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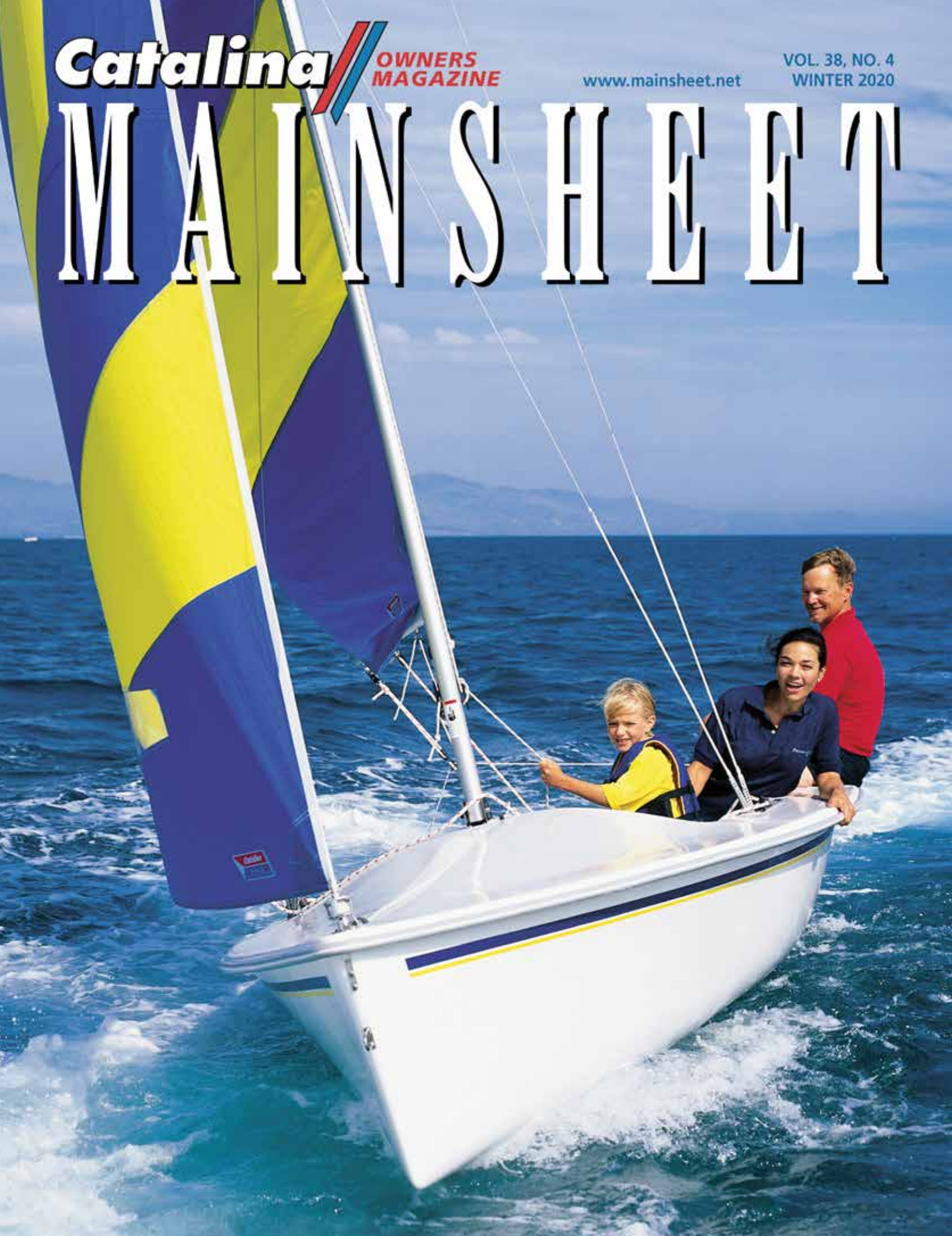
MAINSHEET



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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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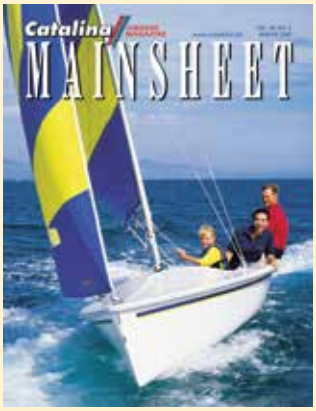
ABOUT "OUR HAPPY" COVER:

The boat, a Catalina Capri 16.5 skippered by Tom Violand. The youngest crew up front is Megan, Tom's daughter who recently graduated as Dr. of Veterinary Medicine, and still remembers those "Happy" days of sailing.



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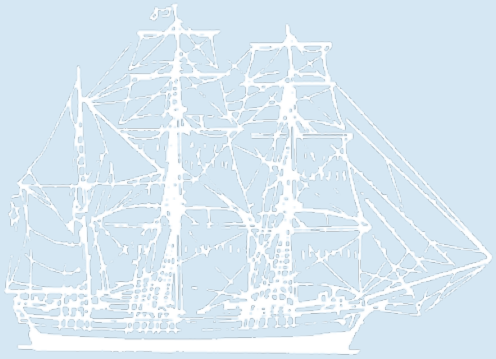

EDITOR'S BARQUE

Unpredictable Time

One look at our great cover brings a big smile and then the thought "think forward" to sailing and being together with friends at our sailing club. Happy moments, racing, cruising, and enjoying a "happy hour" as the sun drifts below the horizon. It will come back.

In the meantime please enjoy the great stories shared in this issue by our fellow sailors. Be safe.

–Jim Holder

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View From the Bridge:

A Tasmanian Summer

A chronicle of 2 months spent around Australia's southernmost coast

By Adrian Smith & Victoria Bauer • CM440 Hull #5

For northerners like us who hail from sunny Brisbane, Queensland, Tasmania is often thought of as in inhospitable place with a cold climate and frequent harsh gales from the mighty Southern Ocean. Perhaps this is partly why only the worst offenders were sent to what it was then called "Van Diemen's Land" in the early convict days of the Australian colony. However, after spending a good portion of the southern hemisphere summer in Tasmanian waters and getting to know a number of local yachties, we soon realized the inhospitable reputation was not deserved (although winter in Tassie may well be a different story!). With modern-day weather forecasting and a plethora of safe anchorages, at no time did we experience any sense of unease.

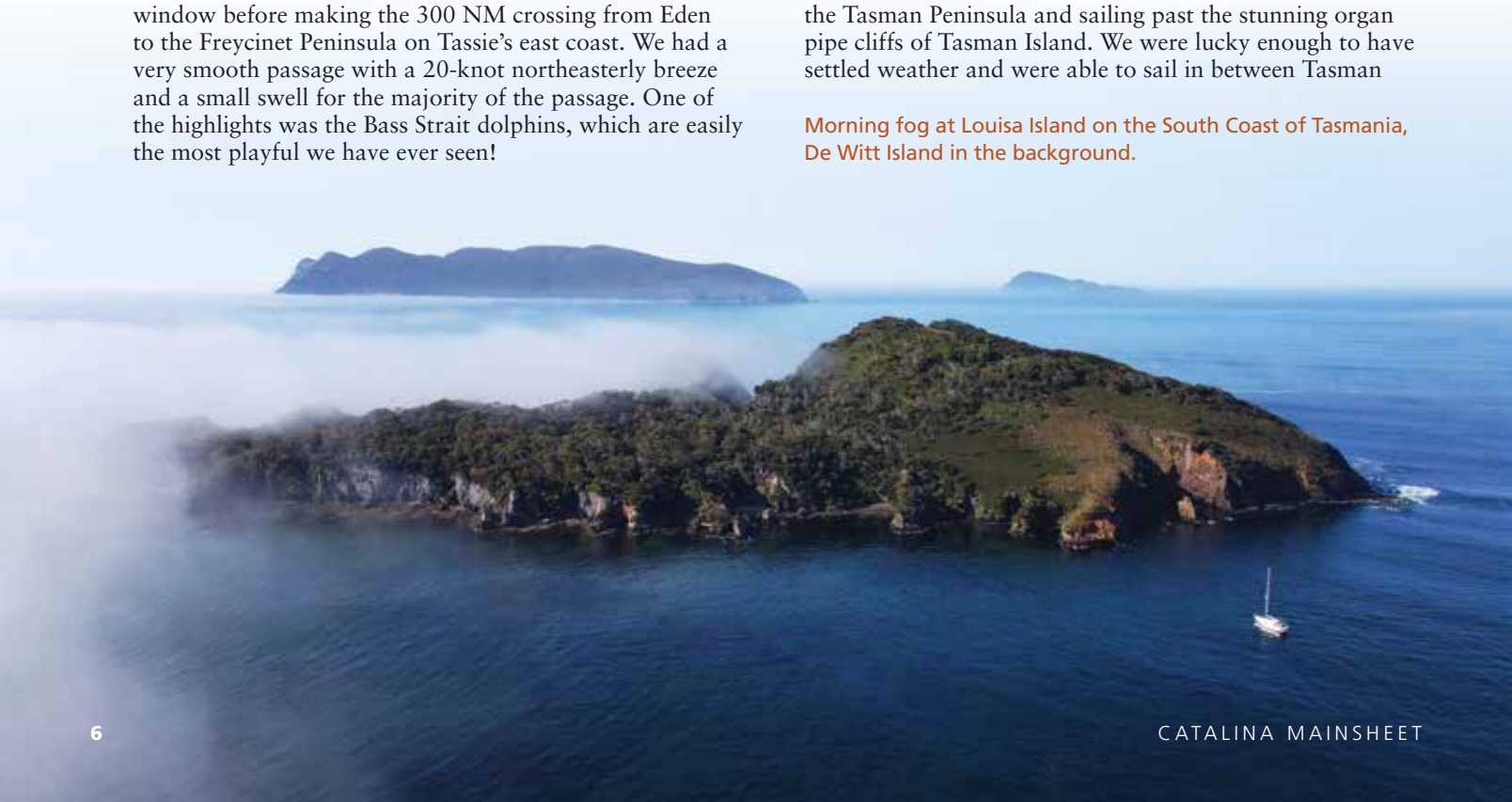
Our time in Tasmania commenced after crossing Bass Strait from the seaside town of Eden, on the southern coast of New South Wales. Bass Strait has a fearsome reputation, with the combination of Southern Ocean gales, strong currents, and steep seas associated with relatively shallow water having claimed many victims over the years. Most notably in recent memory was the 1998 Sydney to Hobart yacht race, in which several boats and six lives were lost. To overcome this, most cruisers await a 48-hour weather window before making the 300 NM crossing from Eden to the Freycinet Peninsula on Tassie's east coast. We had a very smooth passage with a 20-knot northeasterly breeze and a small swell for the majority of the passage. One of the highlights was the Bass Strait dolphins, which are easily the most playful we have ever seen!

After making it across Bass Strait, we were fortunate to be able to stop in for a few nights at the famous Wineglass Bay. Upon arrival, we were overwhelmed by the natural beauty of the place, with ancient steep mountain ranges surrounding you on both sides and one of the whitest and most picturesque beaches in front of you. It is said to be one of the top 10 beaches in the world! We enjoyed a lovely few days there with a number of other cruisers, swapping tales of our Bass Strait crossings and hiking through the native bushland.

From Freycinet Peninsula south to Tasmania's capital, Hobart, there are numerous safe anchorages within a day's sail of each other. We took the opportunity to stay a few nights at the old convict work station of Maria Island which, to our delight, is now inhabited by a large population of friendly wombats. Like Freycinet, Maria Island has some spectacular walks and sandy beaches.

South of Maria Island, there are two options for getting to Hobart, the shortest route being through the Marion Narrows and across the Denison Canal. This option has the benefit of being in more protected waters if the weather turns foul. However, if you have time and a decent forecast, we highly recommend going around the southern tip of the Tasman Peninsula and sailing past the stunning organ pipe cliffs of Tasman Island. We were lucky enough to have settled weather and were able to sail in between Tasman

Morning fog at Louisa Island on the South Coast of Tasmania, De Witt Island in the background.



Hiking on the Freycinet Peninsula with world famous Wineglass Bay in the distance.

Tasmania's Bruny Island is famous for its seafood, including wild-caught oysters and mussels.

Island and Cape Pillar. This route also takes you past some beautiful and well-protected anchorages at Fortescue Bay and Port Arthur. From Tasman Island it is a 30 NM run across Storm Bay to the mouth of the Derwent River at the "Ironpot." It is then a further 10 NM up the river to the city of Hobart.

Hobart has an amazing nautical history and continues to host the largest wooden boat festival in the southern hemisphere. Needless to say, it is an easy place to get all manner of things done on a boat. It also has some of the best produce and fresh food of anywhere in Australia. Tasmania's leading food and wine is no more evident than at the Taste of Tasmania food festival which runs in late December and coincides conveniently with the Sydney to Hobart Yacht Race finish! The most visited cruising area in Tasmania lies just south of Hobart down the D'Entrecasteaux channel and up the Huon River: Bruny Island. For the most part, this area is completely protected from ocean swell and has many well- protected and scenic anchorages. We took full advantage of the protected anchorages and close proximity to Hobart, spending many days relaxing, swimming, fishing for flathead, and foraging for wild mussels and oysters.

Despite the popularity of the Bruny Island cruising area, Tasmania's crown jewels are found on the south and southwest coasts. This area is made even more special as it is mostly a national park, with the only access being by boat, foot, or light plane. There are no roads. For those who plan on cruising to this area, remember that it is truly a wild place. Despite making the place special, this also means that self-reliance is critical in an area where there is no mobile reception, no shops and no doctors within 100s of kilometers.

It is also a potentially hostile stretch of coastline, and the timing for a passage is completely at the mercy to the weather gods—it is not a place to be caught offshore in a Southern Ocean gale! The majority of cruisers do the 70 NM passage from Recherche Bay on the southeast coast around to Port Davey on the southwest coast in one go. However, if time and weather permits, it would be a shame to miss out on some of the amazing places to stop along the way. We had the pleasure of stopping at Louisa Island on our departing passage and New Harbour on our return to the east coast. The sight of large Southern Ocean swells breaking into the steep coastline transfixed us.

Once within the sheltered, tannin-stained waters of Port Davey and Bathurst Harbour, time becomes distinctly less important, with the only variable being the weather. A minimum of two weeks is required to do the area justice and to fully appreciate the extent of this wild place. There are numerous anchorages, of which several have fixtures ashore for attaching a stern line in gale conditions.

Initially, we waited out a gale in Casilda Cove, a very snug anchorage with deep water right up to shoreline, enabling you to pull your boat with a stern line under the lee of the trees. From there, we spent a few nights in Iola Bay, from which we tackled the imposing heights of Mt. Rugby, the 771-meter peak that is the dominant feature of the Bathurst Harbour skyline. We discovered that the "walking tracks" in Port Davey are mostly overgrown and sometimes very muddy "wombat trails"—good hiking boots and gaters are essential.

A trip to the Port Davey area is not complete without visiting the regional hub of Melaleuca. It is possible to navigate a moderately drafted vessel all the way up Melaleuca Inlet but we elected to take the tender the 3 NM up the creek to the settlement from the anchorage at Clayton's Corner. The settlement was originally the abode of intrepid miners during the 20th century, the alluvial planes of Melaleuca being rich in minerals that contain tin. It now contains a number of walkers' huts, a historical Aboriginal culture walk, a short air strip, and the old miner family homes. Reading stories of some of the miners, most notable Deny King, is well worthwhile and gives a fascinating insight into what life was like in the Tasmanian wilderness. Part of Deny King's legacy can be seen in the impressive conservation efforts that have gone into saving the Orange Bellied Parrot, for which Melaleuca is one of the last vestiges of hope for this endangered species. It is also possible to fly crew in and out of Melaleuca through light planes that fly from Hobart. Back down the creek at Clayton's Corner, the old Clayton residence, where crayfisherman were based, has been lovingly restored by volunteers.

Solitude within Port Davey at Iola Bay, stunning views of Mount Rugby in the background.

For us, going to the west coast of Tasmania, in particular to Port Davey, was a must-do item amongst our planned lap of the southwest Pacific. The stunning scenery and epic landscape did not disappoint.

The gorge up the Davey River, a worthwhile tender excursion.

The following day we crossed Bathurst Harbour, some 4 NM in diameter, to the northeast corner at the mouth of Old River. We anchored outside the barred entrance and took the tender up the glassy waters until we reached a series of small rapids. From here, it is a short stroll to a tranquil grove containing large Huon pines and other superb trees. These trees made Tasmania the center for wooden boat building in the early days of European settlement.

We then sailed west back across Bathurst Harbour and down the narrows to Bramble Cove, near the entrance to Port Davey. This attractive anchorage is shrouded by the peaks of Mount Misery to the north and is protected from the sea to the southwest by the Breaksea Islands, a fortuitously placed natural breakwater at the entrance to the narrows. It is possible to climb Mount Misery, but we elected to climb the somewhat more achievable Mount Milner, which still gave amazing views across the Port Davey entrance to the west and the Bathurst narrows to the east. There is also evidence of old 19th century whaling camps along the shoreline of Bramble Cove.

After checking the weather via our Iridium Go, we learned of a good weather window to return eastward. With the knowledge that a good weather window is seldom experienced along this coast, we decided to cut our stay short and make plans for departure. We ticked off two more "to-do list" items before leaving. The first being to take the tender 5 NM up the Davey River to the exceedingly scenic gorge, where a slow drift downstream made the trip well worthwhile. After this, we anchored in Spain Bay near the entrance to Port Davey and walked across the track to the ocean beach at Stephens Bay. This pleasant walk showcases the impressive remains of an Aboriginal midden, an old meeting place where local Aboriginal people would feast on the abundant seafood, leaving evidence via huge mounds of discarded abalone shells and mammal bones.

With a hint of sadness, we departed Port Davey at dawn the following morning and motored in glassy conditions 30 NM around South West Cape and into the New Harbour anchorage on the south coast. The only other life observed was the odd crayfish boat, soaring albatrosses, and a group of inquisitive seals. The following day we completed our west coast trip by motor sailing in light conditions the remaining 40 NM back to Recherche Bay.

For us, going to the west coast of Tasmania, in particular to Port Davey, was a must-do item amongst our planned lap of the southwest Pacific. The stunning scenery and epic landscape did not disappoint, and we are already thinking about when we can next visit this part of the world. For now, our time in Tasmania is coming to a close and our eyes are fixed to the eastern horizon, across the Tasman Sea to New Zealand!

About the authors

In the last year, Adrian and Victoria sailed Australia's eastern seaboard from Queensland to Tasmania before crossing the Tasman Sea to New Zealand and back again. They are currently cruising the Great Barrier Reef. Follow Sailing Sabboatical on Instagram at www.instagram.com/sabboatical.

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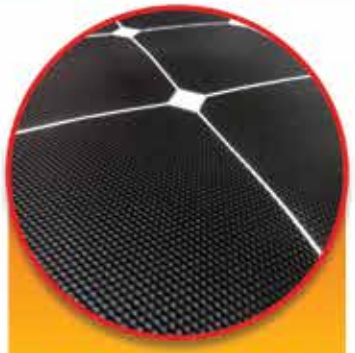

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Change of Course:

My First Boat Trip

By Robert Boyd • *Salpare*, Catalina 380/385/387/390

In December of 2016 I purchased Mariposa, a Catalina 380, hull number 267. The boat was moored in Gig Harbor when I first saw her. I was in Tacoma visiting my son and his family. We made arrangements with the owner to see the boat and we all fell in love. After a bit of negotiating, we agreed on a price and closed the sale in December of 2016.

I have owned a smaller boat, a Merit 25, for many years and enjoyed lake sailing. However, we had never owned a large boat and the Merit was not one I wanted to camp on. I live in Utah and we try to get to Tacoma as often as we can. As things turn out, the first couple of years of ownership we used the boat infrequently and mostly sailed in Commencement Bay. However, in 2019 we decided it was time to take the boat on a trip.

Our son was born in late June, so we thought it might be nice to take the boat over to Gig Harbor (we are moored Mariposa in Foss Harbor) and spend the night. This would be our "shake down" cruise. We planned to go over Friday about noon and come back Saturday.

We set out from Foss Harbor in light rain and light winds. We motored out of Foss Waterway and once well out into the Bay we put up sail. We had a relaxing sail and were all enjoying the adventure when the wind died down. My wife thought it would be a good time to make some lunch. So, she did, and we had sandwiches and chips in the cockpit. Once we finished the wind picked up again and we continued our sail towards Gig Harbor.

However, we ultimately had to give up on sailing the rest of the way and started the motor. We made it to Arabellas Landing and tied up for the night. We had some time before we were heading out for a "birthday" dinner so we just played with our 3 year old grandson putting up the hammock we purchased and hoisting him about a foot of the deck in the bosun chair and walking around Gig Harbor.

Dinner was great and we all had a good night sleep. We cooked a hearty breakfast and used the oven and the stove. We then explored Gig Harbor a bit more before it was time to head back.

As I said, this was our Shake Down cruise. In July we were going to take Mariposa to Blake Island and spend a few days.

The plan was to leave Foss Harbor on Wednesday morning and sail across Commencement Bay past Vashon Island and turn up Colvos Passage for a direct shot to Blake Island. I have been told the current in Colvos Passage always runs North and if your plans called for sailing

Mariposa at Blake Island

Robert's grandson in the Bosun Chair

North the best approach was to use Colvos Passage. Who am I to argue with the locals? We were trying to get to Blake early in the day because it is very popular and in close proximity to a large number of people. However, before we cold leave we had a lot of preparations to make. We had to provision the boat for 5 people for 3 days, install the kayack rack on the boat, get the dinghy back on the boat, fill the water tanks, well you get the idea and I am sure most of you have done this many times before, but for us, it was a new experience.

Wednesday arrived and we made our way to the boat. The forecast was for heavy winds and heavy rain. While I suggested a delay in departure to Thursday to avoid the rain, the wind forecast for Thursday was light and my son needed to get back home so he could leave for Whidby Island Race Week on Sunday. As usual, we motor out of Foss Waterway and once well into the Bay we hoisted sail.

The winds started out in the low double digits as we motored out. Once we hoisted sail the wind was tracking a steady 15-18 knots and we were reaching across Commencement Bay. Now this is my first sail in moderate to heavy winds other than the delivery from Gig Harbor after purchase (that is another story for another day!) I told my son we would sail with the main only while I got comfortable with the boat response. He gently encouraged me to put out the roller furled 110 jib. Since I was the captain at the time, we sailed to Colvos with just the main as the winds began bouncing into the 20's.

Once we turned up Colvos, the wind was tracking from behind. We let the jib out and started up the passage. By now the rain is hard and visibility is low. Mariposa has a full enclosure, so we zipped up the dodgers and continued to sail toward Blake Island. My son was tired of being the crew and asked to take the helm. The wind is now a steady 20 knots with gusts to the mid 20's.

As the rain increased and visibility decreased, I commented that it was hard to see. My son said, "I can see the land and I am sure I won't hit that and there really aren't any other boats out." Basically, Dad, quit being such an old hen! The current and wind allowed us to sail all the way up the West side of Vashon Island. We came out of Colvos Passage and there is Blake Island and the sun peaking out of the clouds. The rain is now mostly gone but the winds are still in the mid 20's. We later learned the Coast Guard had issued a small craft advisory while we were in transit.

The approach to the Blake Island Marina is well marked, however, everything states the area just outside the channel is very shallow so stay in the channel. It was hard to tell from outside the breakwater if there would even be room at the docks. We started counting masts and thought it would be tight. Once we rounded into the marina we saw there would

Majestic Mt. Rainier

be space and were able to get Mariposa tied up.

For the next 3 days we explored Blake Island and amazed at the number of boats that came and went. While we had planned on arriving at Blake early to ensure we would be able to tie up to the dock, we did not actually arrive until 1600. We are certain had the weather been more pleasant we likely would have been out on one of the mooring buoys.

I don't really want to tell you how nice Blake Island is since it is already a very popular place, so you will have to promise not to tell anyone else. The first thing after getting tied up was a visit from the Volunteer Marina Host and a warning not to keep any food out and to secure all hatches to protect from the very brave gang of racoons that frequent the docks and campsites. It was bout 5 minutes after this the kids on the boat tied in front of us started laughing and yelling that a racoon had just made off with a croissant from the boat they were traveling with!

Blake Island is part of the Washington State Park system. This island is only accessible by boat. The island was an ancestral camping ground for the Suquamish Indian tribe. There is a replica Indian Longhouse used for shows and dinner that we enjoyed one evening.

We kayaked around and spent the final afternoon at a campsite, cooking hotdogs over the fire and finished off with smores. The park has decent facilities that include showers. So everyone was able to wash away the campfire smells before we beaded down.

Saturday morning we again fixed breakfast and got the kayak and dinghy back on board and got underway around 900. The forecast called for light winds and we anticipated a negative tide would slow us down. The day was beautiful and even with the tide we had mostly neutral current and had a beautiful transit down the East side of Vashon Island. As we start our journey home we look up at majestic Mt. Rainier!

Well, we are hooked! We can't wait for our next sailing adventure!

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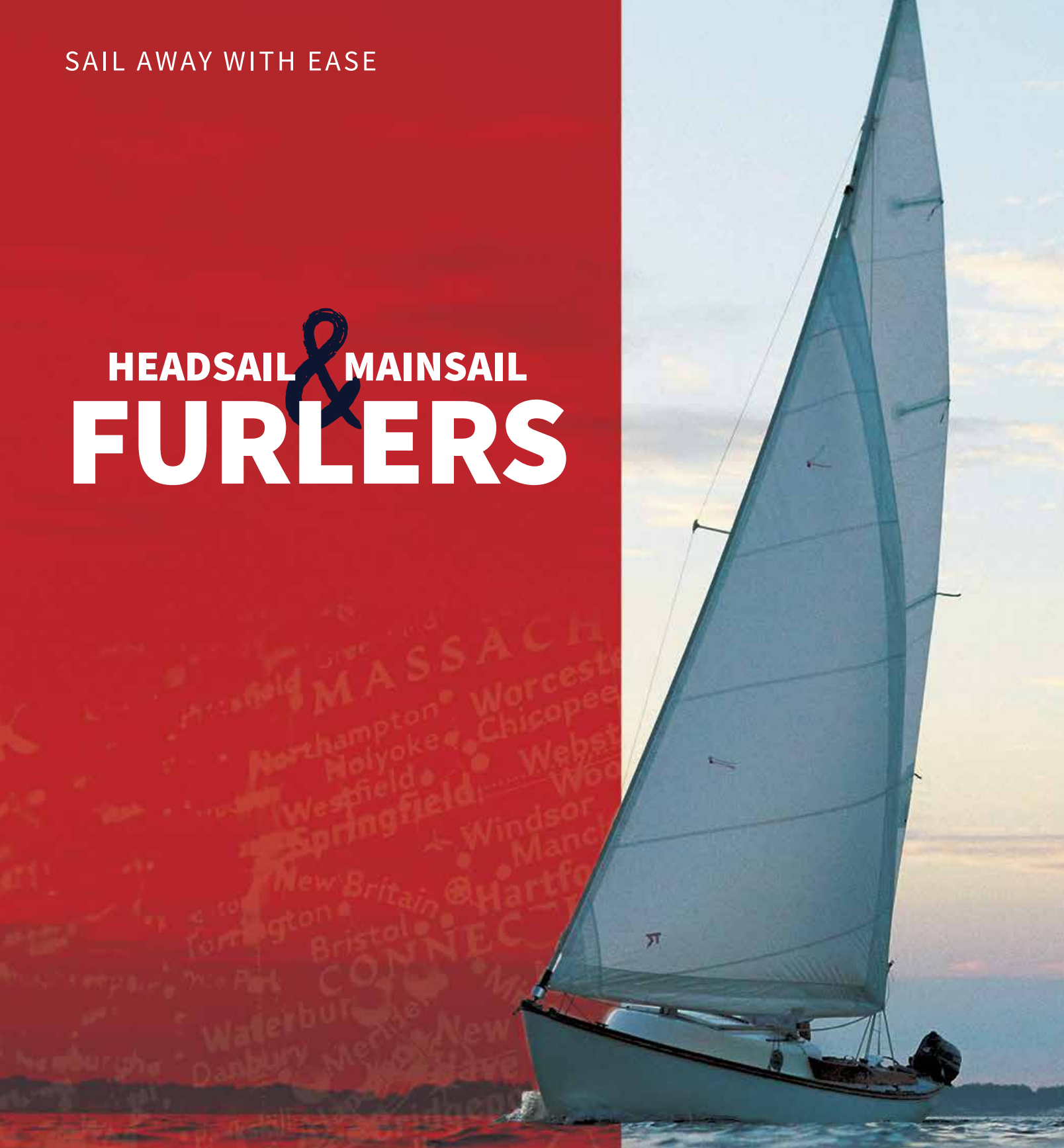

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Safe Journey:

Rules of the Road: Danger and Doubt

By John Garvey • C310 #196

I enjoyed John Hooper's article on the Rules of the Road in the Fall 2020 issue of *Mainsheet* magazine. On the last page of the article, under a few important notes, John explains about the Danger Signal. Expanding on this, it is important to understand that the wording and interpretation for this Rule (34 d) was changed a few years back. The signal is now referred to as the Doubt Signal so that "…from any cause, either vessel fails to understand the intentions or actions of the other, or ***is in doubt*** whether sufficient action is being taken…the vessel in doubt ***shall immediately indicate such doubt by giving at least five short and rapid blasts*** on the whistle."This then takes one back to Rule 7 – Risk of Collision. Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk or collision exists. If there is any ***doubt*** such risk shall be deemed to exist." Thank you Commander for providing this terrific review of the Rules.

From any cause, either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken...the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle.

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JOS AND JENNY DE SONNEVILLE
HALCYON, C380 # 33
THE NETHERLANDS

2019 FROM THE NETHERLANDS TO THE ISLES OF SCILLY

Halcyon, our 38 foot C380 Hull # 33, is berthed in Burghsluis, a small, member owned port with 92 berths and 35 alongside moorings on the Eastern Scheldt Estuary in The Netherlands. This southwest area of The Netherlands (Province of Zeeland) is a sailor's paradise with many lakes and picturesque harbours.

During the sailing season, we normally spend our (long) weekends there but almost every year we make a longer trip, venturing out further into the North Sea and the Atlantic. This year we decided to try and get to the Isles of Scilly. *Halcyon* had been there before but that was a super short visit. We sailed 320 miles straight to St Mary's from The Netherlands, stayed over one night and then sailed 120 miles back across the channel to Brest. This time we really wanted to look around and visit the south coast of England, all in coastal cruising day trips. My wife Jenny is from Northern Ireland and we have relatives living there and in England. This trip gave opportunity to meet up with them and with friends.

When we go on a longer trip, I usually first take the boat out with friends for about 1 ½ weeks, then Jenny joins me for about 4-6 weeks, after which I sail the boat back with other friends to our home port. The map shows the route taken to the Isles of Scilly. Our total trip lasted about 8 weeks. This summer we had good sailing weather, with few windless days and hardly any headwinds. It rained only 4 days, a real pleasure indeed. We had 5 stormy days during which we stayed in port.

Limestone Cliffs, looking south to Yport from Fecamp

BURGHSLUIS - PLYMOUTH

I started the outward journey with Maarten and Ernst, who have been sailing buddies for years. We visited the usual ports, with distances varying between 33 and 65 miles arriving in Plymouth after 10 days. Starting in The Netherlands, the coast becomes interesting at Dunkerque going towards Boulogne-Sur-Mer on the French coast. I can recommend a visit to the upper medieval town of Boulogne where you can walk around the entire old city on top of the old ramparts. The cathedral is very impressive, especially the catacombs under the church, exhibiting many early medieval artefacts. The port of Fecamp is beautifully positioned under the 300 ft high limestone cliffs. You can take a lovely walk on the beach along the cliffs to Yport for delicious crepes. A stop in St Vaast La Hougue, the oyster capital of France, is a must.

Most ports along this part of the coast fall dry. Tidal difference varies from 15 to 50 ft. You have to plan your arrival between 2,5 hours before to 2,5 hours after HW to enter these ports, after which the gate is closed and the water runs away...The coast is studded with fortifications designed by Vauban, the military engineer and built during the reign of Louis XIV (1650-1700). From the large port of Cherbourg, we crossed over to Weymouth in England, a favourite port of mine because of its fishing history and of course top-notch Fish & Chips shops.

Between Weymouth and Dartmouth, we were able to anchor out at Beer Head in an offshore wind and enjoyed a spectacular sun sunset with a blood-red sky and black clouds. Dartmouth was busy and so we sailed further up the river where we parked on a pontoon in the middle of the river.

From Dartmouth we sailed on to Plymouth where Jenny arrived the next day.

Weymouth, old harbour, Halcyon is second from right

TO THE ISLES OF SCILLY AND BACK TO THE ISLE OF WIGHT

We sailed to Falmouth via the Yealm River and Portscatho on the beautiful coast of Cornwall. We were planning to stay for a few days, but because the long-term forecast for the Isles of Scilly looked good, we decided to leave the next day. To visit the Isles of Scilly, the weather must be fairly stable, at least if you have a boat with a draft of 7ft 2". In unstable weather, with rapidly changing wind directions, you have to find another anchorage quickly and with many shallows between the islands that is not without risks. We sailed straight to St Agnes & Gugh. At each anchorage we stayed about 2 nights to explore the islands. From St Agnes & Gugh we went to St Mary's, the main island. From there, because it was high water at an unfavourable time, we had to approach Tresco & Bryer from the north side (with HW you can go straight through over the drying shallows). From Tresco we finally sailed around to a beautiful anchorage on the NE side of St Martin's.

Netherlands to Isles of Scilly and return

 (continued from previous page)

Sailing off Portscatho, offshore wind

Jenny swam twice every day (that's twice more than I did…). The islands are sparsely populated. Walking on St Agnes we enjoyed many beautiful rock formations, fantastic views and lunch with delicious shrimps and white wine in the "Turkish Head" pub.

On St Mary's we used our new folding bikes to ride to the northern most point where there used to be an abbey with a paradisiacal view of the other islands. Highlights were a G&T in the atmospheric "Mermaid" and delicious hake in the "Galley" restaurant with a beautiful full moon for dessert.

We cycled the entire island of Tresco. The "Ruin" cafe is lovely for coffee or lunch. Tresco also has beautiful gardens and an art gallery. Actually, every island has its own character. At Bryer we made a long walk with a stop for coffee and the newspaper in the "Hell Bay Hotel". The next day it rained all day so we decided to stay on board, leaving for St martin's in the morning. There we met up with Mary, Jenny's younger sister. St Martin's is 1.5-mile-long with one hotel, one campsite, a few B & Bs and the "Seven Stones" pub with a beautiful view and pubgrub. After 8 days on the Isles of Scilly the weather started to change. We did not want to run the risk of having to anchor at Penzance on the mainland in the forecasted strong onshore winds, so we decided bypass Penzance and sail straight back to Falmouth where Ben, Mary's partner, came on board.

From Falmouth we sailed up the Helford River and anchored near Frenchman's Creek (the title of a book by the famous writer Daphne du Maurier). It is a nature reserve that we rowing up in our dinghy the next morning (no motor noise allowed), after which we crossed over to St. Mawes where Mary and Ben left for home. We continued the next day to Cawsand, a picturesque village very close to Plymouth where we anchored and watched the traditional "Gig" races. Due to stormy weather, we stayed in Plymouth for three days, plenty of time to find a favourite pub, named "the Bread and Roses". Also, there was

Rocks of St. Agnes

For anchor in Helford River

plenty of time for a haircut. The barber didn't use scissors at all, but attacked me with 4 sizes of electric hair clippers, finishing in 5 minutes for 7 pounds only, fantastic!

Via Salcombe, with a lovely dinner in the Salcombe Harbour Hotel, we sailed on to Weymouth where we met a nice fellow countryman of Jenny during a drink at the Brewers Quay. It turned out that they were at Queens University, Belfast, at the same time many years ago, so lots of stories were exchanged while a woman played a keyboard and sang jazz songs on the square in front of us.

The next day John and Janet, friends from our time abroad, came on board and we sailed from Weymouth, via Mouse Hole, to Studland Bay, our favourite anchoring place. Janet became very seasick on the way but didn't want to give up, a tough lady indeed. With an onshore wind coming up it became quite a rough night and our friends left the next morning without regrets! We then sailed to Yarmouth on the Isle of Wight, just past The Needles, a landmark rock formation. On land we went to The Needles by bike and on the way back I flipped my bike on a stone and ended up in the hospital with a dislocated pink, a few broken ribs, a hole in my head and a tear in my shoulder blade. We were no longer able to explore the rest of the island due to my somewhat limited mobility (!) so we moved on to Southampton earlier than expected, also because a storm was coming in and we wanted to be at the port where the return crew was to come on board. We spent a few days in Southampton where Jenny's other sister, Eileen, came to visit.

RETURN SOUTHAMPTON - BURGHSLUIS

In Southampton, Leo and Jan came on board and Jenny left. As we had missed the Solent because of my accident, we turned back and spent a few days sight-seeing. We sailed west to Yarmouth and took the bus to the "Needles". From there we walked to the memorial of Tennyson, a famous English poet and back to Yarmouth. The next day we sailed up the Medina River past Cowes to moor at the pontoon opposite the Folly Inn. Official chart depth at the Folly Inn is considerably less than our draft but due it to being a neap tide we could safely go there.

From the Folly Inn we sailed back and crossed the Solent and up the Beaulieu River where we moored at a pontoon at Bucklers Hard, the yard where Nelson once had a large number of his warships built.

MISHAP

When crossing the Channel on the way to Boulogne, France, something went very wrong. It was a beautiful sunny day, a bit windy, force 7 with occasional gusts to 8. Broad reaching with a double reef in the main and full Genoa the crew wanted to steer by hand and *Halcyon* went like a rocket. Just before Boulogne I took over the helm to turn the boat further off the wind to ease rolling up the Genoa.

Before the harbour entrance huge square waves develop as they reflect against the large vertical harbour wall and I did not want to sail into them at speed under full Genoa. Back on course I switched on the autopilot for the last half mile.

At the port entrance I turned off the autopilot and guess what: the steering wheel was frozen up completely. Only with considerable force was I able to turn the wheel a few degrees and so we struggled into Boulogne. Safely berthed, we checked under water to see if something was obstructing the rudder but we could not find anything. Further inspection showed that the arm of the autopilot was touching the top of the packing gland on top of the GRP tube. We removed the autopilot arm to prevent further damage. Next, we tried to move the helm with the emergency tiller, but with two men pulling we could not move it at all.

We guessed that the rudder had been hit by something damaging the lower rudder bearing and making steering difficult. There is no crane in Boulogne, so we had to move on. Luckily, the wind was forecast to decrease to force 1-2, so we waited another day, checked the steering cables carefully and zigzagged in very calm water to Dunkerque. The next day the wind decreased even further to 0-1 so we decided to motor *Halcyon* to Burghsluis. Once out of the water, we saw that the rudder post had been bent 15 degrees out of vertical (!). A new rudder is now being made with a heavier, stronger, rudder post. We hope to be in our beloved home port at the beginning of next year with a new rudder.

OUR EXPERIENCE

Now that we have more time, being both (semi) retired for some years, we can make longer journeys. We have not been away for an exceptionally long time this year, but even with day trips you can get quite far. Jenny and I took it easy, our joint preference, because it is nice to see more of where you are, to take walks, visit events and sniff the culture. With Jenny, I had 17 sailing days and 15 days that we stayed over. Of those days, we were in port for 17 days and 17 days anchoring (50%). If the bicycle accident had not happened, we would have spent more time anchoring, our preferred way to be wonderfully free. We were very pleased to spend 8 days on the Isles of Scilly, a paradise of natural beauty and tranquillity. It was also nice to receive Jenny's family on board and friends we hadn't seen for a while. Despite the bicycle accident and the damage caused to the rudder, we had another wonderful, memorable summer trip.

Halcyon in Eastbourne lock

St Mary's, in the Mermaid Pub

Going off-grid during COVID

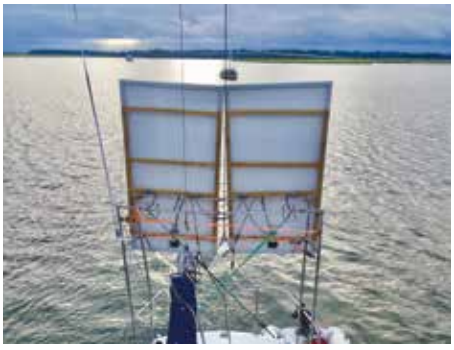
(but with plenty of power!)

BY MICHAEL DUPIN, C30 TECH EDITOR

An Unlikely Beginning

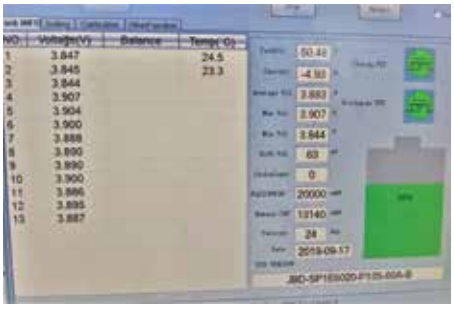
Our story begins like any other with a love for water and long for adventure. S/V *Harmony*, our '79 Catalina 30 had been on the hard since September 2018. During that time, I worked as a mechanic at a Hybrid Repair Shop in Virginia Beach and as some sort of Christmas present or parting gift, my boss gave me a left-over lithium ion battery from a Hybrid Ford Fusion (roughly 1ft x 1ft x 3ft in size). Most boaters learn quickly to understand the relationship Amperes x Volts = Watts, and for me, thus began the adventure down the rabbit hole of kilowatts, converters, kilowatt-hour, etc on our boat. It seemed like a brilliant idea at the time...

Starting with my new battery. Not one device operated the 280V it produced (yes, more voltage than most homes in the world!) Chargers or inverters running at anything more than 100V were few and far between and certainly not obtainable on our budget plus the idea of having 280V on a boat didn't seem very safe to me. Opening it up, the battery was actually made of 76-unit cells, each producing 3.7V. Rewiring was in order! I opted to rewire them by 13 (in series) to form what I called boat packs. I made 5 boat packs: three in one bank and two in another producing each a much more reasonable 48V (13x3.7V). With a little research, I found a 2,500W inverter and a 60A, 48V MPPT solar controller to charge these guys. From there I searched from Virginia Beach, VA, where the boat was



600 Watts of solar panels on the custom frame. The panels rotate to follow the altitude of the sun and maximize charging.

getting its paint on and its seized engine out (more on that later), to our home base back in Louisville, KY and found 1,260 Watts spread across four solar panels for $600. Bingo! I installed half of solar panels on a tilting aft archway built purposely from 43 footer stern rail and stored the other 600 watts for the future. I had all the necessary



Each cell is monitored independently, giving a dashboard the overall system's activity and health.

components for wattage independence. Now in order to integrate the whole set up, I ordered a 13 cell Battery Management System, or 13S BMS. It sat between the negative output and the negative side of the battery and has a voltage sensor wire going to each cell enabling us to monitor real time each cell voltage and current draw/gain concurrently. The BMS will shut down the battery and prevent it from overvoltage, undervoltage and overcurrent. It was a safety must have. The resulting setup got us South before winter. The battery had 25A-h in a 5P13S configuration, giving 48V x 25A-h=1200 W-h of capacity. This was for the extra (cooking, A/C, etc.), we had a dedicated standard 12V lead acid for navigation and basic lights, charged through the inverter.

Slight Scare: water and electricity don't mix...

We had an awesome first two days of our journey but on day 3, an unused bilge hose started to let water in the bilge when the waves exceeded two feet in the stern. Weird. Suddenly we had about 8 inches of water above the bilge board. I grabbed a bucket and removed most of the water quickly. After finding the bilge hose and removing it from the equation, I could take relief, we were still floating. That was a lot of water to see suddenly inside. About a third of the battery boat packs had suffered water damage and had to be removed. Net-net, we went down to 720 W-h in

capacity. This still proved to be enough to keep the fridge going and cooking some pizza in the 110V mini oven while sailing to Beaufort, SC. After spending a nice winter down there, we decided that anchoring in South Carolina's 9ft tidal swings would be a good place to test the whole boat for the coming summer: the holding power from our anchors, and the longevity of the battery system. This came useful for self-isolating during COVID!

COVID: Forced Off the Grid and Off Marinas

As most of us know, COVID forced a lot of mariners to change their plan after March 2020. We decided to self-isolate having had just finished the right set up for it.

Harmony from the side, hooked stern and bow. Paddle board: check. Jet ski: check. Ready for COVID isolation.

There's not enough knowledge about the types of lithium batteries so I am happy to share what I know/learnt: the battery from the Ford Fusion was lithium ion and therefore at risk of explosion to the same degree cellphone or electric scooter or, personal experience, drone batteries do. If it is overcharged or short circuited, and therefore over-discharged, the battery is at risk for fire and explosion. Lead acid and lithium iron phosphate (LiFePO4) do not share this risk. We were sad to go back technology-wise but decided to use 4 lead acid batteries to make 48V, in addition to a lithium iron phosphate pack before heading to the hot climate of key west.

It was March when COVID had just hit about every state and you could no longer find toilet paper on the shelf. We stocked S/V *Harmony* with a few dozen cans of food here and there, all stuff we would need on our trip further south. I started making battery trays for the extra lead acids out of strips of king starboard plastic and stainless

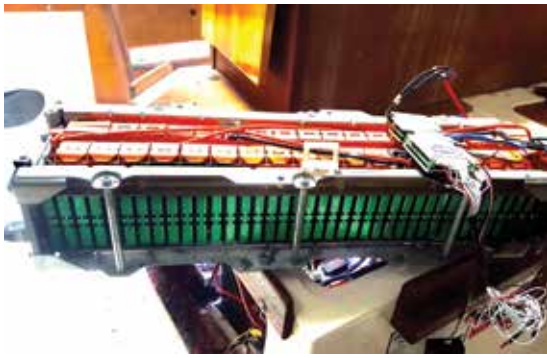
Additional 600W of solar power over the deck providing ample charging power.

screws and secured 2 of them under the microwave/chart table cabinet. Two more were placed where the old Atomic 4 used to sit (it was seized, we just took it out, who needs an inboard engine?). I just didn't trust the old battery tray mounts. We also installed the rest of the 600 Watts of solar panels just under the boom, giving us plenty of charging power for the days and nights.

Planning on mostly anchoring rather than docking or mooring, we shifted our attention to the anchor. I had already bought two anchors from a fellow sailor friend Sebastian Murez and I'd like to take the time to thank Moby Richardson for picking them up and dropping them off at my boat for me. We had a 16.5 lb Lewmar anchor as everyday anchor with 100 foot of 5/8s line and 12 foot of chain. In preparation for living on the boat for months in Key West and Bahamas however, we needed more road and better holding. There came a 45 lbs Lewmar QRC! A bit overkill for a 5 tons boat, but we definitely felt safe with that anchor, together with 10 feet of 3/4 mooring chain and 200 feet of 3/4 line (as long as the cleats hold…). We use the tide to help the anchors set: we spread them out bow/stern at low tide, and let the high side pulling and lifting set them in.

More electric capacity, it's too hot out here!

Around mid-May, as the heat set in, we tested the A/C on 4 group 27 batteries, and 600 watts of solar charging capacity. We could run the A/C most of the day, but we were left with no power for cooking, and the nights were still too hot to be comfortable without A/C. So, here came more measurements and calculations… I measured that after inverting, the 8,000 BTU A/C used around 780 watts (nominal 650 Watts). That gave us the data needed to build a battery bank big enough to survive key west nights comfortably. I also decided I would begin work on a more central A/C, and the hunt for a DC compressor began. I found a 3-phase permanent magnet unit from a Honda civic hybrid (yes, another car part) that would work well. It was much more efficient and easier on the battery bank: it had an ESC (Electronic Speed Control) unit inverting the 48V into 3 phase A/C, slowly ramping up the speed of the brushless motor instead of having the typical heavy initial draws common to most home A/C units. Feeling comfortable with the new A/C set up, I focused now on the replacement battery pack. The brand Lvdoo was the most economical and



Battery pack for a total of 48V and 14 kW-h of capacity.

had several possible options from 80AH to 280 AH. I need 16 cells, and now a 16 cell BMS as well instead of the 13 cell BMS I had already from the prior set up. I tabulated the best A-h for the buck from the many sizes available and weirdly, the 50 A-h and 280 A-h cells both tied for the most economical at 2.4 A-h per dollar. I then used the software of my 3D printer to make a box the shape of the fuel tank (no more engine, so no need for a fuel tank either!) and optimized the 16 boxes to the room available. Turned out that getting the bigger option (280Ah) and turning them on their sides occupied the area the most efficient. The added bonus was that I didn't even have to parallel any of the cells: 16 cells in series, each producing 3V, gave me the 48V for my set up. Sometimes things just fall right. All in all, this gave us nearly 14 kW-h (280 A-h x 14 V) of power! That was plenty enough to run the A/C all night long (consuming only about 1/3 of

Cooking a yummy dinner with the electricity stored in the battery bank only from the sun the day prior. Energy independence!

the capacity), cooking eggs and bacon in the morning while listening to the tunes and getting charged again for the day. This was fantastic news to me and crystalized our decision to self-isolate. I ordered another BMS that supported LiPo4 at 16 cells (to keep the 48V with the 16 cell set up), and again one that had a computer connection to view cell voltages and monitor current draw.

Getting around for now, keep chasing efficiency, and food for thoughts

Having removed the old seized Atomic 4, its fuel tank, lines, etc, it did occur to us that we needed something to get around when there's no wind. We have a 9.9 hp outboard motor mounted on the transom but I had started to ponder on this while going South. I had moved the electric motor (brushless 15kW) from a Honda Civic before. I could get one for cheap and mount it back where the inboard was. Unfortunately, looking into it further and after doing some calculations on the cost of batteries, controllers and the rest of the gear for the set up; it seemed too farfetched for my budget. Also, and interestingly, the range would have been pretty low unless we had about 100kW-h of batteries (like those in a Tesla!). At the same time, I had gotten interested in drones. In order to get the most amount of flight time, one of the first thing people do is to replace their small and fast propellers with long and slow ones. Interesting, I dug deeper. A gas outboard produces around 30 ft-lb (unit of power) per hp, a common electric trolling motor is slightly more efficient at around 50 ft-lbs per hp, and amazing as the human powered record holder IS an airplane propeller used underwater to generate around 200 ft-lb per hp. Given that I can move my Catalina 30 at just over 5 knots with my 10 hp outboard, it is actually 10 hp x 30 ft-lb per hp or 300 ft-lb of force.

Now assuming I could get a set up to the very efficient 200 ft-lb per hp, 300 ft-lb this would mean only needing 1.5 hp or about 1,100W (750w=1hp). In turn, what it would really mean is that our 14 kW-h battery would move us all day. I might be onto something, albeit unconventional. Good COVID project.

But how big a prop? 250W means a 16 inch propeller. Doing the math, the surface area is around 36 inches; any idea how hard it would be to fit a 36 prop onto the shaft? It's not happening. Incidentally, we had been using the outboard on a transom mount already so why not mounting this large propeller on an outboard? We made a top plate to mount a Honda Civic hybrid motor that is about the size of a 16 oz beer can. The engine maxes out at around 6,000 rpm and still produces 5 kW at 1,200 rpm. I wouldn't have to reduce the rotation speed and losing valuable power through the additional gears (up to 1/3). It is also capable of producing 15kW, and at 48V (which I have already on my battery bank) instead of the 160V the car runs on. So we're all set, in theory, to have a nice new set up.

Wattage you eat

Brandon started measuring how much power certain food items necessitated from being cold to fully cooked, here is a sample of his measurement.

Quiche	youtube.com/watch?v=d8VfDBZCPXg	500Wh
Spaghettis	youtube.com/watch?v=o6psPFyoFPE	480Wh
Sausages and kraut	youtube.com/watch?v=8lpNA3dzTls	210Wh

For the time being though, we will continue to use a 9.9 outboard on its transom mount, but we have a design for using a Honda Civic hybrid motor that would turn a larger than normal propeller, at a relatively slow speed and very efficiently. And that, together with our more than enough battery capacity, means that we're pretty much self-sufficient when it comes to power.

With COVID-19 still in full force and with no near end in sight, we feel lucky to be able to stay 100 percent on the boat for a whole month at a time. Of course, we have to get on shore for the basics and necessities (groceries, pharmacy, water, etc) from time to time. At least now, we are very comfortable during our final nights of South Carolina and can't wait until mid-October to head South. We're hoping for Key West by Halloween.

Brandon Hysell and Beverly Raley sail their C30 *Harmony* (#944) up and down the lower East coast. When they are not on the water, they like to travel the land in their Honda element, flying a drone at their destinations, hiking up waterfalls at others. Brandon often drives while Beverly works from her laptop or crochets. They also love to taste what every town or city has to offer. From cheeses to lobster to wine, they love it all.

Tech Notes

Q&A for Your Catalina That's Been Factory-Approved for Accuracy

Tech Notes are also available at **www.mainsheet.net** in PDF format for printing or reading on digital devices. | Winter 2020 password: W384

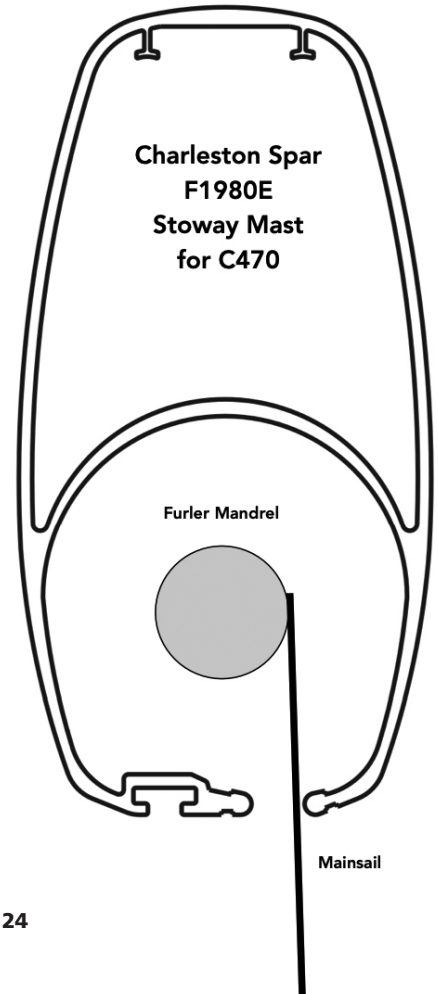
CATALINA 470 NATIONAL ASSOCIATION

Operation of the C470 In-Mast Furling System

C470 Association Technical Editor Joe Rocchio

There are a good number of new-to-C470 owners this year so I thought it useful to discuss the in-mast furling system, mainsail geometry, and my experience in operating it over some 16 years of use and >50,000 nm of sailing aboard Onward (C470-126).

Figure 1 is a schematic drawing of the C470 furling mast cross section from Charleston Spar / Sparcraft. I've added the mandrel and a segment of sail to illustrate the geometric issues.



One of the major breakthroughs in in-mast furling system design that made it reliable, occurred when the sail-slot was moved from being centered on the fore-aft axis of the mast to off-center as shown in the schematic. This modification causes the sail to approach the mandrel on a tangent, which enables it to more easily "flow" around the mandrel as it is turned to. In the earlier centered-slot designs, the sail would essentially have to make a ~ 90° turn to flow onto the mandrel.

An important aspect of the off-center slot design is that the mainsail will usually have to flow over the starboard edge (or port) of the sail-slot. Under proper control line conditions, this will cause the sail to be tensioned between the beaded edge of the sail-slot and the starboard side of the mandrel. Essentially, the sail material gets "ironed" as it approaches the mandrel and flows smoothly onto the mandrel. A tight and compact furl results without creases or folds of sail that can become over-wrapped and bulk-up the diameter of the furled sail.

When the mainsail is smoothly furled, it will flow off the mandrel easily when being deployed. But optimal furling is more of a challenge that one might first think. At the root of the furling challenge is the fact that a mainsail is not planar. It is cut and sewn to form a convex wing-like lift surface when under wind flow with the proper angle of attack. This geometry must result in there being "extra" loose material in the center portion of the sail. Thus, the goal is to keep this loose material to a minimum and distributed evenly without creases or loose material being overwrapped.

Problems occur when proper tensioning of sail and boom control lines is not achieved during furling and unfurling. As a result, as the mainsail is pulled off the mandrel and out through the slot, loose material, creases and/or over-wrapped folds that were wrapped onto the mandrel during the furling process can effectively "clog" up the sail-slot, thus preventing the sail from deploying. Outhaul tension, due to these jams, can cause the mandrel to bend so the sail will contact the inner surface of the mast creating additional friction and closing up the slot. A jam is born.

What causes the non-optimal furling?

There are several things that can go wrong, usually in combination and all of are associated with the control lines for the mainsail and boom:

1. Mainsail halyard
2. Mainsail outhaul
3. Mainsail furling line
4. Mainsheet
5. Boom vang
6. Topping lift
7. Boom brake
8. Traveler positioning lines

That's a lot of control lines! And they all can have an impact on achieving a trouble-free mainsail furl. As I write, I wonder how I ever manage to not mess up!

Here's how these control lines have an effect:

1. Too little tension on the luff of the sail (1, 2). This allows a loose wrap around the mandrel with potential for creases or fold overwraps.
2. Too much tension on the boom control lines (4, 5, 7, 8). This will cause the leech to be too taut and the foot of the sail to be loose. As a result, the sail will be wrapped taut at the top of the mandrel and loose at the bottom.
3. Too little tension on the boom control lines (4, 5, 7, 8). The outhaul will be able to tension the lower part

of the sail but the top will be looser; this can lead to wrinkles and fold over-wraps at the top.

4. The boom is poorly positioned (4, 8). Inadequate tension is achieved in the mainsail between sail-slot bead and the mandrel, enabling wrinkles and folds.
5. The topping lift is too taut (6). The sail will be loose at the top, enabling wrinkles and folds.

To avoid these problems, furl the sail by adjusting the control lines to keep fairly uniform tension on the luff/leading edge as it flows onto the mandrel:

A. Position the boom slightly to starboard (could also do to port) so mainsail has to flow over slot bead before wrapping the mandrel.
B. Loosen the topping lift, boom vang, boom brake, and traveler control lines so the boom can self-adjust as needed.
C. Use the mainsheet to keep the boom under moderate tension, yet still able to move up and down as needed.
D. Use the outhaul to keep moderate tension on the sail while furling (I installed a small extra winch to take a loose wrap to control the tension by hand).
E. Steer a bit off the wind to create moderate wind pressure from port (or starboard) side to keep sail slightly taut; do not allow the main to flop back and forth/up and down during the furling process!

Note: Over the thousands of times I've furled/unfurled the mainsail aboard Onward, difficulties with subsequent deployment have usually been attributed to operator errors in two or more of the above.

Problems like this normally will occur in the sail just above and below the upper spreaders. Lower jams are rarer as there are fewer sail wraps remaining around the mandrel once the upper portion is deployed and thus there is a wider area for any problematic creases or folds to pull out.

As a sail ages and the cloth loses stiffness, it becomes easier for creases and folds to be wrapped onto the mandrel.

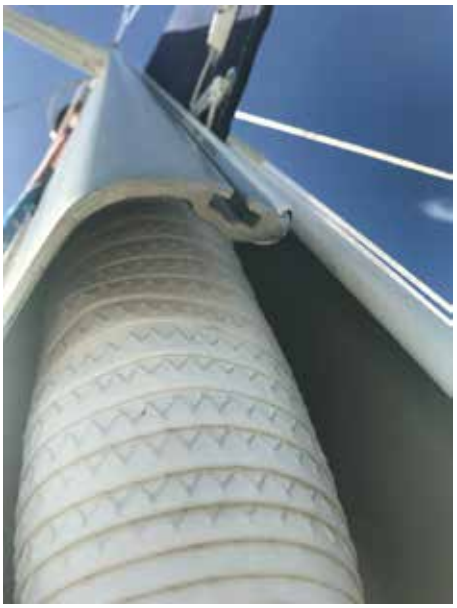
Over the last 16 years, the mainsail on Onward has jammed when trying to unfurl/deploy the mainsail many times. In all cases, I have been able to fix the problem by one or more cycles of:

A. Re-furl the sail under moderate tension and proper control line adjustment.
B. Ensure the topping lift is free and there is low tension on the mainsheet, vang, and boom brake - so the boom can move up and down as necessary.
C. Attempt to unfurl again, slowly and gently.
D. Repeat until the jam pulls free.

Success happens:
1 cycle ~ 40+% of time
2 cycles ~ 30% of time
3+ cycles ~ 30% of time

The only time in those 16 years and >50,000 nm that this has not worked was last winter when the mainsail (16-yr old original) tore at night in a storm off the Florida Keys. This forced us to furl it in the dark, with wind on the nose, in the restricted maneuverability of Hawk Channel.

When it was time to remove the damaged mainsail and install a newly built replacement back at the marina, we found that a horizontal seam had failed starting near the near the leach. Outhaul tension pulled on the foot of the sail but not the upper section where there were creases and folds. A bad jam resulted. There was nothing to do but go up the mast in a bosun's chair. I then used a wide plastic paint scraper to push sail material back into the slot at the bottom of the jam and pull out a few more inches of sail. I repeated the process until the jam was cleared. It was a long and tedious job made doable by the electric winch and a competent and experienced bosun's mate Peggy.



Mast furling slot and mainsail.

I am still very disappointed with the restaurant at the marina because they did not comp Peggy and I with drinks in recognition of the afternoon of entertainment we provided their customers as I flew about the mast getting this accomplished. Ah well… **–Joe Rocchio**

As a sail ages and the cloth loses stiffness, it becomes easier for creases and folds to be wrapped onto the mandrel.

CATALINA MORGAN 440 NATIONAL ASSOCIATION

Mast Step Woes

CM440 Association Technical Editor Mike Simpson

Special thanks to Adrian Smith & Victoria Bauer for submitting this article. **–Mike Simpson**

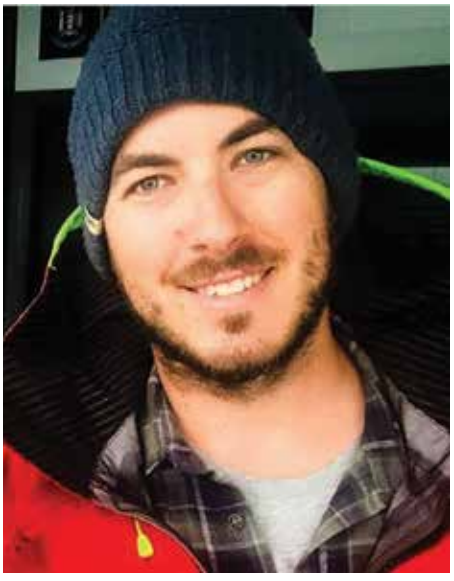
It was after many months of preparation that we departed our home port of Brisbane, Australia, for a year-long "Sabboatical" around the southwest Pacific aboard our CM440 (Hull #5), Water Music. This preparation had included, among other things, a professional mast and rig inspection six months prior to departure. But alas, as we were soon to find out, plans can and do change when you go cruising!

While attaching the mainsail halyard just after first untying the lines, I looked down to the mast step and noticed a major crack in the cast aluminum mast step, much to my horror. The port aft bolt hole had a serious crack and the starboard aft bolt hole had a minor crack. After a few quick phone calls to a number of rigger friends, we were forced to make the disappointing (but prudent) decision to motor back to the marina and await a replacement mast step. As with most deck-stepped masts, the step on our boat is the only thing stopping the base of the mast from moving—not a risk that we were willing to take.

The crack found in the port aft bolt hole of the aluminum mast step; note also the cracked plastic beneath.

Upon further inspection, we noticed a few critical things. Firstly, the aluminum step sits on top of a larger stainless steel base plate, which has all the pad eyes for the turning blocks. There was a sleeve of plastic separating the two metals, but this had long since cracked due to UV damage and had become ineffective as a corrosion barrier between the dissimilar metals. Secondly, the stainless steel bolts had no evidence of being coated in any chemical anti-corrosion barrier (like Tefgel). Lastly, the two aft bolt holes had been bored out a further 10mm due to a misalignment between the holes in the stainless plate and the deck itself (presumably a error upon first installation). I do not think it was a coincidence that we found the cracks around the two aft bolt holes that had been bored out.

With the help of our friendly local rigger (Rope Solutions Rigging Services, Ransome, Queensland), we were able to track down a replacement mast step and get it freighted from France in just seven days. It was then a matter of booking a crane to remove the mast and install the new step. As we had expected, the new mast step had the same misaligned bolt hole issue as the original part. Because of this we were faced with the difficult decision of whether we should try to bore out the 6mm stainless base plate and deck OR do what the yard had done and bore out the aluminum mast step holes. Neither option was very appealing. In the end, we decided we were better off boring out the mast step holes and treating this part as a "consumable" each time we get the mast



Adrian Smith, Water Music, CM440 #5, Brisbane, Australia

Old vs new—look closely and you can see the corrosion in both the aft bolt holes.

We painted the base of the new mast step and bolt holes with Epoxy Flowcoat that we hope will be a more durable corrosion barrier than the plastic sleeve.

stepped for other maintenance. We also painted the base of the new mast step and bolt holes with Epoxy Flowcoat that we hope will be a more durable corrosion barrier than the plastic sleeve. In addition, we applied a liberal layer of Tefgel to all relevant surfaces upon installation. As a final step, we filled the space between the bolts and the holes with a thick epoxy bog and let that set overnight before re-stepping the mast.

Since getting this work done, we have cruised over 5000 NM (including two crossings of the Tasman Sea between Australia and New Zealand) without any further issues. However, this incident serves as a stark reminder as to the issues associated with dissimilar metals in a salt water marine environment. It has certainly made us reassess many other metal components on our boat for their suitability. It is my hope that my writing this article others may be assisted in the same manner.
–Adrian Smith, CM440 Hull #5

About the authors: In the last year, Adrian and Victoria sailed Australia's eastern seaboard from Queensland to Tasmania before crossing the Tasman Sea to New Zealand and back again. They are currently cruising the Great Barrier Reef. Follow Sailing Sabboatical on Instagram at www.instagram.com/sabboatical.

The underside of the new mast step after being coated in Epoxy Flowcoat to prevent dissimilar metal contact.

CATALINA 400/445 INTERNATIONAL ASSOCIATION

Installing a Bow Thruster in a C400 MkI

C400 Association Technical Editor Tom Sokoloski

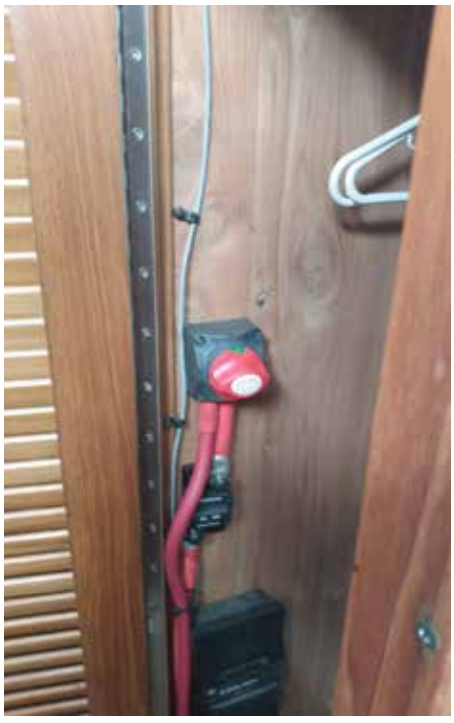
Special thanks to Alan Johnson, Doug Burr, and Matt Perry for submitting articles this issue.

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

I have always been a little envious of boats with bow thrusters and their maneuverability gained in docking and grabbing mooring pick-up sticks. When I first looked into the cost of having one professionally installed, I quickly put the brakes on the idea. I am a fairly talented individual so I started looking into the possibility of installing it myself. I was a little hesitant about the fiberglass work. The yard I winter store my boat requires that all outside labor go thru them, but they allow owners to work on their own boats. That's when I got sticker shock at the price tag. I thought to myself that the most difficult part for me would be the fiberglassing of the tube. I was confident that I could do the balance of the installation, and so the search began. I was able to purchase a Vetus 5512D from Defender Industries https://www.defender.com/ during their spring warehouse sale. It was clearly the best terms/price. I then started assembling the balance of the parts I would need: pre made fiberglass tube, joy stick for the cockpit, control cable for the joystick, battery cables, on/off battery switch, and a circuit breaker (instead of a fuse block).

I have three sets of 6 volt batteries wired in series/parallel, with one set below the port settee. I drew my power from there, and ran the negative back to the main battery box where all the negatives join. This eliminated an extra battery and the Echo charger. All the battery cables were ordered from Genuine Dealz https://www.genuinedealz.com/ along with the crimping. The fiberglass tube, joy stick and control cable came from Fisheries Supply https://www.fisheriessupply.com/. They are well stocked, fairly priced and ship promptly.
After getting a price that seemed fair, I hired the fiberglass guy that had to be brought in from outside the yard. The yard contractor felt is was beyond him. The work started as soon as outside temperatures allowed. The fiberglass contractor and I both did measurements and agreed where the tube should enter and exit. Holes were cut and there was no turning back. Then came my part.

The Vetus instructions were easy to follow and the mounting of the power unit went quickly. It took much longer to run the battery cables (all battery cables are size 00) and control cables. If I were to do it again, I would have mounted the 250 amp circuit breaker under the port settee to get it within the 6" of the batteries, and I may move it. The MkI and MkII settees differ in that the MkII does not have a padded front to the settee. If I had a MkII, I would have mounted the circuit breaker



from the inside with the trip lever on the outside and mounted a disconnect switch next to it. I did not want to have to rip up the settee cushion to get to the circuit breaker in an emergency, so it is mounted in the V berth hanging locker. Looking back I realized I should not have waited this long. [Insert Finished Install photo] When all the figures were in it cost me about ½ of what the traveling installers were quoting on the East coast and the yard estimate ($9500) if I had elected to have them do the entire project. **–Alan Johnson**, *Skol*, C400 #130, Northport, NY

CATALINA 380/387/390 INTERNATIONAL ASSOCIATION

Catalina 380 Mainsheet Turning Block Base Leak Repair

C380/390 Association Technical Editor Todd Gaier

C387 Association Technical Editor Tom Brantigan

C385 Association Technical Editor Chuck Couture

Considering that boats are designed to keep water out from below the waterline, it is amazing how much water can find its way in from above the waterline. In my search for an annoying deck leak, I uncovered an issue with the deck-mounted mainsheet turning blocks near the base of the mast. While I thought this problem was limited to a few years of C380 models, feedback came in from our forum, that a description of the problem and the simple repair might prove useful.

On the C380 the blocks are attached directly to the non-skid surface, which is not ideal. We rebed the turning blocks shortly after we purchased her. Since then the blocks showed no obvious signs of leaking at the nuts in the cabin, but when I removed the acorn nuts, it was obvious there had been leaking. The block was removed and I used a dentist probe to feel around in the holes. The existing holes for the #10 screws did not allow for great access to the core.

Interior acorn nuts removal reveals leaking

I opened up the holes to ½ inch and was able to probe between the deck and headliner on the starboard side and discovered a substantial void around starboard aft the hole. This is a problem because the headliner is thin and without filler, tightening the bolts is impossible because the headliner will keep moving. Additional evidence for this is that the bolts came out bent, suggesting they were moving. Because of this motion and associated leak, there was a little bit of core rot on the starboard block , forward hole. On the starboard side I filled the void with thickened epoxy, maybe one ounce. You can see the filled hole (partially redrilled) as well as the other holes unfilled, after cleaning the surface and using the probe and an allen wrench inserted into a drill to clear out core material around the holes. Note the grey color is the original non-skid before exposure to the sun.

Mounting hole repair in progress. The area has been partially sanded to remove dirt and old sealant. One hole has been filled and partially redrilled. The others have been cleaned out using an allen wrench mounted in a drill.

Knowing about the starboard side void, I went to the port side and popped

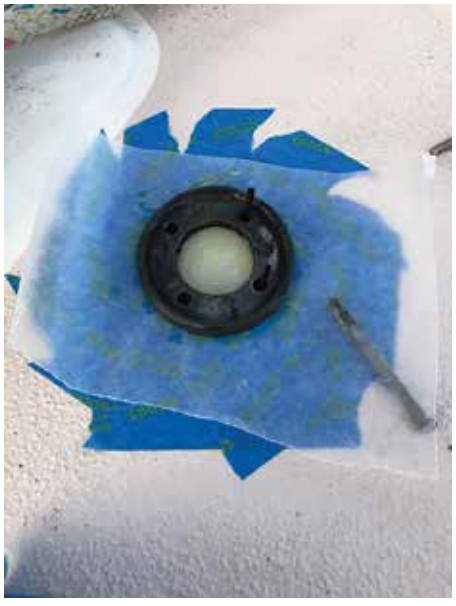
CATALINA 380/387/390 INTERNATIONAL ASSOCIATION

(continued from previous page)

Port-side turning block between the deck and headliner. Exposed bolts are evident.

out the light fixture over the table. With a flashlight I could see inadequate filler between the deck and the headliner. I put my phone into the fixture hole and took a photo, where you can clearly see two exposed bolts and filler. At this point I drilled and cleared out core on the port side as I did on starboard.

Since there was a substantial amount of epoxy required to fill the holes and the voids, I opted to use West Systems Six10. This had the advantage of a caulking-type tip for injecting into the holes, while filling syringes would be somewhat tedious. It is also pre-mixed to be thixotropic and will not flow once dispensed. The disadvantage as I found out, is that standard caulking guns are difficult to use with Six10, requiring a very firm grip for a prolonged period.



Getting a flat surface on the non-skid. The area around the block is taped-off, thickened epoxy is injected into the holes, placed over the exposed non-skid, covered in wax paper and the block base is lightly pressed on as a form. Cocktail straws were inserted into bolt holes through the existing interior holes as a drill guide.

First the entire area was wire brushed and sanded and wiped with acetone. I carefully taped around the mounting surface with masking tape. After overfilling the holes until adjacent holes had epoxy emerging, I used some extra and spread it across the entire non-skid mounting surface in order to provide a clean interface. To get a flat surface, wax paper was placed over the epoxy and the old plastic block bases were placed on top of the wax paper and pressed lightly, cleaning the excess epoxy around the edge, you can see that I inserted cocktail straws into the screw holes to provide a drill guide through the new epoxy into the cabin. Without this it would be nearly impossible to get the holes to line up with the originals.

While curing I turned my attention to the port side void. Accessing the void through the light fixture hole, I placed a tube on the end of the Six10 nozzle and injected as much epoxy as I reasonably could. The volume of epoxy was enough that an hour later the headliner was hot to the touch- care must be taken not to dispense too much at any given time. Then hole and surface preparation used on the starboard side was repeated.

The next day I removed the old bases, the wax paper and redrilled the holes through the straws and then put a chamfer on the holes using a countersinking bit sanded the surface to remove imperfections and removed the tape.

Garhauer Marine provided me with new bases as well as proper backing plates. Their support continues to be awesome and I can't say enough about them. I then used butyl tape to seal the base-deck interface as well as the screw holes between the deck and base, base and block base and the screw heads to block base.

The starboard backing plate fit perfectly and the nuts were tightened from below, while an assistant held the bolts

Finished result prior to cleaning excess butyl tape.

fixed with a screwdriver from above. The finished product prior to trimming the excess butyl tape can be seen in Photo 5. The interior surface for port side backing plate is not flat and the plate required some bending to get a clean fit. After the repair, I tested the interfaces with a hose and it all appears dry.

In doing this repair, I contacted the factory about the bonding filler between the deck and headliner. They said they minimize the material there to keep weight down, but the material is microballoon thickened resin which is intended to support compressive loads. With the void properly filled, the backing plate isn't really necessary. Note that C387s do not have this issue as there is a flange molded into the cabin top for the mainsheet turning block.

–Todd Gaier, tgsail1@earthlink.net

Considering that boats are designed to keep water out from below the waterline, it is amazing how much water can find its way in from above the waterline.

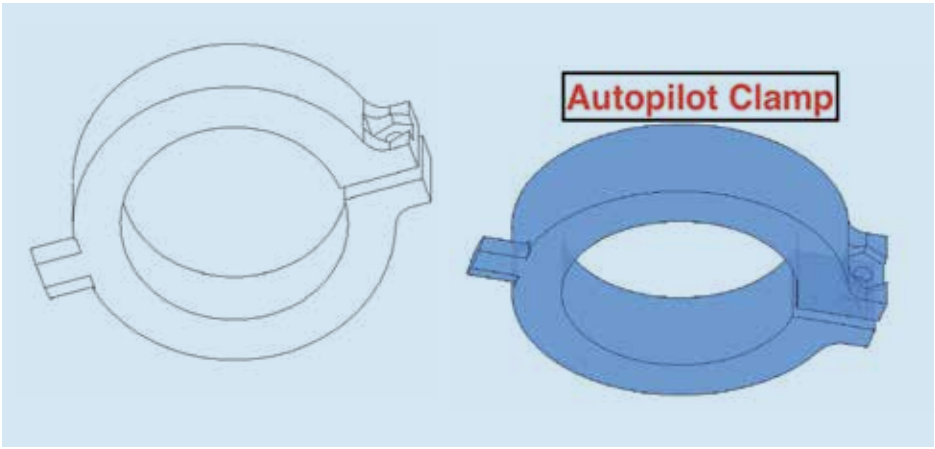
CATALINA 36/375 INTERNATIONAL ASSOCIATION

Maker Tools

C36 Association
Technical Editor
Pre Mk II hulls
Leslie Troyer

A couple of issues ago I talked about using "maker tools" to help cut down on costs and improve the quality of your boat projects. Since then I've added a 3D printer to my shop and wanted to let you know some of the fun things that you can do.

Now I don't have a wheel based autopilot, but I know lots of you do. One annoyance is they occasionally pop the lever out of the engage position. It was a simple matter to model a clamp to fasten to the motor, that applies a tiny amount of pressure on the lever to keep it in place. I've shown a model of it below. The person I printed this for reports it worked perfectly. I think there are still parts that are too sharp and could be improved, but that will wait for a full season of testing. According to the software it will cost me $0.47 to make it – I suspect the stainless cap screw and locknut were substantially more!!



Another example – I was having problems finding new deck fittings for the potable water inlets. And the ones I have (remember I have a 2nd year production boat) are difficult to open – and I've tried every kind of spanner and key available. I modeled the fitting, using a 3/8 socket in place of the holes and slot. Now I can use my socket wrench with a universal joint and 6" extension to easily remove and reinstall the plug. Again about 50 cents to print.

Several members have rewired or intend to rewire their electric panels this year. This is a great area to both save money and get the exact panel you want. To make a panel I used both a CNC router and a 3D printer. The router is used to cut the front panel to accept the same breakers as on a BlueSea panel as well as their labels and LED's. The 3D printer makes the label LED holder to illuminate the labels. This is a fairly big job ~ 2hrs for the panel and about a dollar for the 3D parts. The LED holders have a 4mm threaded insert in them to hold the ground wire for all the LED's for power indication. The CNC router was also used to drill the holes in the copper buss bars. Printout of various configurations were generated with different sized labels, circuit breaker types and LED's before selecting this version. Cost breakdown on this panel are is roughly $450 – not cheap, but much less than the $3000 the previous owner of Mahalo spent on his panel.

As winter approaches it is a perfect time to tackle projects big and small on the boat. Let me know what's on your list for the winter. The CAD files for these parts are available to whomever wants a copy. Just send me an email request, and later a photo of your finished project. **–Leslie Troyer**, leslie@e-troyer.com

Open Stern Insert

C36 Association
Technical Editor
Mk II hulls
Chic Lasser

Special thanks to Nile Schneider for submitting this article. **–Chic Lasser**

We infrequently used the original Lexan stern insert and it spent most of its time in the starboard locker. I usually put it in-place, adding a towel in the gap when working on some project in the cockpit, so hopefully loose parts would not roll off overboard.

There have been a few times when cruising the ICW and Bahamas that I wished we had a full insert that could block the passage of water. Very rarely when we are motor-sailing, with very short period waves and wind on our stern, we will get waves splashing up the stern into the cockpit. Motoring lowers the stern in the water even with the sails full. This also lowers the starboard and port T-cockpit stern drain into the water, to the point where I will plug the downward cockpit drain, so water does not squirt back into the cockpit.

We have not had any similar issues, just under sail. Our wettest cockpit was crossing the Gulf Stream to the Bahamas with a strong west to northwest wind. We had enough water sloshing around in the cockpit that we had the first companionway board in for much of the crossing. We have also experienced occasional splashes into the cockpit heading up narrow bodies of water like the Neuse River in North Carolina.

On the open ocean, the waves and swells are far enough apart that we never have experienced this problem, yet. Although, I have to admit that I have looked back, frequently, under certain sea state conditions, especially when healed over.

I wanted a stern insert that is removable, but would block water from rolling

CATALINA 36/375 INTERNATIONAL ASSOCIATION

(continued from previous page)

up the walk-off-stern. I also wanted to have it in-place, but to allow water to pass when desired. I also added a second higher insert so we could run the generator on the stern step and reduce the chances of carbon monoxide coming back into the boat.

I created two new lower insert guides out of one inch thick starboard with the same cross section dimensions of the original guides, but longer. It reaches from the cockpit floor to the lip that the Helmsman Seat sits on. We don't use the Helmsman Seat and it lives in our attic. The upper and lower horizontal starboard bars have the same cross section as the top bar on the original insert. The original insert guides were moved to the upper "half" of the opening. The bottom insert has two feet that loosely pivot, so when you first slide in the insert the feet will hang down. This prevents the insert from going all the way down so water can pass. The feet will lock in place due to the angle on the bottom of the feet. To drop the insert all the way down, you have to grab the feet and rotate them to the center.

To make a template to cut out the Lexan, I used pieces of architectural foam board. Tape 2 inch wide or so strips into the guides and do the same with the top and bottom rails. Then using other odd pieces of foam board hot glue them altogether. You could also use tape. Make sure you leave a little gap between the bottom of the top rail and the top of the bottom vertical guides, so the full weight of the new insert will allow it to sit on the cockpit floor.

The second insert only has a horizontal support on the top and slides into the old guides that have been moved up. Use the same technique with the foam board to make a template for the second Lexan piece. Again leave a gap so the full weight of the insert will allow it to sit firmly on top of the lower insert.

Both inserts fit standing up in the starboard locker under the seat.
–Nile Schneider, *Mañana*, 1999 C36

Note from Catalina Yachts: The C36 stern does not usually allow water into the cockpit. The purpose of the plexi gate is to keep pets and gear in the cockpit. If water enters the stern, the boat may be in "sterndown" trim caused by a dinghy on davits. –Gerry Douglas

Wet crossing of the Gulf Stream with the original stern insert. Note, my wife's feet were dry, unlike mine firmly planted on the cockpit sole. Ideally that flag should be going in the other direction for a west to east passage.

New insert with legs down for drainage

The second insert in-place with the generator on the walk-off step. Aside from blocking exhaust from coming back into the cockpit it also makes it a little quieter down below when the generator is running.

Legs down to block passage of water

C350 Association
Technical Editor
Scott Monroe

Special thanks for Bill's tasteful idea to deal with a bedding issue that we all in the C350 family contend with.

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

Aft Cabin Mattress Covers

The two-part aft cabin mattress and the need to cover its raw appearance with bedding has long been a major pain for me. The bedding is exceedingly difficult and time consuming to make up and must be removed to facilitate routine maintenance of items including the sea water strainer, the fuel tank shut off valves, and the water lift muffler. Furthermore, in my case the bed is slept in only several times per year. Given that the bedding on my boat is rarely needed for sleeping and is primarily for appearance, I sewed some zip-up covers which provide a much more finished and neat appearance so the only time I need to worry about making up the bunk is when it will actually be used for sleeping.

Material list:

I used a Sailrite Ultrafeed LSZ1 sewing machine, a Sailrite hot knife for cutting fabric, sewing scissors, a heavy-duty stapler and staple puller, long straight edges, tape measure, and tailors chalk along with many other small miscellaneous tools. All the materials were sourced from Sailrite (Sailrite.com), which is a fantastic resource for sailors including materials, tools, and instructional YouTube videos. I used the following materials (approximate total cost $164) and ordered a little more than needed, so I had some leftover:

- 5 yards Sunbrella Lure Denim 54" Upholstery Fabric (Sailrite part 44370-0006), Note that this was my choice and there are many fabrics to choose from.
- 4 yards Cushion Underlining Gray 54" fabric (Sailrite part 774100)
- 12 feet YKK Continuous Zipper Chain #5 black (Vision Chain), (Sailrite Part 100029)
- 2 YKK Zipper Sliders #5 black Plastic Single Non-Locking Pull (Vision Chain), (Sailrite Part 103179)

New covers installed on the mattress sections in the aft cabin.

Preparing the fabric:

I brought the two aft cabin mattress sections home to do the work but had a difficult time getting them out of the boat (and back in) due to their size. Before cutting fabric, I developed a cutting layout plan using rough measurements of all of the needed pieces to optimize use of the fabric and minimize waste.

1. I put the top of each mattress on the Sunbrella fabric after rolling it out on the floor upside-down (top of mattress facing underside of fabric) and marked around the perimeter.
2. I then marked 1" outside the perimeter for seam allowance which is the fabric cut line for the top panel. For cutting the Sunbrella I used the hot knife which seals the edges so that the fabric will not unravel.
3. For the bottoms of the mattress sections I laid the mattress bottom on the Cushion Underlining fabric and marked the perimeter and then added and marked an additional inch all around for seam allowance which is the cut line for the bottom panel. This underlining fabric can be cut with scissors without unraveling and is specially designed for cushion bottoms as it is permeable allowing the cushion/mattress to breath.
4. For the sides of the mattress sections I created boxing sections from four pieces of Sunbrella fabric (long strips), each with an extra inch at both ends for seam allowance. I used a tape measure to measure around the mattress perimeter when sizing the boxing sections (mattress corners are slightly rounded and I wanted the boxing seams to be in the middle of the curves). The mattress sections are approximately 6" thick at the edges so the boxing sections use Sunbrella cut at 8" wide (except for the tapered portion of the port side cushion), again to provide for 1" seam allowance top and bottom.
5. Note that the top of the mattress sections puff upward beyond the edges where they are more than 6" thick. I ignored this extra thickness which allows for a tighter better looking fit in the final product. Considerable care is required on the port side

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mattress boxing section due to the tapered cross section where it meets the headboard. At this point I laid the fabric along the tapered side portion of the mattress section and marked it including an extra inch top, bottom, and each end for the seam allowance. The fabric width at this point is variable and is much more than 8" at one end.

Assembling the covers:

I essentially followed the Sailrite's instructions for making cushions (https://www.sailrite.com/How-to-Make-Salon-Cushions-Video). The trick is that they need to be sewed together inside-out. Due to the large size of the components, I set up the sewing machine on a large table to facilitate movement of the fabric pieces. I then sewed together the boxing (side) panels including the zipper panels. Zippers were installed on the side panels where the mattress section ends face each other when they are installed on the boat so that they are hidden from view.

I made the zipper panels longer than the mattress section sides so that the zippers wrap around the adjoining sides about 5" (don't go too far around or it will stick out past the wood surrounding the engine compartment). The wrap around zipper portions make it easier to stuff the mattress section into the cover. The four side panels (including the zipper panel) are sewed together end to end at the 1" seam allowances overlap. This is done by laying adjacent pieces on top of one another with the outside (good) portions of the fabric facing each other and then sewed at the end on the seam allowance portion. When the fabric is unfolded at the joint the seam allowance portion will extend outward from the inside portion leaving a nice joint between the outside facing (good) portions with no visible stitching. Upon completion of the boxing sections, you will essentially have a box when laid out on edge which needs to be attached to the top and bottom panels. Before sewing I stapled (about every 6 inches) all around the top panel and the boxing (side portions) along the seam allowance to hold the pieces together. This ensured that the fabric would not bunch up while sewing and that the fabric pieces connected as intended, such as the boxing seams meeting up with the center of the mattress corners. I repeated this procedure for attaching the bottom panel. Upon completion, all the staples are removed, the zipper is unzipped, and the cover is turned right side out through the open zipper slot at which point the mattress can be stuffed inside the cover and zipped up.

For those who are sewing amateurs like myself, I strongly recommend studying the Sailrite videos on sewing cushions and installing zippers. These videos provide many hints and examples which if followed, will lead to a successful project. I am pleased with the way the mattress covers came out (this was my first major sewing project after teaching myself how to sew about a year ago). The mattress sections are now more durable with the covers, attractive without bedding installed, and can be easily moved for maintenance purposes. My next project will be a cover for the forward cabin mattress which will have some additional challenges. The forward mattress is 60 inches wide and is probably too difficult to get through the companionway so all patterning and measurements will need to happen inside the boat. Also, the fabric comes in 54" widths so two sections will need to be sewed together with a seam down the middle for the top and bottom panels.

–William T. Van Wagoner, P.E., C350 Hull No. 229, Destiny, Long Beach, CA

Installing the mattress section into the cover. Note the wrap around zipper making it easier to install. My best friend Buddy and boat dog provided a lot of "help" along the way and couldn't wait to test it out.

Fuel Starvation and The Obscure Ball Check Valve

C34 Association Technical Editor
John M Nixon

C34 Associate Technical Editor
Ron Hill

Special thanks to Stu Jackson and Paul Atcock for submitting articles this issue.
–John M Nixon,
c34hull728@gmail.com

On September 20, 2019, I was motoring back from a few enjoyable nights at my favorite local anchorage when I experienced a fuel starvation issue for the first time in my boat. We have sailed Aquavite since 1998. The engine simply sputtered and died, would restart after a few minutes and die again. There were no previous issues, ever.

A new and/or intermittent issue always requires forensic examination, and since I have been reading the collected works of Sir Arthur Conan Doyle and The Adventures of Sherlock Holmes, I got to play boat detective, yet again.

We had a very cool springtime in British Columbia in 2020, and the customary May Catalina Rendezvous in Roche Harbor was cancelled due to the worldwide health crisis, so my season and repair work didn't start until early June and lasted until late July. The first obvious culprit and usual suspect was the fuel pump. In my Secretary Reports I have described the wonderful generosity of John Krezoski (#1166, Carina) who gifted me a new fuel pump.

New and Old Pumps

On June 8th, I removed the old fuel pump. It was located high and very far aft under the head sink. I removed the hoses. Getting to the aft bolt was difficult. It required a socket on the ratchet on a short extender bar, and I was essentially blindfolded, working by touch with my chin up on the level of the sink. I wondered later why I'd even bothered to put my glasses on!

The old pump was pretty rusted, which I attributed to a broken exhaust riser quite some time ago. Once the pump was out, I thought about how difficult it would be to replace it in its old position and began to consider moving the pump a tad more forward, by using the existing forward bolt hole as the new aft hole and drilling a new hole for the forward one. I didn't see any evidence of any fuel hose leaks which may have caused the initial issue back in September, but one or two of the connections looked suspect. I obtained a box of new hose clamps and some new connector fuel hose.

In looking at the details of moving the pump just a small amount forward, I

New Pump Location

encountered two issues. First, the head sink was in the way. This would require moving the pump even further forward or putting it back where it started. Second, drilling new holes would require consideration of the teak wall at the companionway if I drilled too far. I measured out a more forward spot to miss the head sink, and careful examination of the construction there showed that the fiberglass ran all the way to the door of the head sink and that the teak had also been in front of the original holes. This meant that I could safely relocate the pump because there was enough fiberglass to support the pump in the new location. I measured and marked the two new holes, and put tape on the drill bit to avoid drilling too deep to avoid the teak.

On July 6th I got the pump installed and hooked up, after figuring out some minor rerouting of the fuel hoses from the tank to the pump and to the engine. I successfully started the engine. On July 17th, I tried a sea trial. I went out, and 20 minutes later the engine died. There was a light northwest wind, so I started "sailing" back the 0.3 nm I'd motored, on just the windage from the dodger, as far as the entrance to our fairway. Fingers crossed, the motor ran just long enough to get me through the fairway and into the slip.

I figured the next step was to change the secondary filter. I couldn't get it off because of the poor access and my weak arms and hands. I found a pair of HUGE vicegrips here in our workshop to use as an extender on the filter wrench handle. With great effort, my son, Morgan, got the secondary filter off. I took the bleed screw off the secondary filter housing and ran the pump, but there was no fuel getting there. Next steps were forensics on the hoses and the pump.

On July 21st, I removed some of the fuel hoses that I'd just installed and ran the pump outlet to a small fuel jug: tank to Racor to pump. Nothing came out into the jug.

I had been discussing this issue almost daily with our C34IA Treasurer and friend, Ken Heyman (#535, Wholesailor). With his suggestions, I disconnected the Racor inlet from the tank

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and ran it directly to the pump inlet, bypassing the Racor. I turned the pump on and fuel flowed!!! The conclusion is there's something in the Racor holding up flow. And the new filter I put on last year only has a little over 100 hours, this after the previous one ran fine for over five years and 900 hours. Now it was time to do forensics on the Racor.

I remembered reading the Racor manual ages ago about a "fuel check valve" that's cleverly hidden at the inlet of the filter housing. It's called a ball check valve, which keeps fuel from emptying from the filter if the tank is below the filter, which makes sense. I undid all the new fuel hoses I'd just put in (!) for the new fuel pump and unscrewed the primary filter and bowl together and popped it into a big coffee can. Fuel was clean, filter pristine, no issues, and then removed the housing from the wall.

The filter housing is the Racor 220 / 225 Spin On Series, using the ubiquitous Racor R24 Series filters, installed on most Catalina 34 boats and many others. On the top of the housing is a large plastic screw, identified in the manual's first page diagram as the "Flow Check Valve" and on page four, it is replacement part list Item 3, part # RK20011, "Check ball valve and plastic cap."

Ball Check Valve

I unscrewed the check valve plug and O ring and found 33 years of accumulated tiny black particles, a bunch of black ooze, that kept the ball from rising and allowing fuel to flow. It didn't take much crud at all to stop the ball from working properly. It's a very small chamber about the size of a quarter and the ball is smaller than a dime. There was actually no "bad fuel" issue, just decades of what I would consider to be normal stuff found in any liquid. I picked the gunk out with a tiny screwdriver and cleaned the ports/barbs and the whole housing inside and out and left it out to dry.

On July 24th, I reinstalled the housing and the filter. I did a test with the flow from tank to Racor to pump to coffee can, and fuel flowed. Then I redid the hoses to the final configura-

tion, bled the secondary with the bleed screw because I had left the screw loose (haha) after we put on the new secondary filter earlier. It was a bit messy with those full fuel hoses. I ran the engine successfully in & out of gear for half an hour. I couldn't get the slow click with the knurled knob closed, but the clicks from the new pump are slightly less loud and somewhat slower, but not like I remember the old one. I also noticed that my low idle from the throttle on the binnacle is now substantially higher than it used to be (800 up to 1100-1200). I attribute this to the cleaned up filter housing ball check valve. The gunky black ooze must have been slowing fuel flow for a long time.

On July 26th I went out for an hour test sail and things are back to normal. Since then we've been out on a few cruises with no fuel issues.

That obscure fuel flow ball check valve is a reality on many, but not all, filter housings. Thanks to John and Ken for their help in this endeavor. Most people assign fuel flow issues to the filters. That's not always the case. If you have fuel starvation issues, or anything that reduces your engine RPMs, consider this obscure fuel filter housing ball check valve as part of your diagnostics. I recommend that everyone check that ball valve chamber and clean it out as preventative maintenance.

I've posted a much shorter version of this on the Forum and as part of the Critical Upgrades topic. **–Stu Jackson**, *Aquavite* #224

CATALINA 320 INTERNATIONAL ASSOCIATION

Adjusting C320 Rig Tension

C320 Association Technical Editor Mark Cole

C320 Association Technical Editor Jason Reynolds

Special thanks to David Veeneman for submitting this article. **–Mark Cole**, boatnboot@me.com

There is a great article on c320.org about setting rig tension for racing. But what about those of us who don't race our 320s? This short article intends to fill that gap with a basic primer on rig tensioning for cruising and general sailing. I'll be using the Spinlock Rig-Sense 5-8 mm. tension gauge for the example.

Most of us may not ever need to re-tension our standing rigs, and a lot of us use professional riggers when the need to re-tension arises. But, for some of us, the need arises, and we may prefer to do the job ourselves. In my case, the need arose because of the turnbuckles on stock Catalina 320s.

During at least the early run, Catalina used closed turnbuckles, with a cylindrical core that I believe is made of brass, sheathed in stainless steel covers with plastic end caps on the top and bottom. Over time, the sheathing tends to develop leaks, leading to deterioration of the core.

In my case, my rigger advised me to replace my turnbuckles last year, when

we removed the mast for rewiring. The rigger had problems removing several turnbuckles, because they had 'frozen up'. This spring, I decided to do the job myself. The cost to have my rigger do the job would have exceeded the cost of buying a tension gauge, so it seemed like a good opportunity to learn a new skill and save some money.

There are two main rig tensioners on the market. Loos makes the most popular models, and the C320 International Association has Loos gauges in its tool lending locker. I opted to go with a competing gauge from Spinlock, because one Spinlock gauge can be used to set tension on all of a C320's standing rigging. With Loos gauges, it takes two different gauges. So, in this article, I'll be talking about the Spinlock gauge.

Before we proceed, a word of caution. Adjusting your own rig tension has its risks. If you do it improp-erly, you could lose your rig and become dismasted. While the information in this article is accurate to the best of my knowledge, I provide no warranties of any kind, and you should satisfy yourself as to its accuracy and your ability to tension your rig.

Rig Tensioning

The basics of rig tensioning are reasonably straightforward. A C320 mast is held in place by a forestay, a backstay, and eight shrouds, four on each side. The four shrouds, from fore to aft, are:

- Forward lower shroud
- Intermediate shroud
- Upper shroud
- Aft lower shroud

The shrouds are made up of 1/4" or 5/16" 1x19 wire and are secured to chainplates on the deck by adjustable turnbuckles. Shroud wire specifications can be found in the Catalina 320 Owners Manual at Drawing 320-34001-10, following page 13 of the manual.

There are a number of sources for recommended rig tensions available

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on the Internet. When re-tensioning my rig, I used recommendations from www.L-36.com. Rig tensions are based on a percentage of the 'breaking strength' of the standing rigging wire involved.

I have worked with several riggers since I bought my boat, and each has had slightly different recom-mendations about tension settings, all of which have been in the neighborhood of 10% to 15% of break-ing strength for shrouds and 15% to 17% for the forestay. The web site www.L-36.com lists recom-mended tension settings as follows:

Wire	Diameter	Breaking Strength (lbs)	www.L-36.com Rec-ommended Tensions (lbs)	Percentages
Forestay	5/16" 1 x 19	12,500	2,000	16%
Forward lower shroud	1/4" 1x 19	8,200	850	10%
Intermediate shroud	1/4" 1x 19	8,200	850	10%
Upper shroud	5/16" 1 x 19	12,500	1300	10%
Aft lower shroud	1/4" 1x 19	8,200	850	10%
Backstay (bridle)	1/4" 1x 19	8,200	850	10%

Spinlock publishes its own rig tuning guide at www.spinlock.co.uk, in which it recommends 15% to 25% for all standing rigging, That seems a bit high, compared to the recommenda-tions I have received from riggers, and I ended up going with about 12% on my shrouds, and about 16% on my forestay. Those set-tings were pretty close to the existing tension on my rig, which I measured before I began the process of replacing turnbuckles.

The tension setting has to be deter-mined by you as the boat owner, and you should do your own re-search to deter-mine the settings that you consider best. The above settings can only be consid-ered sug-gested starting points, at best.

Using the Spinlock Rig-Sense

The process of using the Spinlock Rig-Sense is rather straightforward, and it is illustrated in the Rig Sense User Manual, available at at www.spinlock.co.uk.

The gauge itself is about 17" long, and it has two main elements:

- A sliding arm that affixes the gauge to a rigging wire. The arm is a nice feature that allows the gauge to hang on the wire while the tension spring is engaged.
- A tension spring that measures tension on the rigging wire. The Spinlock Rig-Sense uses a flat spring that is easy to set and read.

Essentially, the Rig-Sense is hung on a rigging wire, and the tension spring is dragged over the same wire. At that point, the tension on the wire can be read from a gauge. The Rig-Sense gauge reads in kilo-grams, so a conversion from pounds to kilos is required to determine the proper reading.

I replaced my old turnbuckles one-by-one, re-tensioning each wire as the turnbuckle was replaced. Re-tensioning was a simple matter of setting the gauge on the shroud, then turning the turnbuckle until the gauge showed the desired value. Each turnbuckle took about thirty minutes.

Final Steps

After setting the tension with the Rig-Sense, I stepped back onto the dock and eyeballed my rig. No mat-ter what the numbers on the tension gauge say, if your mast isn't straight and true, something is wrong. So, it's important to spend some time looking at your rig from all angles and from some distance back, to make sure that the mast is as close to perfectly vertical as you can make it. Look at it from the front, the back, and from both sides. If it isn't straight and true, then further adjust-ments to the standing rig are necessary.

When you take your boat out after re-tensioning the rig, take it out in light air first, and check the rig and tensions after you return. If you have any ques-tions or doubts, tighten the rig a bit. Once you have developed confidence in your ability to retension your standing rigging, you can find other articles in the c320.org library and elsewhere on the Internet to guide you in more advanced rig-tuning. **–David Veeneman**, *Adelante* #131

CATALINA 30/309 INTERNATIONAL ASSOCIATION

From Stem to Stern – Safety First

C30/309 Association Technical Editor Michael Dupin

Special thanks to Lew Love for submitting this article. **–Michael Dupin**, dupin.catalina30@yahoo.com

September 11, 2007 was a big day for me as I purchased my 1987 Catalina 30 TR in Charleston, SC. It was a "project" boat and it has kept me 'happily' busy, going on 13 years. FYI, I am a cruiser and not a racer, unless there is a sailboat in sight! Nearing 68 years old, I began thinking of modifications I could do to keep me safe and, on the water, long into my retirement years.

I am hoping this article's title Stem to Stern – Safety First would begin to explain three major components added to my '87 Catalina 30. If you review new boats today, they seem to have safety in mind. Most have a windlass included, many now have mainsail roller furling, and stern scoops. What I have attempted to do is to modify my 1987 Catalina 30, to include a derivative those items as inexpensively as possible.

The three components were windlass, stack pack, and swim platform. All the modifications were about safety and access. Windlass to help with anchoring, stack pack to help raising and dousing the mainsail and swim platform to help me get back on the boat and easy access to the boat for my grandkids.

Windlass Addition

First, the windlass. I visited many websites to view as many windlass pictures as I could to determine a path to take. I also attended the International Sailboat Show in Annapolis, MD to speak with sailors, vendors, Catalina Yacht (Max) and others. I studied both horizonal and vertical windlasses. I decided on the vertical IMTRA, Model 500.

What I was seeking was a windlass with a very small deck profile. Another must, to install the windlass motor in the anchor locker as far away from the v berth as possible. But there were challenges…space!

SPACE, why the challenge? A 1987 Catalina 30 has ample space for rode and chain. It's what was in my anchor locker prior to the windlass! I also installed a washdown pump to clean the rode and chain as it enters the anchor locker. My Catalina 30 "aka Love Boat", is now landlocked on Lake Murray, SC. A quick note on the washdown pump. As we all know, it is unlawful to discharge waste into a freshwater lake. So, I removed the macerator pump knowing that I would never use it and used its thru hull fitting for intake to the wash down pump. I installed the pump near the thru hull. Then, I routed the wash down supply hose from midship to a new hose fitting within the anchor locker. The washdown hose is 30'. I also use a pouch to hold the washdown hose so that it would not interfere or get tangled in the rode and chain. I installed a wench handle holder for the manual windlass wench handle. Better there than far away from the windlass. So, that is the reasoning of why I did the design of the windlass install as I did.

The main components of the windlass and corresponding parts: the windlass, the windlass motor, the raising and lowering foot controls, an anchor tensioner, a remote-control handheld to the cockpit, 40' ¼ BBB chain and 200' rode, the associated electrical wiring and an 50 AMP breaker.

The biggest difference in my windlass install compared to others is anchor lid, see the picture. Every windlass modification I viewed on-line and elsewhere; the anchor lid was halved stem to stern. I decided to halve the anchor lid from port to starboard. The anchor lid half

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closest to the bow is where the windlass is installed and is heavily reinforced. The anchor tensioner is affixed just starboard of the chain so it is not in the way of the chain during deployment.

The other half of the anchor locker lid was hinged port side so I could easily access the anchor chain, rode, electrical, windlass wench and washdown hose. The pouched washdown hose is housed in the locker as well. The ability to spray down the chain and anchor as it comes aboard was important to me. This set-up gave me the best of both worlds. Easy access for washdowns – the chain and deck.

I decided on a vertical windlass because I wanted the maximum drop from the deck to the bottom of the anchor locker, approximately 33". I installed 40' ¼" BBB chain and 200' feet of rode.

The actual measurement of the anchor lid cuts are 34 ½ inches bow to stern and its length closest to bow is 18" and lid length closest the stern 16 ½". We reinforced the anchor locker lid across and down the side of the locker with an aluminum plate which was angled to affix to both sides of the anchor locker.

To provide for the electrical supply cord, I notched a hole 11" from bottom of lid closest the stern, starboard side. Two electrical cords can easily fix into anchor lid. Anchor well depth 33" – Most windlass require a minimum of 18" of drop.

The windlass is wired with a 50 AMP breaker installed midship. Also installed is a windlass remote control in the cockpit. This set-up serves my purpose for safely anchoring.

Swim platform Addition

Designing and installing the swim platform was a very iterative process. There were a few things to consider: design of the platform to not "dig in" to the water during heeling, height of the swim platform from water level to platform, extra-long telescoping ladder for ease of entry, support brackets rated at 235 lbs, positioning new boat name graphics and hailing port, and my desire to use teak.

At 235 lbs, I needed an easier way to enter the Love Boat from the water. The standard Catalina boarding ladder was too short for me and did not have modified step plates on each rung. Turning to a local ABYC mechanic who can think outside the box, we found and purchased a large teak swim platform from an old retired Chris Craft motorboat. The teak platform was large enough we could basically pattern a cut similar to the shape of a ¾ moon. This design shape was near perfect to use in order to not dig into the water during healing.

The next step was consideration of the height of the platform from the water. This was harder than it sounds because we had to consider many things: the mounting brackets, how to secure them from the inside the interior of the stern, new boat lettering and hailing port using Coast Guard regulations, and radial scupper access. See how the word ITERATIVE comes into play.

The measurement at the center of the swim platform is 57" by 24" but you must make a curvature cut on each side of the platform. There is also a straight side at the end of the swim platform (19" long) to accept the wide body telescoping ladder. The telescoping ladder is 5 1/2 feet. Realizing that approximately the first 20" are above water, we needed as much ladder as possible below water for easy access. Plus, we had to consider the footprint of the telescoping ladder because it had to fit under the swim platform, whereby defining the width of the platform itself. The wide body telescoping ladder has six steps.

The structural mounting brackets were built by local machine shop. Due to the angle of the stern, much thought was given to the angle of the brackets that affix to the stern. Then, the screws and backing plates needed a similar design.

The installation of the swim platform was done while the Love Boat was on the hard getting her hull and bottom painted. I do not believe we would have done such a quality install if performed in the water.

There were many vendors and friends assisting in these modifications I'd like to recognize: IMTRA, Garlick, The Boat Biz, Parcells Cabinetry, Sign It Quick and many sailing buddies.
I feel safer with these modifications.
I hope this article help others as they decide on important safety elements and modifications of their boat. **–Lew Love**, C30 *Love Boat* #4863, sailing out of Lake Murray, South Carolina- 14 miles x 3 miles and 550 miles of shoreline!

CATALINA 28 INTERNATIONAL ASSOCIATION

Fuel Quality, Filtration, Strategies

C28 Association
Technical Editor
Ken Cox

Over a year ago I entered into a conversation with one of the members of our website. A diesel technician told him that 2 micro filters could remove the lubricating properties of the fuel. Since I am a huge advocate of the 2 micron filters in some applications and strategies I set out searching for information regarding this. Over time I lost his initial e-mail and am embarrassed to say I have also forgotten who it was. I initiated conversations with two petroleum test labs for any type of opinion on this. One of the labs is here in the US and the other in Australia. Both large high volume labs, they both stated that this had never come up and they would get back to me. Both ran independent tests and got back to me. Neither found any evidence that 2 micron filters removed any lubricating properties at all. So I remain an advocate for the 2 micron filter. Having said this I also believe that it's not the best choice for everyone.

Parker the maker of Racor does sell a 2 micron filter as does Caterpillar Engines. I don't think they would be selling them if it created warranty issues.

For some of us we use such a small amount of fuel that we are reluctant to carry much as it will go bad with time. It also self contaminates, water from a leaking "O" ring at the filler, condensation from the vent, microbes growing in the deep dark belly of the tank none of these things good for our fuel. So it becomes a difficult process to determine a fuel strategie tailored to our needs.

For the person that uses their boat often and uses more than a tank a year of fuel they are the easiest to configure as your turning your fuel over, buy it from a high volume source, keeping it fresh and can change your filters once a year, if you store for a winter a change in the spring should do it.

The longer periods of time between usages is where it can become a roll of the dice. We are faced with more challenges. Do I store my tank full or near empty? If you store your tank full and it's not used for a long time while it may cut down on condensation, it can also contribute to higher contamination due to microbes creating an issue of its own, or fuel souring and a lower cetane rating which can create harder starting.

If I leave it stored partially full, this increases the potential for condensation as well as build up on the side walls of the tank from this condensation that also promotes growth and other unknown contamination possibly even rust. So one has to pick their poison.

I have used a partially full strategy for years and after doing so for over 10 years with my current boat, I pulled the tank to inspect it and check for leaks. I saw no adverse effects in the tank, the tank was clean. I do however use a carbon filter to help reduce condensation and I feel this has been a good addition to the system.

The reality of it for some would be weekend sailing and then a week or two cruise a year. If the fuel system has contaminants and filters that have not been serviced since whenever problems could ensue with wave action shaking it up pretty good.

So what can I do to suit my need? Here are some options to consider and somewhere in this mix you should be able to get a feel for what is right for you maybe even foster a unique idea or two specifically for your method of operations.

As I said earlier, I use a small amount of fuel annually. I keep the fuel volume low, about 6 gal at most. I use a carbon filter for the vent as well as a single RaCor 2 micron filter and then the spin on filter on the engine. I use Sta-bil as well as Bio-bore Jr for microbes with each addition to my tank which I stretch as far as I feel comfortable with then add fresh. I am never far from home and if I start to get rpm limitations I change filters but this has never happened to me. If it dies I would just sail it in. Beyond that I change filters every other spring as it winters in the water and is not used. To be candid with the low volume that I use if the RaCor had not already been on my boat, I most likely would just change out the spin on every springs and feel it would do the job for such a low volume. We sometimes make things more complicated and expensive than they need to be.

If I were venturing a bit farther afield I feel I might go a bit farther. I think I would use side by side RaCores and plumb in the ability to change from one filter to the other at the first sign of reduced rpm. I think I would use a 10 micron filter for this strategy and then the spin on at the engine. Also, using the carbon vent filter as well.

If your still not comfortable and money is not an issue, then perhaps two parallel systems that you could switch between that have a 10 micron filter in the first filter and then2 micron filters as the second. This would be pretty expensive but an excellent choice.

If you wanted even more peace of mind you could add a polishing system as well to any of these. I would caution against it, but. You could tap into the supply line upstream of the fuel filters with a shut off valve, install a high volume fuel pump then through a single 2 micron RaCore and back into the return line where you would also need a shut off valve as well. The reason I caution against it is because first of all if you have a good maintenance schedule in place it should be unnecessary as well as it adds to the cost and complexity and increases the chance of an operator error of leaving a valve in the wrong position and shutting down the engine until corrected and bled most likely.

I delivered a boat like this once and in a storm the polishing system broke a fitting, what a ride getting it fixed.

At the end of the day, use a maintenance schedule that you can stick to, with a system you understand and know how to service and this will keep your engine running well and your fuel clean.

If at some time you do have a contamination event, you can always unhook the supply and return lines, tap in a high volume fuel pump, run it through your fuel filter/s and back to the return fitting on the tank, use a toggle switch to turn it on and off and let it run overnight. When your satisfied the fuel is clean, plumb it back into your filter as before.

This should give you some ideas and direction on selecting and installing the filtration system and maintenance schedule that is right for you. **–Ken Cox**, C28 #317

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
#10, Gold Coast (Ventura & Channel Islands)
jshapiro@kirkhill-ta.com
#12, Punta Gorda, Florida
byrontobin600@hotmail.com
#14, Low Country (S. Carolina)
byrontobin600@hotmail.com
#15, Lake Texoma
byrontobin600@hotmail.com
#16, Texas Coast
byrontobin600@hotmail.com
#17, The Netherlands
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NEW FLEET – Lake Huron / Cheboygan, MI
jenweber33@charter.net

CATALINA 34/355 FLEETS:

#1, San Francisco Bay
C34irvine1383@comcast.net
#12, Chesapeake Bay
fpoa34@aol.com
#13, Lake Lanier Georgia
toneydot@me.com
#14, Florida East Coast
bob@s-i-inc.com

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

#1 San Francisco Bay, CA
www.southbeachyachtclub.org
#2 Marina Del Ray, CA
800.501.1378
#3 Long Island, NY
http://www.l-y-n-c-h.com/IC30F3
#4 Lake Erie, OH
jpaint412@msn.com
#6 Seattle, WA Tacoma & South Sound, WA
http://home.earthlink.net/~catss
#7 Tampa/St. Petersburg, FL
AV8RSailor@verizon.net
#8 Long Beach, CA
http://www.cat30fleet8.com
#10 Galveston Bay
www.fleet10c30.com
#11 Chesapeake Bay, MD
www.sailccyc.org
#12 North Atlantic (MA)
www.allcatalinane.org
#13 San Diego, CA
www.sdcatalinaassoc.com
#18 Long Island Sound (CT)
www.saillisca.com
#19 King Harbor, CA
czamites@aol.com
#21 Chicago, Il
www.catfleet21.org
#22 Puget Sound, WA
www.capsfleet1.com
#24 San Pedro, CA
jerinbill@roadrunner.com
#26 Lake Texoma, TX/OK
512.835.8680
#27 Barnegat Bay, NJ
(no contact)
#28 Lake Ontario, NY
www.loca.ac
#29 Chelsea on Hudson, NY
salcerniglia@optonline.net
#30 Hampton Roads, VA
http://fleet30.org/index.htm
#31 Clinton River, MI
drpost6290@yahoo.com
#32 Lake Lanier, GA
rrose@deltaenv.com
#35 Southwest Florida
(see Fleet #7)
#36 Lake Perry, KS
913.677.3143
#37 Vancouver Island, BC
gm@bonnor.com
#38 West Michigan, MI
http://www.lmca.com/
#40 Lake Pleasant, AZ
602.867.0650
#42 Cheney Reservoir, KS
thegreenwoods@sbcglobal.net
#44 Santa Cruz, CA
clubmanager@scyc.org
#45 Columbia, SC
szymanskim@msn.com
#46 Grapevine Lake, TX
atanua.sail@gmail.com
South Shore Yacht Club, Milwaukee, WI
http://2011ic30anationalregatta.com

Other regional C30 Fleets

CRACA Columbia River, OR
celtic-myst@attbi.com
KLACA Kerr Lake
doncourtney1@aol.com
OSCA Rhode Island
www.oscafleet.org
SBCYA Long Island, NY
www.sbcyc.org
CSMB Santa Monica Bay
millerjonathon@mac.com
Lake Hefner, OK
bluwater30@cox.net
Fleet #69, Austen TX
http://www.catfleet69.com
GC3, Alabama
GulfCoastCatalinaCruisers.com

Let us know where you sail!

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

Home Sweet Home?

C470 Association Commodore Bill Martinelli

Well, it's 3:00 pm on Wednesday September 9, the street lights and our building security lights are still on here in San Mateo, 20 miles south of San Francisco. The sky is dark orange from all the wildfires in California. Most were started by lightning storms in late July around the time we returned home from Mexico. A few fires were started by stupid people doing stupid things.

We see people on TV going around without face masks. For a store to remain open in Baja California Sur, the business has to have trays at the door to step in for sanitizing the soles of your shoes. There's an employee who takes your temperature. Furthermore, you need to wear a mask and sanitize your hands before entry. Stores with shopping carts have helpers to wipe down handles for you.

It seems that in Baja, the government said to do these things and citizens agreed. While government agencies in Mexico may have a reputation for corruption, the people of Mexico realize that no one benefits from closing stores and restaurants so they've decided to pay attention to the health guidelines.

Here in the USA a lot of people seem to have a heavy case of Stupid and do not want to believe medical experts! But then quoting the fictional character Forrest Gump, "you can't fix stupid." So much for my rant on that.

We arrived back to San Mateo after driving 1,400 plus miles over three days. Stayed the first night at a very nice Airbnb in Guerro Negro that fellow C470 owners recommended (next door to the hospital!). Next, we stayed at friends' roomy home south of San Diego where we used a bedroom just inside the front door and could visit and eat on their back patio accessed via a side garden to avoid going through the house.

After two days of a 900 mile-long Baja drive, we crossed the border and less than two miles after leaving the friends' house our left rear tire blew up on the four-lane Imperial Highway. This road has virtually no shoulder as it's covered with sand blown in from an adjacent Pacific Ocean beach. Dodged morning traffic (while Julie waved them away from the lane we were much too close to), while I put the mini spare on. Then we went to a tire place, bought two new tires, and were back on the road four hours later. Fortunately this all happened in the USA. We could have solved this situation if it happened south of the border but would have taken longer and cost more.

After another 400 miles of driving, I felt the starboard aft tire going soft. Pulled off at an interchange and the tire was low; of two gas stations neither had working air hoses. Limped to a nearby parking lot with a now flat tire. Pull out the tire jack, lift the car up 4" and the jack breaks, Fxxk!

Managed to find a mobile tire service guy to come assist us: jack up the car, and install the mini spare. We discovered the alloy wheel had cracked that morning. Drove the last 135 miles (freeways) to home at 50 mph. Cxxp! This third day of travel normally takes seven hours, it was 14!

Home at last. A day or two later, air temps rose above 100 degrees. On the weekend we turned on our HVAC and of course the AC does not work! Fortunately our favorite HVAC guy came bright and early on Monday morning - checked it out, found us the right parts - now it works.

Before we left Mexico we tried to renew our required TIP (temporary import permit). Was told we couldn't renew because we had an old TIP from 2000 that was not canceled when we left Mexico in 2001. News to us! Didn't know back then that it was necessary. Left this project in the hands of an agent, and after 6 -7 weeks we may have it worked out. The TIP is good for ten years but does not expire naturally, you must cancel it or you can renew it just once. Beware, if you ever buy a boat that was in Mexico previously and you want to sail to Mexico in the future. Old TIPs must be cancelled, often requiring help from the previous owner, or you may not be able to obtain a new one.

Moving forward or maybe backwards, I will continue on.

In the mail last week we received a Notice of Nonrenewal of our boat insurance. It seems the carrier's reinsurer is withdrawing their financial support of the program. DUH, WTF! We have Mexican liability insurance (required) but nothing covering the hull, electronics, tender, etc. The insurance broker is supposed to get back to me.

Preparing now to go back to Mexico in a week or two. Just to make things more interesting, we received a phone call from our neighbors in the adjoining slip. An 80-foot power boat came down the fairway last night, lost control and managed to hit two boats in their slips, our being one of them. Numerous, numerous expletives.

I am ending this at this point because I am start to pound on the keyboard of my laptop! Meanwhile, we are wishing for better times ahead for everyone… and some peace and quiet and no more technical issues for us soon down in the Sea. **–Bill Martinelli**

The TIP is good for ten years but does not expire naturally, you must cancel it or you can renew it just once. Beware, if you ever buy a boat that was in Mexico previously and you want to sail to Mexico in the future. Old TIPs must be cancelled, often requiring help from the previous owner, or you may not be able to obtain a new one.

CATALINA 400/445 INTERNATIONAL ASSOCIATION

Change, Change Everywhere!

C400/445 Commodore Frank Falcone

Uncertainty and fear (real or perceived) are ever present now. As I write this article in September of 2020, it's difficult for me to predict the overall environment (touchy word) that we'll all be experiencing in 2021. So many fairly routine activities are now 'up in the air' from planning perspectives because of real or perceived uncertainty! What we all can, more than likely, agree to is that 'change' is occurring everywhere now and at alarming rates! I work in the world of 'higher' education (another touchy term). Our world has changed so dramatically and permanently, I think, during the past few months that it makes my head spin faster than rotary blades on a wind generator! Can we really live the rest of our lives in ZOOM mode? Are you reading this in 2021? Are we all still ZOOMING our lives away? Don't we actually need to interact with others, as they say, in 'real' time at some point in the future on a regular basis? Will our entire means of interactive communication be reduced to quick (as quick as possible, please!) text messaging? Are we still human beings or have we already become 'fleshbots' (robots made of flesh)?

Perhaps, our boats, and the freedom which they provide on the water, at anchor and in our slips, can provide a degree of human interaction for us with like-minded sailors/boaters so that we don't become 'fleshbots'. And so, here's where our Catalina International Association comes in and becomes very important as a means of 'connecting' with others. Perhaps, as never before, COVID-19 has taught many of us the essential value and importance of personal and human interaction with others. We're not 'fleshbots, we're human beings! …at least for now, I hope!

Association Merger:

Ok, back to the 'change' subject. Over the last 2 years or so, ongoing discussions have revealed a real and reasonable interest in merging our Catalina 400/445 International Association with our C42/425 colleagues. A new and merged International Association would include owners of C400s, C42s, C425s and C445s. The purpose of this proposed merger is to streamline Association management functions and to offer more opportunities for cooperation and interaction among our boat owners and sailors. In my discussions with the management of Catalina Yachts regarding this proposed merger, there was enthusiastic support. In addition, discussions with Officers of both Associations also produced enthusiastic support. The devil, of course, is always in the details. Discussions with our colleagues involved in administering and managing day-to-day operations of the current Associations and of the proposed merged Association highlighted administrative issues that must be addressed and resolved. However, none of these issues are "showstoppers".

So, as of now, here are the proposed merger plans:

1. The Catalina 400/445 International Association will merge with the Catalina 42/425 International Association. One new and merged International Association will begin operation sometime in early 2021. A specific start date has not been established yet.
2. The official name of the new Association has not been established yet. Please feel free to offer suggestions directly to me at frank.falcone@villanova.edu
3. The Offices of Commodore and Vice Commodore, for now, will come from the C400/445 International Association.
4. The Offices of Secretary and Treasurer, for now, will come from the C42/425 International Association.
5. Only the management of the Associations will be merged. Technical support websites and established fleets will continue with current operations. The Association website will be revised.
6. The By-Laws of the merged Association will require revision.
7. A new and updated WELCOME ABOARD LETTER will be written and provided to new Association members.
8. Members in both current Association will, automatically, become members in the new, merged Association.
9. If you'd like to get involved, this would be the time to do so! Please send your ideas, thoughts and constructive suggestions directly to me, via email, regarding this impending merger.

Services Provided:

The merged Association will continue to provide the following:

1. Coordinate and promote cruising and social activities at a national and, perhaps, international level.
2. Promote and maintain the 'one design' characteristics of the C400, C42, C425 and C445 sailboats.
3. Provide at least one central information source for maintenance and care of C400s, C42s, C425s and C445s.
4. Cooperate with other boating & yachting organizations.
5. Promote 'safe boating' through future education venues and through MAINSHEET Magazine articles.
6. Provide subscriptions to Association members to 'MAINSHEET', the Catalina Owners Magazine.

Regarding Association Membership, it's not necessary to wait until this merger is finalized before requesting membership. Remember, all current and new Association member in either Association will, automatically, become members in the new, merged Association.

NOTE: If you are new to the C400/445 International Association or if you have received notification that it is time to renew your membership, please provide the Association with your current contact information and your $25 dues payment. There are 3 ways for you to submit your contact information and your dues payment. Go to our website www.catalina400-445.org and click on "Membership" and then on "Member Application". Select one of the following:

1. Fill out the information online and pay online using PayPal.
2. Fill out the information online and mail us your check.
3. Print out the completed Information Form and mail it with your check.

Mailing address is: Catalina 400/445, c/o PO Box 4003, Roanoke, VA 24015

This link and information is also shown on one of the early pages in this magazine.

Commodore:

The position of Commodore of the new and merged International Association will become available in 2021. The current C400/445 International Association By-Laws call for an 'election' to be held for this position. If you are interested in being considered for this position, please send an email directly to me expressing your interest and providing a brief resume of your sailing/boating experience.

Your Association:

Thus far, there has been widespread and enthusiastic support for merging the C400/445 International Association and the C42/425 International Association. Those of us who have been involved with these discussions so far agree that such a merger will be in the best interest of our owners and will also make the new Association more 'nationally' focused and, perhaps, even more 'internationally' focused.

Please feel free to share with me any thoughts, ideas, concerns and/or constructive suggestions that you might have. This is your Association. Please consider getting involved to help make this new chapter in the history of Catalina Association ownership as vibrant and as 'interactive' as possible. This would be the time to do so! Remember, even as the 2020s emerge, we're not 'fleshbots', we're human beings. Our sailboats, and 'sailing' may be among the only activities which keep us 'on course' in these uncertain times and in touch with some semblance of our own 'unincumbered' human skills and abilities!

Stay safe out there! **–Frank Falcone,** Commodore, C400/C445 International Association, frank.falcone@villanova.edu

CATALINA 36/375 INTERNATIONAL ASSOCIATION

Commodore Report

C36/375 Commodore Les Troyer

When this issue comes out many of you will be putting your boat to bed for the winter. As I write this fires are raging on the West Coast of the US – and smoke is thick where it's not burning. 2020 has been a very strange year, I know some of our members have not been able to sail this year, either because their boat is on the "wrong" side of the US-Canada border or COVID kept them away from the boat. As October is rapidly approaching – I've also not been out on Mahalo this year. Reasons are many and complicated, but I sincerely wish everyone better sailing in 2021. Please think about sharing your stories of sailing, boat upgrades or maintenance with the Mainsheet editor or one of the Tech Editors. It's your experiences that bring value to the organization. **–Les Troyer**, leslie@e-troyer.com

CATALINA 34/355 INTERNATIONAL ASSOCIATION

Secretary's Report

C34/355 Association Secretary Stu Jackson

C34IA Membership dipped to 459 from last quarter's 492, and includes 26 C355s.

Sailing in Southwest British Columbia

We bought our first boat, a Catalina 22, in San Francisco in 1983, followed by a Catalina 25 in 1987, and *Aquavite* in 1998. My son, Morgan and I sailed her up to B.C. in 2016 when we moved to Vancouver Island.

The utter predictability of wind in SF Bay was a luxury I didn't really fully appreciate, although I certainly fully enjoyed the ability to sail regularly, as in almost always. Even in winter there were known regular weather patterns. Kimball Livingston's excellent book Sailing The Bay is superb in explaining things.

Now that we've completed our fourth sailing season here in British Columbia, I have learned a few things that I didn't "need" to know in Northern California with its predictable daily wind cycles. There are definitely local areas here of consistent winds. Ganges Harbor all the way past the Pender Islands, Satellite Channel northwest of Cape Keppel at the southwestern end of Saltspring Island (called the Cowichan Doctor), and my home port of Maple Bay, all can be as regular as SF Bay. A mere mile away it can be dead calm. I've learned that if you want to sail, you have to be ready to do so. On Monday August 17th, we had a really nice southeast wind all the way from Maple Bay north through Stuart Channel to Thetis Island, almost

CATALINA 34/355 INTERNATIONAL ASSOCIATION

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unheard of without a major weather front moving through. We took advantage of it and had a memorable sail.

Otherwise, we have the proverbial "trawler with a stick." On our most recent cruise to Winter Cove on Saturna Island, we had little wind on our outbound leg through Swanson and Navy Channels. We returned through Boundary Pass and Colburne Passage and only had some breeze at the north end of Haro Strait. We did have spectacular sunsets and moonrises in our two nights at Winter Cove.

But it sure is gorgeous. I don't miss the city lights at all and the stargazing is magnificent.

My first couple of seasons here were spent mostly motoring from place to place, with the deliberate intent to see as much as possible to learn what we liked and didn't, so as to be able to select where we'd like to go back to. We found some favorites as well as some that were nice to have visited but didn't warrant a return. Now that we have a firmer grasp on distances, times and tides and currents, and local weather patterns, we can better plan our cruises to attempt, I say attempt, to maximize the time under sail. I'm sure the experienced skippers who have lived here know all this already, but I find it interesting to now be able to reflect on the different experiences.

Trust you remain well and had a pleasant 2020 season, making plans for the new one. And, as always, many thanks from all of us to all of you for supporting the C34IA. **–Stu Jackson**, #224 *Aquavite*

CATALINA 320 INTERNATIONAL ASSOCIATION

Sailing Season

C320 Commodore David Allred

Our sailing season on the Chesapeake this summer was limited by the corona virus, some really hot and humid weather, and a minor injury I will have recovered from by now. Partially as a result of our limited sailing, this article only remotely relates to Catalina 320s. With that caveat, here goes.

In the early 1960's some enterprising businessmen in my small north Alabama hometown built the town's first shopping center. It was a large strip mall design, and it had several anchor stores including a WT Grants which was much like a cross between a present-day Target and a CVS. My father opened a furniture store in the new shopping center and my brother and I, barely teenagers, worked for him on weekends and during the summers. Dad was a firm believer in the maxim that idle hands are the devil's workshop, a belief reinforced, no doubt, by his observations of his sons. For that reason, my dad made sure that my brother, Harry, and I were always performing some task. If there was no new merchandise to be unpacked or stock to be moved or furniture to be dusted, there were always the front plate glass windows to be washed. One Saturday, we had to wash the floor to ceiling windows three times before my father could find another chore to occupy us. The windows were spotless and had been since the first washing.

Harry and I could, however, take reasonable breaks and we often took those breaks by browsing through the expansive WT Grants, the largest and most diverse variety store in the whole town. It had a toy section that included model airplanes where I spent hours perusing the death dealing flying machines of the glorious past. At one time I had plastic models of most WWI and WWII fighter planes sitting on a long shelf in our bedroom. The Grants also had a pet section. This was a time when there were few regulations concerning animal welfare, and common sense in that regard was sometimes in even shorter supply. So, the pet area included not only the requisite puppies, kittens, fish and birds, but also a monkey. My brother found all the animals appealing, but the monkey was especially fascinating. I might add here that Harry was what a children's book author might charitably describe as "mischievous."

One afternoon I was doing some work when my brother sauntered into the store and approached me with a somewhat flushed face and said, "You might want to go up to Grants to see what's going on." That cryptic statement and the droll way my brother delivered it assured me that I did, indeed, want to go see what was going on. When I got to Grants, several people were milling around on the sidewalk and there seemed to be something less than pandemonium but more than mere excitement going on inside the store. That's what happens when someone lets a monkey out of its cage with no notice or preparation for the consequences. I watched for a minute or two, then returned to the store to find out exactly what had happened.

Harry was in the back of the store, some might say hiding, but really just trying to regain his composure. After all, this was well before surveillance cameras and who would suspect a thirteen year old boy of causing such consternation. Harry said that he was standing in front of the monkey's cage when he noticed that someone had left the lock unsecured. He wondered what would happen if he let the monkey out. So, he did. The monkey immediately jumped to the top shelves of the store and began hurling everything it could get its little hands on into the air and onto the floor. It tore through the store, jumping from shelf to shelf and picking up and throwing whatever it could grab—dishware, cosmetics, clothes--anything. My brother quickly left the store and came to tell me that I "might" want to go see the spectacle. After that day, neither of us returned to Grants for a week or so, but when we went back everything seemed to have returned to normal…except our WT Grants never had another monkey in the pet section.

Now, here is the remote relationship to Catalina 320s. If I ever have a pet on board Romance, it definitely will not be a monkey. **–David Allred**

CATALINA 310/315 INTERNATIONAL ASSOCIATION

2020 in Review – The Lost Year?

C310 Commodore Alan Clark

I am writing this in mid-September a few days before our boat is hauled for the year. As I am sure that most of you are as frustrated as we are by the 2020 sailing season or lack of same. Reviewing our plans for our 2020 sailing season, we wanted to stay on Lake Erie as we had spent 6 ½ weeks in 2019 going up through Lake Huron and into Lake Michigan. Our plan was to sail locally, then up into Canada and come back along the Canadian shore and across the lake to Erie PA. and back home to the Western Basin of Lake Erie.

Well, as we all know, COVID-19 happened. The Canadian border was closed to us and so that meant that we would have to stay sailing closer to Ohio, not giving up on Erie PA, but trying to get east, for us that means sailing back against a predominantly west wind, not an insurmountable problem, but not fun as Lake Erie is shallowest of the Great Lakes. The waves get steep with a short wave period and the waves can build to 6-8'. The weather pattern this year has been hot, windy and when it is not that, it rained, a lot! Hence the weather also kept us from sailing to Erie, about 65 miles one way. Our goal is always to sail to a new destination each year and we accomplished that again this year. So, we did sail to many of the islands in the Western Basin of Lake Erie within 2-5 hours of sailing each way, so the season was not a total complete loss.

It is now time to plan 2021 sailing season which I know will be better! We are discussing going up North to Lake Huron again and into the North Channel. But No matter what, we will make the best of it with our 310!

I want to Thank Your Flag Officers who volunteer their time for our association. I am glad they have shared their friendship, time, and skills for our Catalina 310/315 Association They do make a difference! –**Alan Clark**, aclark1325@woh.rr.com

Second Best Day?

C310 Association Editor Bob James

I am writing this in mid-September a week or so before the so-called second best day in a boat owner's life. Winter Dream'n is being surveyed in a week and barring any surprises she will have a new owner by early October.

Winter Dream'n is our third Catalina sailboat. We started in the early '80s with a Capri 14.2 (Bonny Blew) followed by a 1988 Catalina 22 (Winter Dream) and finally a 2001 Catalina 310 (Winter Dream'n). We purchased all three boats brand spanking new and even visited the 310 on the assembly line in Largo, FL. A real love affair with sailing and Catalina sail boats!

We have spent countless days and weeks enjoying the "sailing lifestyle" in three of the Great Lakes – Erie, Michigan, and Ontario as well as inland lakes and reservoirs. We have spent nights at anchor in out-of-the-way gunkholes, times in quaint towns such as Vermilion, OH and big cities such as Toronto and times in both urban and out of the way marinas in Snail Shell harbor in the Upper Peninsula of Michigan to Leamington, Ontario. As they say, when the ice is on the lake, it is time to head south. We were fortunate to be part of charters in the BVIs and a capstone 10 day cruise in the Hauraki Gulf off Auckland New Zealand.

It has been a great ride (sail). A combination of COVID-19, a horrible year for our business and advancing age pushed us kicking and screaming over the top.

During the past 20 years it has been an honor to be your *Mainsheet* editor for the C310/315 section of the magazine since about 2005. I have told our commodore Alan Clark that I will continue in this position for the time being until another member steps-up. As many of you have found out, it is extremely rewarding to really get involved in an organization as opposed to just being a member.

How about you?

Finally, I want to thank you, the members, who submitted articles for publication over the years and to Alan, Curt, and Jesse for allowing me to being a part of a really great current group of flag officers. As they say, over and not out, yet! –**Bob James**, C310/315 Mainsheet Editor, *Winter Dream'n*, C310 #118

C30/309 Association Editor Michael Dupin

CATALINA 30/309 INTERNATIONAL ASSOCIATION

Hello all!

Who thought we'd still be in COVID and no end in sight at this point in 2020, back when it all started in March! As some of us start wrapping their boats, others are ready to head South for warmer weather and self-isolation. See Brandon Hysell's article and how he transformed his C30 into a fully power autonomous machine (hint: getting rid of the engine freed some space!) We also have a great article from Lew Love about two classic modifications he did: swim platform and windlass, the latter being installed somewhat differently from the more common way.

We have a new Facebook group! Realizing that we already have two Facebook groups dedicated to the C30, the idea here is to form an online presence

Advertising Index

CATALINA 30/309 INTERNATIONAL ASSOCIATION

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to comment on the articles, propose topics, keep the bank of historical C30 articles curated, reach the authors and reach out more C30 owners who might find all the work we put in this every quarter useful. The group is open to *Mainsheet* subscribers. Find it searching "Catalina 30 on Mainsheet" on Facebook or www.facebook.com/groups/c30mainsheet/ for the direct link.

Also, in case you missed the email (September 6, 2020 at 6:37:52 PM EDT), Max Munger informed us of the long-awaited way to join/pay dues online through PayPal or credit card. Next renewal notices will be sent with a simple 'pay online" button option. This is awesome Max! He was also asking people to make sure to email applications and changes to catalinaassociation@gmail.com or call (540) 339-6452. Fair winds and Stay Safe. **–Michael Dupin**, dupin.catalina30@yahoo.com

CATALINA 22 NATIONAL ASSOCIATION

The World Has Changed

2020 was the first year in nearly 50 years that the Catalina 22 National Sailing Association did not host a National Championship Regatta event. This was a direct result of COVID-19, which is probably no surprise. Nearly all regional regattas were canceled as well.

C22 Association Editor Rich Fox

C22NSA Vice Commodore Ron Jenkie is working on plans for the 2021 Catalina 22 National Championship Regatta to be held the week of May 23-27 at the Pensacola Yacht Club. PYC is a great venue and we are fortunate to have secure Hal Smith as PRO and his great support team!

C22NSA Rear Commodore Lynn Buchanan has recently implemented a new Fleet and Membership Recruitment Awards Program. To learn more, please visit the Association website at www.catalina22.org and navigate to the Fleet and Membership Development page.

C22NSA Secretary/Treasurer Dora McGee loves to give out awards to special members for their outstanding contributions to the Association. This year the following members were recognized:

- Guy and Tina Campbell, Cruising / Sailing Family of the Year Award
- Mark Goodwin, Sandy Kennedy Award
- Stuart Weist, Best MainBrace Contribution Award
- Lynn Buchanan, Leadership Award
- Fleet 62 / TSA-LA-GI Yacht Club, Fleet of the Year Award
- Rich Fox, Regional Commodore of the Year Award

C22NSA Commodore Duncan McBride has been working with Catalina 22 sailors in the Texas / Oklahoma / Louisiana racing circuit to get a jump start on planning the 2021 racing season since the 2020 season was canceled.

C22NSA Chief Measurer Doug Thome has been working for the past two years on a top-secret project. If you go to www.catalina22.org, you can read all about it. Now how is that for a teaser?

C22NSA National Cruising Captain Anita Kjalberg has been busy promoting Catalina 22 cruising and encouraging everybody to get an early start on planning their 2021 cruises.

As we turn the page to a new year in a few weeks, the Catalina 22 National Sailing Association will begin the celebration of its 50-year anniversary. Look for some special announcements and opportunities to purchase some anniversary related keepsakes on the Association's website.

2020 was a disappointing year from an organized activities perspective. I remain optimistic that 2021 will be more fun as we learn to better navigate and manage the challenges that confronted all of us during the past nine months. **–Rich Fox**, rich_fox@yahoo.com

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