going our direction.

We picked the best day for weather and let it settle for an extra day, it was a good choice. Reports from boats ahead of us found leftover larger seas. Our first overnight started great but at night became a bit dicey. The swell was from NE and wind waves were from N. When they synced up, it produced a large, deep trough beam-to with a quartering kicker. *Lucky Dog* would ride the wave normally for 12-13 waves then BAM, the kicker would lift the aft port side of the boat then literally drop eight feet into the trough hole, roll to the starboard, hit the wave on the beam, then lift back up.

During one angry wave, my wife Jeanne, my first mate, was below in the galley and became airborne - launching her backward into the nav panel and smashing her head! We surmised that she didn't have a concussion but was stunned. She recovered quickly to my surprise - shaken but not stirred. Thank god, but time to settle the boat more. The best we could do was to slow the boat down. Only the jib was out on

a pole so we rolled it in to 3/4, which helped immensely by slowing the speed at which we hit the waves. Rinse and repeat for the next 12 hours. We have since added a strap to secure off the galley completely. This section was the worst of our conditions for the entire trip - beware the PNW!

For the rest of the trip we gunk-holed quite a bit, seeking the best shelter as possible with our 8-foot draft. We had many incredible days, and with the nimbleness of C470's rudder/fin combo, we were able to tuck into many tricky spots and tight quarters, where other full or 3/4 keel boats needed help.

One big lesson learned was that although I had planned on using no or little to no diesel, we absolutely had to when going south. First, PNW weather windows are often only one or two days, then things change. Second, many stops have bars that are ever-changing. You have to time your departure, speed made underway, arrival time to the bar, bar conditions, and of course our draft to arrive on time. You don't want to get caught out and can't come across the bar when the weather gets furious. The distances are almost always an over-nighter, so we generally started out



Massive cruise ship at Cabo San Lucas



San Juan Islands looking at Mt. Baker

CATALINA 470 NATIONAL ASSOCIATION

(continued from previous page)

sailing, but always added motor sailing or just plain motoring if we dropped less than five knots.

The last factor was, are you comfortable coming in with complete fogged-out conditions. Because of the factors discussed above, in weather daytime or night, the fog near the coast was very heavy down to San Francisco. Twice we couldn't see the bow when approaching a bar entrance or harbor. GPS is not that accurate, and buoys may be moved. So by using the GPS and radar, side by side, you can carefully plot entrances, taking note that the close objects disappear from radar as the unit is 20 some feet up the mast.

Another lesson is that few fishing boats have or turn on their AIS, and near Crescent City at 5-6 am, the smaller boats go dark. They watch the other fishing boats by sitting around in the harbor, waiting for them to leave with their running lights OFF, no AIS, jet black. I almost T-boned a 30' Grady White within five feet. He fired up his engine at the last second, I turned away when I saw the water plume. Crazy!

We continued to sail all the way to various places, where some folks

recognized and asked about our C470. We had many other cruisers visit *Lucky Dog*, mainly with two comments: "Wow the cockpit is immense," and "Wow the headroom and interior spaciousness is incredible." We do feel fortunate that this is a lot of space for two, but we do notice that it would be very tight for our purpose of cruising far afield. (I've added a lee board to the pullman berth area to hold back all the 'extra' stuff – four sails, two bikes, inflatable kayak, snorkeling and diving equipment, etc. (it's full!). We used our fold-able bikes multiple times, in Monterey they were especially fun and useful for touring and hauling 40 pounds of groceries each! Oh, mental note, we still need to make some bike bag holders for ease of transport to/from storage.

As planned, we arrived in San Diego just following the BAJA HAHHA rally. We restocked and collected our newly purchased parts sent down and amassed at a friend's home, then sailed on down the Baja Peninsula with minimal procedural issues. First stop was Ensenada, next about a 450 mile passage including two overnights to Bahia Santa Maria – a most amazing stop. Well secured, easy anchoring, few

people there, a river to the Mangroves, WARM water! What's not to love?

Next, our passage to Cabo where we luckily anchored in front of the jet ski starting point, where they are forced to slow down. Towering cruise ships would anchor not far away and we would be lit up all night with partying craziness. Fun, but enough so that we moved on, making our way around the corner where there was crazy, very short but steep 6-foot chop. The boat would skip a few waves then plow down and into one eventually, then when the bow popped up in the shortness of the oncoming wave, it would throw water 15' up in the air, showering the sail, the dodger, and deck. Unpleasant but doable as we adjusted speed, again slightly lower down to six knots. After six hours of coating the boat in saltwater, working our way north into the Sea of Cortez we pulled into a beautiful bay and dropped anchor in the calm.

The next several legs were just amazing sailing with the sun and wind complying. The boat now likes to glide at 7-7.5 knots with 14-17 knots wind, which seemed a bit slow until I realized we added 12,000 pounds of cruising



Neah Bay Makah Cultural Museum



Pre-dusk night mode with sunset



Tucked in safely at Newport Harbor

gear so I guess it'll do just fine. We are now content, finally jumping off the stern in turquoise waters, swimming to cool down before having a nice lobster dinner, yum, this is what we signed up for.

What we found that works and I think is mandatory for offshore, comfort or not – is our full cockpit enclosure (cruiser friends refer to ours affectionately as the 'green house'). It provides protection and regulates air temperature. We also are appreciating our auto-retracting boom preventer system so that no one has to leave the cockpit to operate it, the upside-down dinghy lashed to the foredeck (sheds tens of thousands of gallons of water off the deck protecting the dodger), the galley strap noted earlier, and a high water alarm system with two pumps. Have safety gear and a plan you stick to.

What we learned about Mexico so far is that it has become a bit more difficult but certainly easily doable with planning. TIP (Temporary Import Permit) enforcement/clearance can be tricky, especially if you didn't know that you purchased a boat with one that hadn't cancelled their permit and checked out!

Mexico boating is now more expensive in many ways than in the U.S. as there are so many gringos that have moved there. Maybe Covid-19 has partially caused this, but the facts are we paid up to \$2.20 USD/foot for overnight marina stays. Catamarans are everywhere. There seems to be plenty of space in the anchorages. Available slips are almost non-existent, and services and parts are at an all-time high. So plan accordingly. Hey, diesel was inexpensive though.

The best part of cruising is the new friends we meet along the way, the amazing sights and sounds of whales, dolphins, otters, diving pelicans, the fish, the flora and fauna, and new experiences – the dancing squid boats off Santa Cruz Island, the 18" flying fish that soar out of sight, the walrus and seal sparring, the waves of feeder fish and the spinny flippy Mobula rays. Every day is an adventure, there's still so much to see and do. Lastly we have to acknowledge the amazingly stout home that takes us there safely and securely as we seek to obtain the perfect sailing weather and direction, the Halcyon days...we are definitely *Lucky Dogs*.

Want to see more of our trip? Check out our *Lucky Dog* Facebook page, which is mainly updates for friends and family.
–Photos and story by Dan Streiff, C470 #44 Lucky Dog

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Catalina 34/355 International Association

Secretary's Report



C34/355
Association
Secretary
Stu Jackson

C34/355IA Membership continued to grow to 507 from last quarter's 493, and includes 33 C355s.

Our New Slip – The easier spring cleanup is looking quite possible from earlier indications from the “more sun exposure.” Only another two months to make sure.

Winter Activities Updates -
Model railroad: I received one new locomotive that I'd ordered way back in September, I had to return last year's new one under warranty, ordered yet another new one, and just had the warranty repair returned. I am now

up to “complaining” about having too many locomotives – finally.
There is a great deal of new activity on the website Forum/ Main Message Board, with new owners appearing and sharing their interests, repairs and enhancements. Please join us there for a daily dose of C34 camaraderie.
Trust you're planning a fun-filled 2023. And, as always, many thanks from all of us to all of you for supporting the C34IA. **–Stu Jackson, #224, Aquavite**

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Catalina 310/315 International Association

Greetings fellow sailors!



C310/315
Commodore
Stu Jackson

Those of us in the North are looking forward to Finally going sailing!

We have been shrink-wrapped and on a cradle since October!

Our soul friend, Anam Cara, our boat name, has been emptied of everything, winterized and left alone in the boat yard with others that are the same.

We have during the winter, done a lot of traveling to warm places where

we could view others sailing their boats but knowing that our friend father Time will move the Sun slowly, ever so slowly, to our Spring.

Well, we are there! Now begins the exciting time of putting her back together and re-start where we left off!

Sails on, bimini back, dodger up, fresh coffee in the ships stores, charts back on board. During our grey season, we have been planning and plotting adventures. New destinations for our Summer! Oh Joy, like being revitalized/refreshed! One of the good

things about winter for us, not just traveling to other places but planning our upcoming potential voyages.

This year, we have decided to sail back to Cleveland and the Rock and Roll Hall of Fame then sail along the Canadian border east to west with various stops OR whenever the wind blows before returning to our home port on Catawba Island, Lake Erie.

Hoist the sails and let the season begin!. **-Alan Clark**, Catalina310/315 IA Commodore

Sails on, fresh coffee in the ships stores, charts back on board. During our grey season, we have been planning and plotting adventures.

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Catalina 28 International Association **Ft Myers to Marathon, Marathon to Titusville with FloatHub Maps**

C28 Association
 Technical Editor
 Ken Cox

Special thanks to Denis O’Keife for submitting this wonderful article.

–Ken Cox

Here is a bit of distraction from the news these days - as reports about Covid 19 began flooding the news I started heading north from Marathon, Fl. Over the next few days I decided to leave the boat in Titusville and drive home until things settle down.

Before things began to get crazy it was pleasant moving the boat up the Keys, Biscayne Bay and the east coast of Florida.

After coming down the Gulf Coast from Ft Myers I was glad to get to Marathon before a cold front arrived. The forecast predicted high wind and

waves and I was settled on anchor a day before the winds picked up to 25-35 mph and then blew for several days.

All the mooring balls in Boot Key Harbor were full, so I was depending on my Mantus anchor and 30 feet of chain attached to nylon rode. That anchor stuck fine, but a 46 Morgan nearby dragged a couple hours before dawn. Luckily I got fenders out and my dinghy between us so the boats didn’t hit before we both washed up on the muddy shoal on the east side of the harbor. I was letting rode out as the boats were moving, hoping the big boat would grab. Since the Morgan draws 6 feet to my 4 when we hit the mud he stopped about 10 feet away on a low “high tide”. My anchor was still holding so I handed that line over to the Morgan to keep him from dragging any further, then tied my starboard cleat to his port side.

The real high tide was high at 7 PM, by 5PM I had enough water to start rocking and put a pair of anchors (my spare and one borrowed) off the stern running to the jib winches. *Brazen Article* pulled off with no damage and just a bit more drama of lines under the boat and briefly in the prop.

The Morgan was there another day before the wind knocked down enough for Sea Tow to pull him out, and the wind continued strong enough for us to hold off swapping all the anchors until it calmed down.

No damage or injuries, and it gave us all something to do in Marathon while waiting for the wind to stop.

After that it was smooth sailing - I went outside in the Hawk Channel from Boot Key Harbor, crossed back inside the Keys at Channel 5 Bridge and followed the ICW north. Got some real sailing done on the Atlantic side of Marathon and again the length of Biscayne Bay (video attached). After a day’s break at No Name Harbor I went outside to Port Everglades/Ft Lauderdale to avoid some of the (too) many bridges. Next day I went out at Hillsboro Inlet to Lake Worth, a day later out Lake Worth to Port St Lucie inlet and an overnight visiting friends moored in Stuart.

My plan was to resupply while in Stuart and begin an early trip home but news of closures, rumors of marinas shutting and doubts about fuel and food in Georgia and SC over the next few weeks convinced me to leave the boat in a slip for a while. Once at Titusville I got *Brazen Article* tied up, cleaned up and stowed for the duration then rented a car for a long drive home.



After coming down the Gulf Coast from Ft Myers I was glad to get to Marathon before a cold front arrived. The forecast predicted high wind and waves and I was settled on anchor a day before the winds picked up...

The Titusville Municipal Marina is terrific - a nice facility and great folks working there. Security isn't a worry and I can use Floathub to check on the boat. It monitors location, temperature and air pressure, battery voltages, bilge pump actions and whatever else you wire into it. I close all the thru hulls while away so I'm looking at location (not on anchor or a mooring, can't imagine it moving) weather and electric (batteries, solar).

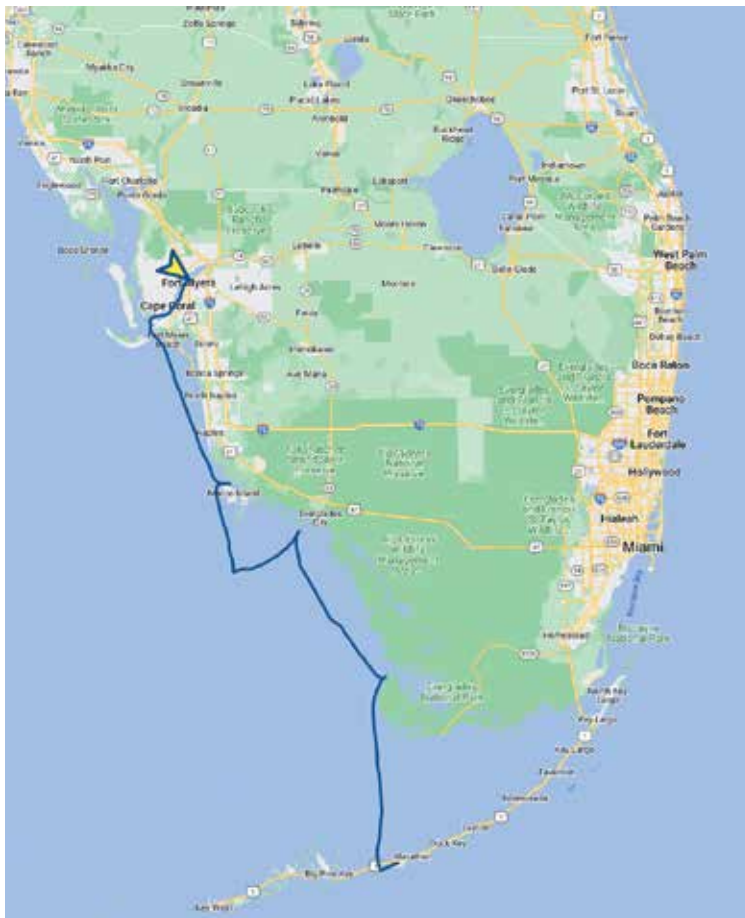
Floathub records a number of datapoint and logs all on the website - something new that they offer is sharing of trips. The device

records every few seconds or minutes depending on the connection, when it is in the same location for 48 hours it closes that file as a "trip" and starts again.

Attached is the shared trip from Ft Myers to Marathon and from Marathon to Titusville. On the links there is a slider bar at the bottom that will move you through the trip. Data is shown as the pointer is moved or that window can be closed and opened at certain points when wanted. The map can be moved (two fingers on a touch screen, mouse with a button on computer) and zoomed in. The display can be changed

to satellite view or the map. The dragging anchor saga is toward the end of the Ft Myers to Marathon file, zoomed all the way in and switched to satellite view you can see the mudbank. Leaving Marathon you can see the route out and then back in under the bridge at Channel 5, and later on see the track of *Brazen Article* off No Name and up the coast.

—**Denis O'Keife**, *Brazin Article*, Hull #108, sails the Chesapeake Bay area or ICW.



Ft Myers to Marathon March 1-7, 2020



Marathon to Titusville March 11 - 20, 2020

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**Catalina 22 National Association
 National Championship Regatta**



C22
 Association Editor
 Rich Fox

We are only a few weeks away from the start of the 50th running of the Catalina 22 National Championship Regatta to be held on DeGray Lake, Arkansas and hosted by Catalina 22 Fleet 145 and the Iron Mountain Yacht Club. Racing begins on Monday, May 22 and concludes on Thursday, May 25. Results of the races will be available at www.catalina22.org and posted as soon as they are forwarded to the Webmaster. C22NSA Vice Commodore Ron Nash, along with Chuck Atkinson and George Yerger, are organizing the event with the support of a wonderful team of volunteers.

Jumping ahead one year, Catalina 22 Fleet 130 and the North Star Sail Club have submitted a bid to host the Catalina 22 National Championship on Lake St. Clair, Michigan in June 2024. Event organizers have already met a few times during the past three months to get a jump-start on planning for next year’s event. North Star Sail Club is the host and is located near the mouth of the Clinton River that feeds in to Lake St. Clair.

As the sailing season is now underway, if you have a Catalina 22 regatta or cruising event scheduled for this year, please send me your announcement, Notice of Race, or other information so I may help promote the event on the website. My email address is c22mainbrace@yahoo.com.

Other upcoming Catalina 22 sailing events include:

- Northern Gulf Coast Cruise, Florida, May 13 to 20
- C22NSA Annual Membership Meeting, Arkansas, May 21
- Region 8 Championship Regatta, Texas, June 17 & 18
- Great Lakes Cruise, Michigan, July 23 to 29
- Throwdown in Motown Regatta, Michigan, August 26 & 27

Details for these and many other organized Catalina 22 sailing events are available on the Catalina 22 National Sailing Association website at www.catalina22.org.

Finally, a special call out to C22NSA Commodore Duncan McBride and C22NSA National Cruising Captain Stuart Weist who have volunteered to continue to service on the Association’s Board for another two-year term. We also extend our appreciation to Doug Thome who is stepping down as Chief Measurer after many years of service. We look forward to working with David Hayslip, whose family is a long-term member of the Catalina 22 National Sailing Association, as Chief Measurer. Each year becomes a little bit more challenging to find people who will volunteer their time to support the Class by volunteering to serve on the Association’s Board of Directors. We are fortunate that our membership count has remained pretty flat at around 500 members and the Association remains in very good financial health. **–Rich Fox**

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