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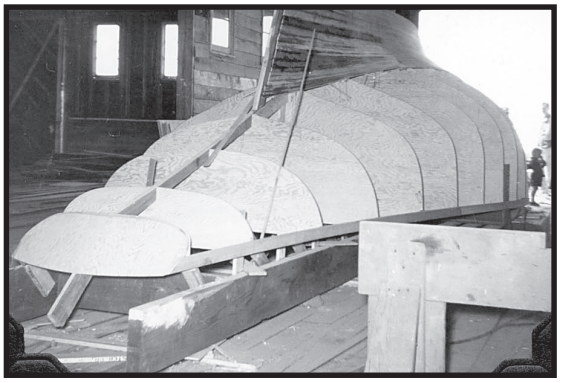
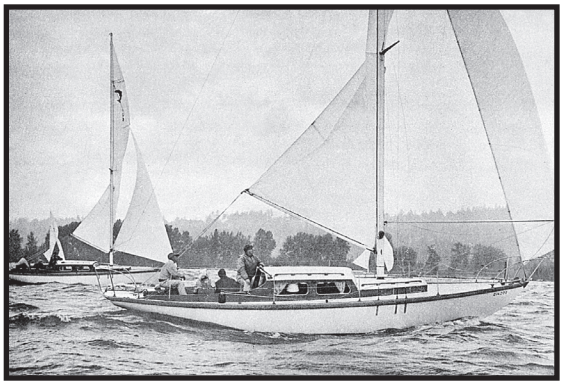
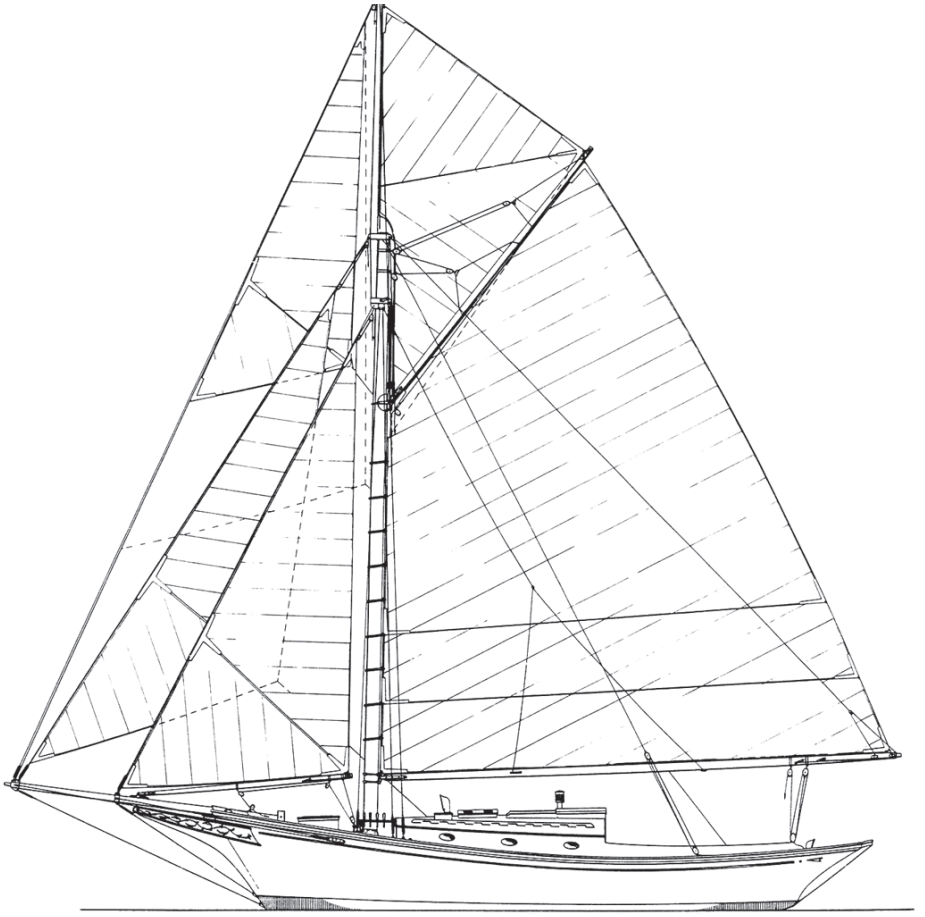
Boatbuilders







The boatbuilders and companies that launched today's good old boats

A collection of historical articles about the earliest days of fiberglass boatbuilding

All articles were published in Good Old Boat magazine between Sep/Oct 1998 through Nov/Dec 2011

GOOD OLD BOAT™

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Boatbuilders

Thank you for purchasing *Boatbuilders*, a collection of articles published by *Good Old Boat* about the people and the companies that built our good old sailboats 10, 20, 30, and more years ago. Building on one design trend after another over the years, each of these companies played a significant role in the evolution of the cruising sailboats we treasure today.

The owners risked their futures on specific designs and on the reputations of specific designers. They chased trends and rating rules. They tried to win races and the subsequent positive publicity that was sure to follow. Chronically behind schedule, it seems, many finished up the details on their brand-new boats while those boats were on the highways heading to the boat shows where they were to be introduced.

When times were tough, these company founders dug deeper in their pockets hoping to remain in business in spite of obstacles beyond their control. Due to the volatility of the building materials, there were many factory fires sending everything in the shop and office including precious historical records and photos up in smoke. As businesses declined, there were ownership transfers and last attempts to preserve many of these companies. Fortunes were lost as companies closed the doors over the years. The beautiful sailboats that remain today are their legacy.

Based on the example set by the automobile industry, our boatbuilders must have assumed that the sailboats they were building would not last and that design trends would become dated and obsolete. Because fiberglass was so new at the time, they had no idea they were building the classics we would still value today.

How could they possibly know that the boats they were building would last so long, that future generations would invest in their refits or continue to maintain them as family treasures, or that their hull designs and interior accommodations would be treasured decades later as classics?

Our boatbuilders left us a rich legacy indeed. Those of us who sail a good old boat today owe them our greatest respect and gratitude.

Over the years, we've enjoyed editing and publishing these articles and being part of the dialogue that followed. We hope you'll enjoy reading this collection as much as we've enjoyed gathering the articles for you.

The *Good Old Boat* crew

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The BIRTH

We learned to sail on Puget Sound. *Like so many other people who live and cruise the Pacific Northwest, we were happy to be on our summer cruise in August … it is the best of the best of cruising times. The weather is generally clear with little, if any, fog. Winds are light. The sun is out nearly every day, and the air is so clear it turns the sky the most amazing color of blue you'll see anywhere. In the background are craggy snow-capped mountains. It is a place of the ultimate primal alliance … a nearly perfect cruising ground … a place where islands and bays stretch for endless miles. The last week of August is our favorite, and we always laugh when we say, "Wednesday during the last week of August is always perfect." It was always a good rule of thumb.*

of the VALIANT

by Sylvia Williams Dabney

The Dabneys' Native Sun *sailing off St. John, U.S. Virgin Islands.*

It must have been a Thursday or Friday of that last week in August, 1972, when my husband, Stanley, and I were crossing the Straits of Juan de Fuca, sailing toward Victoria, B.C., where we hoped to dock in front of the Empress Hotel in time for afternoon tea. All sailors who have been to the Empress for tea tell all others heading toward the Canadian Gulf Islands that this is a tradition they must not miss. We were looking forward to participating in this tradition and discussed what the proper attire would be as we thundered along under full spinnaker in our Islander 36, *Amalia*. The wind was building, and it was time to reef.

Where it started

In 1969 we were young corporate kids just a few years out of college, when Xerox sent its marketing team leaders to the Virgin Islands for a week of rest and relaxation and a little bit of work. We left Seattle on a gray, dreary day in April. As it turned out, that trip changed our lives and the lives of many others forever. We stayed at a 100-room hotel on Water Island, a small island in the middle of Charlotte Amalie Harbor in St. Thomas. We had spent four days snorkeling in unbelievably clear turquoise water, basking in the sun, and fishing.

Then we decided to try sailing. We have always believed that your life can change in an instant, but you

can't see it coming. Therefore, it's important to live life fully, enjoy one another, and enjoy every moment. Those two hours we spent sailing — because of an almost mystical and spiritual experience — turned all of our dreams, goals, and thoughts about the future upside down. That night we lay awake for hours; by dawn the die was cast.

As usual, it was gray, overcast, damp, and dreary in Seattle when we returned. We turned the car lights on to go to work in the morning, and at 5 p.m. we had headlights on when we returned home. At 7 p.m., we were hunkered down in front of a fireplace talking about how, at that very moment in the islands, the sun was blazing, people were on the beach, and people were sailing! Three days after we returned to our corporate jobs in Seattle, we gave our notice.

It's hard to explain unless you are a sailor to whom this has happened, but it seemed to us we had a calling … we even romanticized that it was an ancient calling from deep inside … it may have been. But we knew we didn't want to live as we had been living, that it was certainly better for us to "do" than to "have," and that we wanted to spend as much time together as we possibly could. Remember, it was also a time of adventure, escape, and great excitement, as 1969 proved to be a seminal year of change for a lot of "sixties types!"

The following weekend, with stars in our eyes, we bought a new Ericson 23, named her *Amalia* after the first place we had been sailing, and signed a contract for an Ericson 27, which was still on the drawing board. The day we took delivery of the Ericson 27, *Amalia II*, we ran into the dealer for Islander Yachts, and we actually signed a contract for an Islander 36 for delivery the following summer. We were a yacht broker's dream. We were young, impulsive, and driven by a dream: the siren call of sailing adventures. It was 1969, and we were hooked big time!

We had made the transition from a camping style "learn-to-sail" boat with crawl-around headroom, to what we believed was the boat to fulfill our dreams, the same dreams many people have when they "discover" sailing. We fantasized about translucent turquoise lagoons where the mahi-mahi jump into the cockpit, of rum and cokes at sunset anchored by the palm trees, of anchorages at secluded tropical islands, of sailing across calm purple oceans, of white beaches that no one else had yet discovered, and of our youthful bodies tan and lean from hours of snorkeling on glorious reefs. We were filled with the cocky confidence that we could sail the oceans of the world with what we knew and with the boat we had. We were … so very young!

Reality grows with the wind

Throughout the afternoon, as we sailed toward teatime at the Empress Hotel, the wind continued to rise, and *Amalia* continued to charge forward and then surge to the left and surge to the right. Later we would find out this violent motion was called "death rolls." But by this time we were so out of control we couldn't shorten sail and so inexperienced that the only thing we knew for sure was that we had a lot to learn about sailing and ourselves. That afternoon we also realized that as much as we loved this boat she was not suitable for us, not for long distance, bluewater cruising, not for living aboard, nor for fulfilling our sailing dreams.

The Islander 36 continues to be one of our favorite boats. It has beautiful lines and sails wonderfully. We now know of two couples who sailed to Hawaii and back with an Islander like her. But that day we made the decision to buy a true bluewater passagemaker … whatever that was. We also started planning for the liveaboard lifestyle, which included more knowledge of sailing, more experience, and a boat with more storage for a large complement of tools, parts, and gear. We wanted a boat that was conceived, designed, and built for bluewater passagemaking. But what were our choices in 1972? There were very few alternatives.

Westsail was just coming into being at the time and was featured on a cover of *Time* magazine. After we called the California office, a factory rep came to our house in

Native Sun *(middle boat) in the production line at Uniflite. The boat on the left is John and Randy Sangers' boat,* Grebe, *which they still own and charter. To the right is the* American Eagle, *which was just sold to second owners this year.*

VALIANT 40

Seattle to show us the lines and to tell us about all the plans they had for this new boat. It was nice, but it simply didn't fit us.

Around this same time, a mutual friend who knew of our sailing passions introduced us to Jay Benford, a local yacht designer and ferrocement/ferroconcrete guru, who was designing boats in Seattle. We knew of Jay, because after our corporate escape, we had established a printing and publication company and had become the printers of his design books. It was wonderful to see the designs, reviews, and new drawings he brought to us for printing, and we were enthralled with the "new" concept of ferrocement. Remember, this was the era of the great escape, and we joined the group of those who considered a "concreter." It made sense to us at the time, and there were not too many alternatives.

During the Seattle Boat Show, sometime around 1972, Jay invited us to come to the show and see a "real live" ferroconcrete boat being built. This was the first time we met Nathan Rothman who had recently arrived from New York, where he had been selling buttons on the street with John Lennon's photo on them and working at various City Island boatyards. Nathan was now working for Jay, building production ferroconcrete yachts. Next to Nathan, inside a huge chicken-wire cage, smearing concrete, was Bob Perry, who was working for Jay as an assistant designer.

After the show that night, over great big bowls of spaghetti at the recently opened Spaghetti House in Seattle — gourmet dining for us in those days — we became instant friends with Nathan, his significant other, Linda, and Bob. It was just one of those special relationships where we did a lot of dreaming, laughing, and talking. We spent endless hours together. Linda was unemployed, so I got her a job with my brother in a plant shop in the university district of Seattle. And Bob, who was then batching it, soon moved aboard our Islander 36 at Shilshole Bay Marina.

The idea takes shape

We all spent a lot of time onboard our Islander 36 and in the cafés around the Seattle marinas, drawing our "dream boat" on napkins. She would be a good, livable bluewater yacht. We talked about berths, galleys, storage, and performance. After a three-month cruise to Alaska aboard a ketch-rigged Sea Spirit 32, essentially a smaller version of a Sea Wolf 41, we really started defining our concept of what a liveaboard cruising yacht was, what performance was, what comfort aboard meant (a primary issue was fewer leaks), and what — for us — would be the ideal layout above and below decks. Of course, every time we found what we thought was a suitable boat, Nathan would tell us it was not right for us. Up to that point, most offshore cruising boats were heavy and slow and not all that fun to sail.

The U-shaped galley was a must on our list; the proper forward-facing and really usable nav station, one which would hold a large complement of navigation equipment, was important, too; as was a real double berth on which fitted sheets could be used. We wanted a traditional layout, and Bob's concept of performance was critical, since it fit our desires like a glove. These ideas eventually evolved into the Valiant 40.

With the collapse of the "concrete era," Nathan and Bob found themselves unemployed. Nathan suggested that we have Bob work our ideas into a design, as we all had the same thoughts and dreams. Our parameter for performance was that it had to sail as well as our Islander 36. Hull shapes were tossed around, other Seattle friends — Mary and Bill Black, Steve Murphy, and Darryl McNabb — started hanging over our shoulders looking at the ensuing plans, and we began hearing, "Yes, we would be really interested in this boat also."

All four of us were interested in the same type of cruising yacht! Bob was young, hugely creative in his yacht designs, and a great friend. We talked about what had disappointed us in other boats, threw ideas around, and spent so very many hours drawing, erasing, talking, laughing, but never thinking Valiant Yachts would be born!

Pretty as a picture

Having been influenced by Scandinavian fishing boats and other double-enders which we were used to seeing in the Pacific Northwest, some of which were off the board of another great local yacht designer, William Garden, we were greatly impressed with the cover of a *Soundings* magazine that Nathan brought to the café one morning. He asked if we would be interested in a boat that looked like the one on the cover. It was beautiful! *Holga Dansk* was the name of the boat, and she had the most beautiful hull design we had ever seen.

We were struck by lightning it seemed. We had the inside lines we wanted, and now there she was: a hull design and styling we just had to have. Now we had a decision to make. Actually, the decision was easy, but how and where do a bunch of kids build a boat?

Later at the Miami Boat Show, in 1975 I think, where Nathan, Stanley, and I were introducing Valiant to the world, a "big time boating bigwig" came to our booth, where we had

drawings and a projector with slides of what we were doing in the boatbuilding industry. His comment, which we have never forgotten, was that we were the "cutest kids I've ever seen … The boat looks pretty nice, but you will never make it … you can't just start a company like that!"

Back then, we didn't know better. Nathan was unemployed; Linda was working at my brother's flower shop for low pay; Jay's ferrocement production company was out of business; and Bob was unemployed as well. We all were pretty motivated to take some action.

Since Nathan's great love and experience was in boatbuilding, and since he was out of work and aware that we were in the market for a good offshore yacht, he asked if he could build a boat for us. As we were totally tied up in the printing business, Stanley said, "Yes, wonderful, why not?" We had all talked often about what constituted a good boat, and we were all kindred spirits, so we knew it would work!

Because of the oil crisis at that time, the big question was where would he ever get resin, an oil byproduct? The oil shortage caused us to take turns filling each other's cars up in the gas lines … a feat that sometimes took all day, if we were tending to three or four cars. The oil shortage meant, of course, no resins for fiberglass boats … something that impacted our lives greatly over the next few months.

A native of Seattle and an avid sailor by now, Stanley suggested, since there were so very many powerboat builders in the Northwest which were not currently building as many fuel-guzzling powerboats, that Nathan should visit some of them — such as Bayliner, Tollycraft, Reinell, and Uniflite — to see if they would sell resin to us. Uniflite had, in fact, built sailboats in the past — the very beautiful and famous yawls for the Annapolis Naval Academy.

And then came the Valiant

Nathan took out his earring, got a haircut, put on a suit, shined his shoes, and hit the road looking for resin. He went only 90 miles north of Seattle, but he was gone for several days. We were worried, excited, and **very** apprehensive, thinking that none of those companies would have the resins we needed. Nathan had no luck until he hit the Uniflite factory. Then he phoned with the "good news **and** the bad news."

Yes, Uniflite had resin, but rather than sell us the resin, they wanted to build yachts for us. That was better than good news; we were elated. The bad news was that Nathan had signed a contract with Uniflite to build 12 of these yachts. Remember, there were only three people for certain, and possibly a fourth, who wanted a boat built. That he had signed such a contract wasn't just bad news … it was **terrible** news! Now funding had to be found, and a whole bunch of "never-before-seen" boats had to be built and sold.

We called for a meeting with all of us. Together, we chose the name Voyager Yachts. Nathan had a couple of very artistic friends, Michael and Marsha Burns, who drew up the logo of the VY with the star in the middle, and we all loved the logo. We were really dismayed when we found out that name was already taken. It was decided that we should keep the logo; it was pretty and looked good from both sides of a sail, so we had to work a name around it. Nathan suggested, and it seemed suitable, naming this beautiful yacht after an America's Cup boat, and Valiant Yachts was born.

We opened a tiny office on Lake Union in Seattle. Nathan moved to Bellingham for a year to oversee the building of the tooling and boat production. He would be the president of Valiant Yachts. Stanley would become vice president, taking over marketing and sales. Every week he would take Wednesdays off from our printing company to go to this tiny office in order to write ads and put together brochures, which we would print in our printing shop and use to sell the other nine Valiants. For funding, we turned to a mutual friend, Jeff Brotman, who was able to secure an SBA loan. Jeff later founded COSTCO, so undoubtedly we went to the right source for start-up advice and help. With the completion of the tooling and the launching of the prototype boat, Stanley went to work as vice president full time. We sold our printing company, and all of us became totally immersed in the boating business.

Soon after leaving Jay's employment, Bob found work with Dick Carter near Boston, whose design and yacht building organization was the hot design house of the era. His designs were winning world One-Ton championships and doing equally well on the SORC. Bob was confident that he could incorporate the performance design parameters of the time within a comfortable performance cruising yacht. It still had to sail as well as our Islander 36!

Thus, the era of the performance cruising yacht was born. Interestingly, the Valiant 40 hull form, that today is called the Valiant 42, is exactly the same hull form that was originally laid down by Bob Perry in 1973, with the exception of an evolved keel design. The Valiant 40 became an instant success, and we had eight boats on order by the time the first Valiant was launched. It is said that the Valiant 40/42 has been in non-stop production longer than any comparable yacht, a true testimony to its timeless design.

By 1978, we were selling and building some 50 Valiants a year, including the Valiant 40, Valiant 32, and the Esprit 37, which later became the Valiant 37 and then evolved into the Valiant 39. With the success of this new performance cruiser, Valiant became the hot cruising boat of the era, attracting enthusiastic fans and supporters.

Sylvia aboard the first boat that she and Stanley sailed in the Virgin Islands in 1969. This was the "beginning of the beginning" of Valiant Yachts.

Free at last!

During that time, there was a man who often came into the Valiant office in Seattle. Remember, our only goal had been, and was, to go cruising, so we were ready for some changes. What followed was the perfect opportunity for us to get on our way. Dane Nelson had come into the office repeatedly asking us to build a pilothouse Valiant. Stanley's constant response, tongue in cheek, was, "It will never happen unless you buy the company." As it turned out, Dane and his partner, Sam Dick, did buy Valiant and the name of the company became Valiant Yachts, owned by Sam Dick Industries. Uniflite was still building the boats, except for the Esprit 37.

After 10 pilothouse Valiants were built (Sam and Dane each owned one), Sam Dick Industries sold the company to Uniflite, which later became Chris-Craft. Somewhere around 1982/83, Valiant was bought by the present owner. He built several Valiants in South Seattle and then moved production to Texas. By then we were out cruising, chartering, and brokering boats until we took a direct hit from Hurricane Hugo in 1989.

After Hurricane Hugo, we shipped our boat, *Native Sun*, to the Valiant factory for a proposed six-month re-manufacturing. The owner of Valiant Yachts asked Stanley if he could help Valiant with marketing and sales, and so Stanley was, once again, the marketing manager of Valiant Yachts, and I was asked to become manager of customer services. It was wonderful watching Valiant grow and seeing it change for the better, and we enjoyed the excitement of once again meeting with fellow Valiant owners.

After four and a half years in Texas, we realized that a lot of valuable time had slipped by, and we needed to be back by saltwater. We opened Offshore Atlantic Yachts in Annapolis and Florida. We were Valiant factory dealers until 1996. But in 1997, after a bad winter with five feet of snow in our Annapolis driveway, we decided to move back to Florida, a much more salubrious climate, where we had once had our Valiant office, some 18 years earlier. *(Editor's note: Sylvia and Stanley can be reached at offshoreYT@aol.com; 561-845-9303.)*

Our *Native Sun* is a good old boat and, as a result of her hurricane damage, a work in progress. Though she is 25 years old, she is a timeless classic. We continue to schedule projects on her as time and money allow. We are only one story of the many we see every day in our office and in our marina.

The reasons people continue to love and work on these boats are as varied as your imagination. Some center around being able to buy a boat which would be unaffordable when new, to invest time and sweat equity, and to create a yacht which will take them anywhere they dream. Some good old boats are family boats with years of memories. There are many stories yet to be told.

Our Valiant story is about how a group of young, idealistic, and enthusiastic people came together with a lot of creative energy and developed something "special." In the beginning, we had no idea this new and "radical" boat would become a timeless "classic" 25 years later … truly a good old boat."

Allied Boat Company

Builder of the Seawind and other leg

by Dan Smith

The seed for the Allied Boat Company was planted in February of 1960 when Annapolis naval architect Thomas Gillmer designed a 30-foot ketch-rigged sailboat for Rex Kaiser, an attorney from Wilmington, Del. This boat would become the famous Seawind 30, the first fiberglass boat to sail around the world with a voyage beginning in 1964. Alan Eddy spent four and a half years circumnavigating the globe with *Apogee*, hull #1.

Lunn Laminates of Port Washington on Long Island Sound created the molds for this boat and built five of them. It's not clear how Lunn Laminates and the original group that was to form the Allied Boat Company were introduced. Perhaps Lunn Laminates sought sales help from the New York City firm Northrop & Johnson, due to their reputation as the most successful yacht brokerage firm on the East Coast.

Northrop & Johnson enlisted the aid of Thor Ramsing of Greenwich, Conn. Ramsing, in addition to being a well-known racing sailor, also had the financial resources necessary to initiate a new boat production company.

Allied's treasurer, Serge McKhann, filed papers with the states of Delaware and New York on Feb. 9, 1962, officially establishing the new company as Allied Boat Company, Inc.

The company was formed with $70,000 in cash contributed by Ramsing, $31,000 worth of molds contributed by Lunn Laminates, and $31,000 worth of designs and specifications contributed by Northrop & Johnson. The company ownership was based on 96 shares of stock with Ramsing holding 83 of these. The remaining 13 shares were divided evenly among James Northrup, George Johnson, and Howard Foster.

Foster, a marine consultant and representative for Northrop & Johnson, was named president. They agreed to establish the building site in Catskill, N.Y., in what was originally a brick plant. Located on the Catskill Creek just off the Hudson River about 100 miles north of New York City, it was an ideal place from which to build and launch their boats.

Ramsing did well racing his Seawind, winning prizes in the Southern Ocean Racing Circuit. The Allied reputation grew accordingly, but he was not complacent enough to produce just one type of sailboat. From the beginning, Allied needed other models from notable architects in order to please larger families and deeper pocketbooks.

Ramsing also had been very successful racing his 46-foot *Solution* designed by Sparkman & Stephens. He reasoned that a smaller version of the same boat might be readily accepted. He asked Frank MacLear and Bob Harris to design the smaller boat. They created the 35-foot Seabreeze, a centerboard boat which could be rigged as a sloop or yawl. The company built 135 of these over a nine-year period beginning in 1963.

A short while later another well-known naval architect, Bill Luders, introduced the Luders 33, the third exceptional yacht to grace the Allied yard. Next, Allied added the Britton Chance-designed Chance 30. With its fin keel and spade rudder, it was a bit ahead of its time and not received as well as the other "sturdier hull" models.

In 1964, only a year after forming the company, Ramsing sold his share of the partnership to Northam Warren, another well-known racing sailor. Warren also purchased the stock held by Lunn, Northrup, and Johnson, making him the primary owner of the Allied Boat Company. During the remainder of the '60s, Warren and Foster aggressively marketed the four models in the Allied line of sailboats.

Foster maintained control of production and sales at the factory while Warren went "on the road" attending boat shows and entering races with his Seawind 30. The company sold their products

The Allied Boat Company established its building site on Catskill Creek in Catskill, N.Y., 100 miles north of New York City. Just off the Hudson River, it was an ideal place from which to build and launch boats. For the company's entire time in business, from 1962 to 1981, it remained at this location. Northam Warren, at right, was the key leader during the company's best years.

directly to customers; there were no distributors.

Northam Warren

Northam Warren had a great perception and zeal for life. He was raised on Long Island, where his father, an avid sailor, saw to it that his children, including two daughters, each had a sailboat. The senior Warren raced centerboard boats when he wasn't attending to the family cosmetic business. Northam attended Princeton University and won major sailboat races three out of his four years there.

After service in the field artillery in World War II, Warren owned several boats and traveled extensively to race them. Some of the races included the Annapolis to Newport Race, the Bermuda Race three times, the Chicago-to-Mackinac Race, and two Transpacs to Hawaii.

During my interview with Northam Warren, I learned that Allied became the first company to supply fiberglass hulls in colors other than white. This was an

exclusive option, which actually started with the Seawind 30, but was also available with their other models. The company's aggressive marketing strategies often gave it a jump on competition. "She'll cross an ocean if you will" was the oft-repeated motto associated with the Seawind 30.

Warren noted that another clever promotion was the annual Pinkletink, named after a frog which lives in a tree on Martha's Vineyard. Each year he had the factory do a special fitting job using all the latest and heaviest hardware. These boats were exceptional, sporting the latest in sails and the most sophisticated equipment on the market. Every part of the boat was "ultra-finished."

At the beginning of each season, Warren went racing with the Pinkletink. Well-known in the circuit and a crafty racing skipper, Warren, with this highly prized Seawind became a familiar figure from New England to the Caribbean. Anxious admirers knew this special boat would be for sale at the end of the season. After three years, many people were waiting to purchase these special Allied boats.

Glen Neal

While Warren was promoting Allied products north and south via boat shows and racing circuits, Howard Foster and the factory had the responsibility of building boats to fill the orders he was creating. A primary member of the factory team was foreman Glen Neal, who was born and raised in Catskill. He was looking for work in 1966 to fill in the winter months that usually crippled his carpentry business. His timing was good. The Allied Boat Company, going strong at that time, had plenty of orders gathered from summer and fall boat shows and racing events.

Neal went to work for $1.50 an hour. He planned to stay there through the winter, then start building houses again in the spring. He didn't know or particularly care about boats, but it was a warm indoor job during the winter.

He immediately recognized the inefficiency of having too few pieces of equipment for use by too many employees. His department had only one electric hand drill and one sabre saw, for example. In order to retrieve these small power tools, workers made numerous trips to other parts of the shop, which wasted time and frustrated workers. After six months Neal presented Foster with his ideas for production improvements and was rewarded with a promotion to foreman of the carpentry and finishing department. He stayed with Allied from 1966 to 1972, during what appear to have been their most productive years.

According to Neal, Allied was recognized as a high-quality boatbuilder — possibly the third best in the world. I was unable to learn what companies the two other leaders were, but the integrity of Neal's interview lends credibility to this statement. Readers may speculate about the other two.

Neal ultimately led a crew of 35 who did carpentry work inside and outside: deckwork, handrails, bowsprit, and bulkheads along with some minor fiberglassing. A separate department did hull and deck fiberglass work. A third department did the wiring and electrical installations. The building process was synchronized, using a progress board and a card system to track projects as work moved each boat along the assembly line. Neal and his team added the finishing touches as the boats moved out the door.

Thanks to the efficiency in the plant, few boats were returned for rework. Allied could afford to give the owner a strong warranty. Neal occasionally went out on calls to deal with minor problems, like a blister on a wood bulkhead.

Neal said he prided himself on doing things right and that the Allied Boat Company was a good place to work. Peak employment reached about 130, and orders were plentiful during the late '60s and early '70s.

Neal suggested that quality workers should receive top wages. He recommended to management that they offer a pension plan or an incentive program to help inspire employee output. He kept records of the trimming crew's performance and introduced competition to improve the quality of work. He was obviously a strong catalyst in the development of the Allied work-force and in the solid reputation which the company earned as a result.

Times change

Over time, other models were introduced. The Greenwich 24, by George Stadel, was the smallest boat offered by Allied. Not as popular as the other heavier models, the molds were eventually sold off to Cape Dory and ultimately became the Cape Dory 25. The fleet was expanded to a 39-footer and the ultimate XL-2, a 42-foot sailboat designed by Sparkman & Stephens. Orders were plentiful, giving the appearance that all was going smoothly.

Early 1969 brought changes which would eventually make Allied flinch and ultimately cause it to falter. Oil prices would soon escalate from $5 to $20 per barrel. Because it is a principal ingredient in fiberglass, the steep price increase in petroleum caused a substantial rise in production costs.

In addition there were some leadership problems and personality conflicts in the front office, which introduced chaos in the company and caused many to leave. Assistant plant manager Bob Jones departed in 1969, closely followed by plant manager Walter Laskowski. The loss of these key managers in the production area negatively affected employee morale.

The unsettled mood reached throughout the administrative, engineering, and labor departments. Together with negative national and international economic influences,

the strains on Allied were taking a toll. Eventually, officers filed a mortgage foreclosure at the Greene County Courthouse on March 18, 1969. This notice signaled trouble in the front office at a time when the cash flow from orders should have been adequate to keep the company afloat. During this time increasing numbers of suppliers began to file judgments against the company. Some information suggests that Warren bought Foster's interest in 1971, thus making him the sole owner of Allied.

The period from 1969 to 1974 must have seen some very traumatic moments. Employees who were experienced and capable were leaving for other employment. Recognizing this downward spiral, Warren placed an ad in *The Wall Street Journal* in 1973 to sell the company, 11 years after it was formed.

Saved?

At this point, a shining star appeared for the company. Robert Wright, a cruising sailor from Little Falls, N.Y., put together a partnership with two others and negotiated with banks and creditors to allow him to start building again. Wright was an electrical engineer, had obtained a law degree from Cornell University, and was experienced as a practicing attorney.

He and his partners put up $200,000. That infusion of cash, together with the backlog of orders equal to six months' production and deposits of $177,000, made the future look brighter for the new company, now called The Wright Yacht Company. Wright's wife, Jean, was secretary, and their son, Paul, was plant manager. These three knew the meaning of work and the importance of customer satisfaction.

During this time, Wright commissioned Thomas Gillmer to create another legendary Seawind, slightly larger than the original. This became the Seawind II. A ketch-rigged 32-footer, it had the same hull as the previous Seawind. The Seawind II served as the flagship of the new company. Other new boats included the Princess 36, Mistress 39, and the Mistress Mark III. This nucleus of quality yachts promised to put Allied back on course as a front-runner in American boatbuilding. The promise, unfortunately, was unfulfilled.

Anxiety, possibly induced by stock market fluctuations and an unsettled economy, caused Wright's partners to retreat, taking their financial support with them. This left the firm in severe financial distress. Bills began to mount and liens against the company started appearing. Operations must have been fairly normal until the third year of their lease, since the first lien was not filed until July 1978.

The Wright Yacht Company was closed and the Job Development Authority (JDA) became holder and full owner of all Allied equipment, fixtures, molds, and real estate. The future appeared to offer little promise of salvaging what was once a successful boatbuilding enterprise.

Fortunately, the JDA located Stuart Miller, an attorney from New York City, who owned an Allied Princess. He was familiar with the company's reputation and apparently convinced the JDA he could save jobs for Greene County and make the business profitable once more. He also planned, coincidentally, to build a 50-foot sailboat for himself.

With Miller as the new CEO, another name change was introduced: CFG/Allied. I was unable to locate the meaning of these initials until Ed Hodgens, a faithful 15-year Allied employee, explained that they had stood for Conception for Financial Growth.

Miller assumed control of the company in early 1979. A report in a Seawind II newsletter claimed the 100th Seawind II was completed and delivered to Florida around the same time.

Articles in boating magazines tracked mistakes of CFG/Allied and reported attempts to rescue the company. One magazine was candid, placing blame on the company leaders for "not being familiar with special problems of building and marketing boats." The doors of this third generation of the Allied Boat Company were closed in April 1980.

Closing chapter

Once again, the JDA was on the hunt for a buyer. They found a man with a working knowledge of marketing sailboats. Brax Freeman, a former yacht dealer, boasted of entrepreneurial skills. He promised to move the "new" firm, now to be named International Cruising Yachts, into a place of prominence in the boating world.

Freeman, according to employees, had a flair for entertainment and gave prospective buyers dinner and show tickets for evenings in New York City. These enticements were meant to lead to the purchase of one of ICY's sailboats. Freeman's tenure with ICY lasted until late 1981, when he collapsed under the financial pressures brought to bear by angry creditors and unpaid tax collectors. The closing chapter of this fine old boatbuilding company was being written.

Various letters from JDA seeking buyers for the land (5.05 acres) and equipment indicate their persistent efforts to recoup money lost during their many attempts to save jobs for Greene County.

Ultimately, the land was sold for approximately $200,000, buildings were torn down, and an overcrowded complex of condos, each with a boat slip included, was constructed on the water's edge. (This venture, too, has since met with a number of obstacles.) An auction took place June 20, 1984, at which time all remaining equipment and molds were sold for $40,000.

Thus, it was done — the Allied Boat Company was no more.

The

by Steve Mitchell

It's a familiar story to sailing buffs. The Pearson cousins, Clinton and Everett, began the modern era of fiberglass production sailboats at the New York Boat Show, in January 1959, with the introduction of the Carl Alberg-designed Triton. They sold 17 of those 28-foot boats at the show, and "it started us chasing money," says Clinton. Indeed, that one show put the fledgling company on the map and in solid financial shape, but this well-known story reveals only part of the roots of Pearson Yachts.

"The Navy ROTC sent me to Brown University," says Clinton, "so after I graduated, I had to serve three years of active duty on the destroyer *Joseph P. Kennedy*. This was from 1952 to 1955. While on the *Kennedy*, I built a small model for an 8-foot fiberglass dinghy. Later, I built a mold for the dinghy in my father's garage. I started the company in May 1955 with the $2,000 I received when I left the Navy."

Clinton tried making the dinghies using a vacuum process. "But I had no luck with it after six or seven attempts. So I started making them from mat and resin in a lay-up in the garage."

It didn't take Clinton long to run out of money. He started working for an insurance company during the day and making the dinghies at night. But sales were promising enough for him to incorporate in early 1956. A high-school classmate named Brad Turner helped out by investing $5,000 in the business.

Clinton's cousin, Everett, who was a couple of years behind Clinton at Brown, also served in the Navy after graduation. He worked with Clinton, building the dinghies when he could, and was able to come to the new company full-time in 1957. Fred Heald, a fellow Brown alumnus, joined them as head of sales.

At the request of customers, the cousins built larger dinghies, which they exhibited at the New York Boat Show in 1957. Sales were so good that the young company needed room to expand. The Pearsons found an empty textile mill on the waterfront on Constitution Street in Bristol, R.I., with a flexible lease that allowed them to pay just for the space they used. Soon they were renting the entire first floor. By the time of the show in 1958, they also were making 15- and 17-foot runabouts based on Clinton's designs, in addition to the line of dinghies.

Things started to gel in 1958. "A fellow named Tom Potter, who worked for an outfit called American Boat Building, over in East Greenwich, asked us if we would be interested in building a 28-foot fiberglass sailboat that would sell for under $10,000," says Clinton. "Tom knew Carl Alberg, who was working at the Coast Guard Station in Bristol, across from where we were renting space. We agreed, and Tom had Carl design the boat for us. So Tom Potter was really responsible for the concept of the Triton."

Big in Europe

"I had an idea for a family cruising boat using fiberglass," says Tom. "Family cruising was a big thing in Europe at the time, but not in the U.S. The idea hit me that we could do the same thing, and it would be successful if the price was under $10,000. Everyone was still building boats from wood, but I thought fiberglass was the way to go." Building with fiberglass allowed for a much roomier interior compared to wooden boats.

Tom adds: "I approached a number of people about my idea. My employer at the time, American Boat Building, wasn't interested. I talked to Sparkman & Stephens. They wouldn't give me the time of day. I got to know Carl while I was at American Boat Building, and talked to him about the idea. He's the one who introduced me to Clint and Everett. He knew they were building fiberglass dinghies and runabouts across the way from him and thought they might be interested in building a sailboat. Naturally they were. So Carl designed the boat, and I financed the tooling for it. Carl had been designing ammunition boxes for the Coast Guard when the Triton idea came along."

The cousins built the boat and had to borrow money to truck the Triton to the 1959 New York Boat Show. They didn't even have the cash between them to pay the hotel bill. The boat's base price was $9,700. When it became an instant success, with $170,000 in orders, the hotel bill was paid, and the young company was off to a solid start.

Pearson Era

Starting in a garage, cousins Clinton and Everett Pearson initiated an era in yachting history

"Right after the boat show," continues Clinton, "we still needed money to build those 17 boats. We already owed the bank $6,000, and we had to go back to the bank to ask for even more. We asked for — and got — $40,000. That started us chasing money. From the very beginning, we had to chase sales to pay off loans, a never-ending process.

"Carl sold the Triton plans to us for $75," states Clinton, "and then he wanted royalties of $100 per boat sold." The Pearsons agreed to those terms, although eventually it would work against Carl.

Flush with the success of the January 1959 show, the cousins took the company public that April. "The shares opened at $1," says Clinton. "They were $3 a share the next day. By the end of 1959, the price was $13 a share."

Sales stayed strong enough for the company to add another production site. Pearson bought the legendary Herreshoff Yard in November 1959 for $90,000, half in cash and half in stock. Production also continued at the Constitution Street site in Bristol.

Clinton explains, "In 1959, the market was just right for us. The price [of the Triton] was right. Leisure time was a big thing. They were pretty simple boats to build at the time, and we tried to build one boat a day to keep up with the demand."

Controlling interest

In 1960, the Pearsons were trying to obtain approval for another stock offering, but had trouble getting the proposal through the Securities and Exchange Commission. The money chase was continuing, and the company needed another cash infusion to finance its rapid growth.

"Luckily, Grumman was there and interested in the company," says Clinton. In 1961, Grumman Allied Industries bought a controlling interest in Pearson Yachts for $800,000. Grumman wanted to diversify its

Pearson 10M, at far left, Pearson 26, at right. Both photos from Pearson marketing materials dated 1977. Our thanks to Tom Hazelhurst for sharing these treasures.

military-aircraft business. It already had an aluminum-canoe division as a toehold in the boating industry. Grumman sought a stake in the developing fiberglass-technology area, and Pearson was a leader in the field at the time. The Grumman purchase started a long period of growth and stability for the yacht manufacturer.

With the full backing of the new owners, the Pearson cousins expanded production to include more boats, both large and small. Most also were Alberg-designed boats. The 20-foot daysailer called the Electra, "which we made into an open 22-foot daysailer called the Ensign," says Everett, was added in 1960. The Alberg 35 followed in 1961.

According to Clinton, "When we started building the Ensign, it was an exception [to the one boat a day goal.] We eventually got that line up to two a day, then three a day" to meet the demand. It became a popular one-design racer, with nearly 1,800 produced in its 21-year production run. *(Photo on Page 21.)*

Other Alberg designs were the Rhodes 41, a 26-footer called the Ariel, and a 16-footer called the Hawk. Pearson also built the Invicta, a 38-footer designed by Bill Tripp, in the early 1960s. "It was the first production fiberglass boat to win the Newport-to-Bermuda Race, which was the 1964 race," Everett says proudly. The young firm also produced powerboats, including the 34-foot Sunderland.

States Clinton, "A lot of credit for the early success of the company has to go to Tom Potter for selecting a line that would sell." For his part, Tom says, "Fred Heald and I were close friends, and we ran the marketing end together. I primarily worked with the designers on boats we thought would sell, while Fred worked more on marketing the boats. It was a pretty exciting period of my life."

As with the Triton, Carl Alberg received a royalty on each of his designs that was sold. "As the boats got more expensive, the royalties went up," states Clinton. "By 1964, Carl was making $40,000 a year from us, on top of what he made from the Coast Guard. Grumman wasn't happy at all with the royalties and said we should hire our own architect." But first, Everett approached Carl about renegotiating the deal on royalties. "He was a stubborn Swede and refused," says Everett. "So we had to say: 'No more boats from him.' "

A Grumman employee named John Lentini had a hand in the next serendipitous step for Pearson Yachts. John had purchased a sailboat designed by the prestigious New York firm of Sparkman & Stephens. One of the naval architects involved in that boat was a young fellow named Bill Shaw, and he and John became acquainted. When Lentini learned of the opening at Pearson Yachts, he mentioned it to Bill, who went to Bristol, R. I., for an interview with the Pearson cousins.

Momentous year

"I had worked for Sparkman & Stephens for 11 years before leaving to work for an outfit called Products of Asia, which also was based in New York," says Bill. "It imported custom wooden yachts from Hong Kong, and I ran their marine division." The company's most famous import later on was the Grand Banks line of trawlers.

The interview went well, and Bill was hired as the Director of Design and Engineering with a starting salary of $18,000. "We hit it off," says Everett. "It worked out very well."

"The cousins built the boat and had to borrow money to truck the Triton to the 1959 New York Boat Show. They didn't even have the cash between them to pay the hotel bill."

"Rhode Island was my home state, and I was thrilled to be able to return there," he adds.

As it turned out, 1964 was momentous for Pearson Yachts for more than the hiring of Bill Shaw. Grumman financed the construction of a 100,000-square-foot manufacturing plant in Portsmouth, R.I., and planned to move the company there the following year. "Lots of people didn't want to make the move," says Clinton. "Plus, Grumman fired me in 1964."

Fired?

"Yep, fired."

"My boss was a sailor," explains Clinton, "and thought himself an expert. He was the comptroller of Grumman but actually acted more as the treasurer. We got along OK for a couple of years, but what set him off was a new concept we had. Tom Potter had an idea for a full-powered auxiliary. This comptroller said we needed to sell five of them before we could go with it. We discussed this for an hour at a board meeting. At the end of the discussion, they took a vote, and I won. I knew that sealed my fate. The boat turned out to be the Countess 44, which was quite successful.

"I really hated working for a big company," Clinton goes on. "I had already made plans to do something else. I was ready to resign anyway. If they had just waited a few more weeks, I would have left on my own, and everyone would have been happy."

Clinton bought out a troubled sailboat-maker called Sailstar in West Warwick, R.I. "I still had the lease on the Bristol factory, and moved the company there," he says. "Carl Alberg designed a 27-footer for me. I called it the Bristol 27, and soon the Sailstar name faded away." He changed the company's name to Bristol Yachts, and thus was born another famous sailboat manufacturer with a Pearson pedigree.

Back in Portsmouth, business was booming for Pearson Yachts, but not everything the company was building would float. Grumman combined the sailboat company with its subsidiary that made aluminum canoes and truck bodies. "Grumman was building aluminum trucks for United Parcel Service," states Everett. "Soon Pearson Yachts was making the fiberglass rooftops and fronts for the trucks. We did it really just to accommodate Grumman."

Tom Potter was the next to leave. "I hated working for Grumman," he says, "and I quit. I actually was out of work for a while when Clint asked me to join him at Bristol. He was building stock boats, and I wanted to do custom work." Tom stayed with Bristol Yachts until he retired in 1972. He then went back to school to become a naval architect and

began a second career designing boats. Today at the age of 84, he's still designing sailboats.

Special permission

By 1966, Everett Pearson also was ready to leave. According to Everett, "We were run by a board of directors. We had to write quarterly reports and go to board meetings. I didn't like it at all. My interests were in producing sailboats. I decided to go out on my own. I agreed not to compete with the company for three years, so I decided to go into the industrial business.

"But first," continues Everett, "I helped out with a 58-footer for a fellow I knew named Neil Tillotson. I had to get special permission from Grumman to do the boat, which was granted since it didn't compete with anything Pearson was building." Later, he teamed up with Tillotson to form Tillotson-Pearson, Inc., which has become a major force in industrial uses of fiberglass-reinforced plastics and other, more exotic composites. Known today as TPI Composites, its varied product line includes windmill blades, flag poles, aquatic therapy pools, and J-Boats, among other sailboats and power boats. Everett, 65, now serves as chairman of the board of TPI. Just 10 short years after it all began in Clinton's garage, no one named Pearson was running Pearson Yachts.

"Shortly after [Everett left], Grumman asked me to run the company," says Bill Shaw. "Never having done that, I said sure." Bill was made the general manager of the Pearson Yacht Division.

"We put together a great team," he continues. "And Grumman was great to work for. They were very supportive in getting us the best equipment and machinery. We had computers to help us cut out materials. They also expanded the Portsmouth facility later on so that we could build bigger boats."

According to Bill, Grumman also started making firetrucks and motor homes based on a truck body. "It's interesting to build boats on one side of a plant, and motor homes on the other. I had to be a diplomat. At one point, we even built some modular housing for Grumman. We erected it at the plant and used it as an office as a prototype."

Pearson 30 from Pearson marketing materials.

Grumman began manufacturing the housing at another site and continued making aluminum canoes in New York.

Under Bill Shaw's leadership, Pearson Yachts enjoyed rapid growth in sales in the late '60s and early '70s. The product line was varied and included powerboats as well. Sizes ranged up to 44 feet, thanks to the new production facility Grumman funded. Then the fuel crisis hit in the early '70s, and the company found itself at a crossroads of sorts.

"When the fuel problems hit," says Bill, "the powerboat business was hurt badly. We found that people went to sailboats who never thought they'd set foot in one previously. We decided we were a sailboat company and wanted to concentrate on that. We also came face-to-face with the realization that to be successful in that line of business, we had to be committed to the dealers. Other manufacturers were always after our dealers, too, trying to steal them away from us."

Bill started holding meetings with an advisory board partially composed of dealers. "The boats were developed with specific price points in mind and with dealer input," he continues. "A new design had to satisfy a lot of people; otherwise it wasn't worth the trip. More than once we had what we thought was a great idea, but the dealers would turn it down. We would pull them into the plant and bounce ideas off them. They were extremely helpful to the success of the company."

Condo boat

John Burgreen, who now owns Annapolis Yacht Sales in Annapolis,

Md., one of the earliest Pearson Yacht dealers, was one of those dealers Bill counted on. "Pearson would get a group of us together from different parts of the country," explains John, "to brainstorm new ideas. We talked about what should go in a particular boat, what the market was demanding. We'd discuss such things as heads that had to be bigger, or we had to have stall showers, or we needed more performance-oriented boats, or more cruising boats. All the dealers worked together pretty well.

"One boat that comes to mind," muses John, "is the Pearson 37. We called it the condo boat. We had more fun than you can imagine working on that boat. We went berserk. Everyone there was at fault for that one, although it did pretty well."

The 37 was introduced in 1988 to considerable dock chatter. At the Annapolis Boat Show, people could be heard saying, "You've *got* to see the Pearson 37!" The boat had a queen-sized island berth forward, two swivel chairs in the saloon, a television and stereo center, and a separate shower stall. The cabin was about the most luxurious to be found in a production sailboat. It made a definite statement about how serious Pearson was at attracting new customers in a changing market.

Another key factor in the company's success was its advertising firm, Potter-Hazelhurst. "Their strength was marketing, not necessarily in printing pretty ads," Bill says. "One of their employees developed an index of buying power by county and city for the whole country." The company used the data to develop sales estimates for particular markets, a most effective tool. "It worked well for the dealers, giving them sales goals, and a good idea of what their sales should be," he adds.

According to Tom Hazelhurst, his firm handled Pearson's marketing and advertising efforts from 1969 until the end in 1991. "Pearson grew during that period, and so did we," he says. "Under Bill's tutelage, they built damn good boats. I'm not saying that because I was their advertising man, but because I bought two of their boats. The boats just don't break."

In 1980, Grumman expanded the Portsmouth plant to 240,000 square feet to build even larger sailboats. The Pearson 530 was the largest boat the company ever built. The firm also began building power boats again, although none was designed by Bill.

By the mid-'80s, Grumman started looking for a buyer for Pearson Yachts. "I tried to buy the company in 1985," says Clinton, "when Grumman made it known they wanted to sell. But the deal didn't come off. Times were already starting to change in the sailboat business. Pearson only lasted as long as it did because of the kindness of Grumman. I doubt the company ever made any money for Grumman."

Bill Shaw disagrees. "We certainly had some lean years, but we also had some very productive ones," he states. "Sure, Grumman looked at it as a business, and we turned a good profit for Grumman in the healthy years, especially when we started building the larger boats with larger profit margins. I don't think they would have kept the company that long if we weren't doing well for them."

Business downturn

In March 1986, Grumman sold Pearson Yachts to a private investor group headed by Gordon Clayton.

"Gordon had no prior experience in the boating business," says Bill. "When he came on board, we looked forward to taking advantage of his overall business experience to add a healthy element to the company. It's unfortunate that when he came along, business started going badly for the entire industry."

The company was also faced with an aging model line. "Things like aft staterooms and open transoms were popular, and we couldn't add those features to many of our boats," Bill explains. "We worked with the models we could adapt. For example, we brought back the 34, and we also changed the 36, which we extended and called the 38."

Pearson sailboat introductions, 1957 to 1980*

Plebe	1957	Invicta II	1966	Pearson 28	1974
Triton	1959	Lark	1966	Pearson 365	1975
Tiger Cat	1960	Renegade	1966	Pearson 323	1976
Electra	1960	Wanderer	1966	Pearson 31	1977
Invicta	1960	Pearson 22	1968	Pearson 23	1977
Hawk	1960	Pearson 24	1968	Pearson 424	1977
Alberg 35	1961	Pearson 300	1968	Pearson 26OD	1977
Bounty II	1961	Pearson 43	1968	Pearson 40	1978
Petrel	1962	Pearson 35	1968	Pearson 32	1979
Ariel	1962	Pearson 33	1969	Pearson 36 PH	1979
Rhodes 41	1962	Pearson 39	1970	Pearson 530	1980
Vanguard	1962	Pearson 26	1970	Pearson Flyer 30	1980
Ensign	1962	Pearson 390	1971	Pearson 36 Cutter	1980
Packet	1963	Pearson 30	1971		
Resolute	1963	Pearson 36	1972		
Commander	1964	Pearson 10M	1973		
Countess 44	1965	Pearson 26W	1974		
Coaster	1966	Pearson 419	1974		

* (Other sailboats came later, of course, and dinghies and motorboats also were manufactured in the early years.)

The Pearson Ensign has remained a popular one-design racer since its introduction in 1962.

In 1987, Pearson introduced several new designs with wing keels and 10-year warranties against hull blisters. "I'm partial to centerboarders myself," adds Bill, "but not everyone is. The wing keel was a good way to get shoal draft."

Gordon Clayton was "aggressive in picking up Sunfish and Laser for us," says Bill, "and also O'Day. That gave us entrée to a segment of the market we had missed before." O'Day also had acquired the Cal name earlier, so Pearson had a number of well-known names for marketing purposes.

But a general drop in business was well under way. The money chase that began in 1956 for Pearson was getting tougher.

Bill Shaw says of the demise of the company: "It was a number of things, not the least of which was a rapid fall-off in sales volume. When we thought about it, the most serious competition we had going against us was our old boats. Also, sailing was getting so expensive, and that created a loss in interest [by the public.] When the Ensign first came out, it sold for $4,000 to $5,000. At the end, it sold for $14,000, and not one screw was different. The Ensign association wouldn't let us change anything. Add to that the rising costs of slips and insurance, and owning a sailboat was simply too expensive for many people.

"When we thought about it, the most serious competition we had going against us was our old boats."

"We needed volume to make a go of it," continues Bill, "and without that, we had to increase prices. We couldn't just cut out the unneeded overhead. We had that huge 240,000-square-foot plant for one thing."

By 1990, the boating industry was rocked to its roots by an economic recession, and by a 10-percent federal luxury tax on such items as new boats costing over $100,000. While Bill maintains the luxury tax had little impact on Pearson, because few of its sailboats cost over $100,000, the buying public was confused about what the tax did and did not apply to. For example, the tax did not apply to brokerage boats — but sales of those fell, too. Many wealthy clients simply stopped buying boats altogether, refusing to pay the luxury tax on general principle even though they could easily afford it.

The end result was disastrous for many boat manufacturers. The drastic drop in sales forced Pearson into bankruptcy court in 1991, with Bill retiring just before the end. "I miss the business tremendously," he states. Bill, now 73, has had some health problems, but "with medical science these days, they keep me going," he says.

Record production run

When asked to name his favorite from the many designs he did for Pearson through the years, Bill laughs, saying, "I get that question a lot. When I was active in the company, my answer always was 'the next one.' In its day, the Pearson 30 *(pictured on Page 19)* was quite successful, especially with racing in mind. I'm helping my son do some alterations to his 1972 P-30. I also am very partial to the 365 as a cruising boat. It was so popular we had two production lines for it. It's a good, wholesome cruising boat. The Pearson 35 was one of our most successful. It was in production for 14 years, which was quite a record. We never approached that again. Most designs would last five years or so.

"I get several calls a week from boat owners, asking for help," he continues. "When the company went on the blocks [with the turmoil of many ownership changes] we lost control of so much. Everything was documented so well, and that's all gone now. When I get calls now from owners about their boats, I can't answer them unless I can remember, and that is getting to be more of a problem," he chuckles. "It was a wonderful 27 years for me."

Shortly after the bankruptcy, the Pearson molds and trademarks were sold to Aqua Buoy Corporation. To make the situation even worse, Aqua

Buoy went bankrupt before taking possession of the molds and moving them from the Portsmouth plant, which Grumman still owned. Grumman reacquired the molds in a bankruptcy sale.

This began a tumultuous time for the remnants of the Pearson name and molds. Through a series of other sales and actions, the Pearson and Cal molds and trademarks eventually were sold to a new company, formed in January 1996, called Cal-Pearson Corporation. In the disclosure statement sent to prospective stock purchasers, the principal office was listed as Bristol, R.I., but the corporate office was in Bethesda, Md. Clinton Pearson was listed as the chief executive officer and Christian Bent as the chief financial officer. The company began a campaign to raise the capital needed to build Cal 33s and 39s and Pearsons ranging from 27 to 39 feet. Bristol Yachts, then owned by Clinton's two sons, was to build the sailboats.

The exact number of boats Cal-Pearson actually built is not known, but certainly is in single digits. The company exhibited boats at the Annapolis Sailboat Show in 1996 and 1997. By 1998, no one was answering the phone at the Bethesda office, and the company disappeared in a cloud of lingering debt. A big part of its demise was the bankruptcy of Bristol Yachts, which left Cal-Pearson with no manufacturing partner. According to one insider, Cal-Pearson essentially ceased to exist when Bristol Yachts was forced into bankruptcy and its assets were sold at auction.

According to Clinton, "The Bethesda group offered me some stock to help them start the company. They were looking to publish the fact that I was involved to stimulate interest in others. They found it harder to raise money than they had thought. They did raise money in New York, but the overhead was so high with lawyers and accountants. It was a good idea, but only if they could have gotten proper financing. Training a new crew is so hard. It just takes quite a bit of money to get something like this started. Quite a few dealers were enthusiastic about the name returning to the market, too."

Clinton, who is now 70, is "not currently active in the boat business, and I have no intentions of getting back into it," he says.

Different world today

Says Everett of the Cal-Pearson Corporation, "So many people jump into the boat business without knowing what it takes. They were trying to market 10-year-old designs, and that is tough to do in today's climate. People knew they were old designs because their competitors were constantly pointing it out to the public. And trying to start the Cal line at the same time was too much."

Bill Shaw has a similar take on the short life of Cal-Pearson. "People absolutely lose their smarts when they get around boats," he says. "It's a different world out there today. Unless you have a big bankroll, you can't make it. To develop a new 35-footer, with molds and tooling, would take several hundred thousand dollars. If you are looking at a line of eight to 10 boats, as they were, it just doesn't make sense."

But the venerable Pearson Yachts name refuses to die. At the National Pearson Yacht Owners' Association rendezvous in Bristol, R.I. in August, Everett Pearson announced to the group that his company, TPI, had just purchased the trademarked name of Pearson Yachts. *(See related article on Bristol Yachts on Page 73.)*

"So many people jump into the boat business without knowing what it takes."

Says Everett, "I wanted to grab the name while I had the chance. We didn't buy the molds. All that stuff is too old."

He continues, "We do plan to develop new models. I bought the name so we'd have it there. But we have some projects involving buses, people movers, and a couple of other things that I need to get moving before we start [on a new Pearson product line]. We have some guys working on it, studying the market. Up here in New England, we're more efficient at building large boats, rather than competing with small-boat manufacturers. So we probably will start with something over 35 feet, maybe in the 40- to 42-foot range." It probably will be at least one to two years before any new Pearson yachts hit the market."

When asked the purchase price of the trademarked name, Everett replies, "I haven't told anybody. I paid too much. But when you're buying your own name back, you get carried away." He was determined to make the purchase. "It took me three months of phone calls to track these people down," he says.

TPI will handle the marketing itself, as it has done for several of its other boat lines. Everett foresees a network of six to eight dealers. "That's all we'd want. We need to give them enough territory so that they don't compete with each other."

With some 20,000 boats out there bearing the Pearson name, from eight-foot dinghies to 53-foot sailboats, the Pearson legacy is already well-established in the history of boating. Very active owners' groups keep interest in the boats quite high. In some areas, certain Pearson models sell by word-of-mouth without even being advertised. The Pearson name also is one of the most active on the Internet. Pearson bulletin boards abound on the net, and usually are among the most active in the online sailing community. *(See resources on Page 24.)*

Certainly, Pearson owners can take solace from knowing that for the first time in over 30 years, someone named Pearson once again is in charge of Pearson Yachts. The symmetry of events is satisfying for a company that has endured so much turmoil in the last decade. Pearson Yachts sails on.

When not working at his job for the federal government or singlehanding his 1989 Pearson 27 in the Annapolis, Md. area, Steve Mitchell is a part-time freelance writer. He writes for a variety of business and boating publications.

The Birth of Fiberglass Boats

Jeff and Nancy Larson enjoy their 1965 Pearson Vanguard,* Nordhavn, *the 32-foot big sister of the Triton. The Vanguard was introduced in 1962.

by Steve Mitchell

Despite the popular notion today, fiberglass and plastic resins were not "new" technology in the mid-1950s, nor was Clinton Pearson the first person to use them to build sailboats. This begs the question: who did build the first fiberglass sailboat?

According to Dan Spurr, editor of *Practical Sailor*, and the author of a forthcoming book on the history of fiberglass sailboats, *Heart of Glass*, "It probably was a fellow named Ray Greene in Toledo, Ohio. He built a fiberglass and polyester sailboat in 1942, probably a Snipe. So a sailing dinghy was the first fiberglass sailboat." After a pause he adds, "But you have to watch your terms."

It turns out there were several earlier boats made of fiberglass and various plastic resins, but most of them were too brittle for practical use. Dan says it was the development of polyester resin that started the fiberglass boat revolution. In part, this problem of terms revolves around the separate, but parallel, developments of fiberglass and plastic resins.

The ancient Phoenicians and Egyptians made glass, and are said to have used glass fibers as decorations and to reinforce pottery. (To add to the many coincidences of the history of fiberglass boats, the Phoenicians were the master shipbuilders of their day. One can only imagine what they could have done with fiberglass construction.) Through time, many other civilizations made glass strands, primarily for decoration. In 1870, John Player developed a process of mass-producing glass strands with a steam-jet process to make what was called mineral wool for insulation. A patent was awarded to an American named Herman Hammesfahr in 1880 for a type of fiberglass cloth also woven with silk.

Fiberglass experimentation continued into the 1920s, with the first actual fiberglass fibers we know today being made in 1932 — by accident. A young researcher for Corning Glass named Dale Kleist was trying to weld together two glass blocks to make a vacuum-tight seal when a jet of compressed air inadvertently hit a stream of molten glass. The resulting spray of fine glass fibers turned out to be what researchers had been trying to make for years.

In 1935, Corning Glass joined forces with Owens-Illinois, which also had been experimenting with fiberglass, to develop the product further. The word "Fiberglas" (note only one "s") was patented in January 1936, and the two companies merged to become Owens-Corning in 1938. Research showed the glass fibers to be light, yet very strong. On an equal weight basis, a strand of fiberglass is actually stronger than a strand of steel.

Development of plastics began in the mid-1800s, in part due to a challenge from a billiard ball company to find a new material to replace ivory for its chief product. Patents were awarded for a variety of plastics by the late 1800s. Research speeded up in the 1920s, and again with the approach of World War II, due to the shortage of many natural products. Carlton Ellis of DuPont was awarded a patent for polyester resin in 1936. The Germans furthered the manufacturing process of this early polyester by refining its curing process. Early in World War II, British Intelligence stole these secrets and turned them over to American firms. American Cyanamid produced the direct forerunner of today's polyester resin in 1942.

This early polyester resin quickly ended up in a number of manufacturing hands. Owens-Corning had been experimenting with fiberglass cloth and resin combinations to create structural elements for airplanes. By 1942, the company was turning out fiberglass and polyester airplane parts for the war effort.

Back in Toledo, Ray Greene, who had studied plastics while a student at Ohio State, had been working with Owens-Corning on fiberglass composites. He had made composite boats as early as 1937, but was searching for just the right plastic to use for boats. He received a shipment of the polyester resin in 1942 and produced a daysailer.

Others followed suit. Dan says, "B.B. Swan made a small fiberglass catboat in 1947. Carl Beetle built fiberglass boats at a GE plant in Pittsfield, Mass. He exhibited his

fiberglass boat at a show in January 1947."

The first sailing auxiliary made from fiberglass appeared in 1951. "It was called the Arion, a 42-foot ketch." states Spurr. "It was a one-off design by Sidney Herreshoff. Then Fred Coleman's Bounty II came out in 1956."

Dan goes on to explain that Ray Greene was not finished either. "He formed his own boatbuilding company and produced a 25-foot Sparkman & Stephens design in 1957 called the New Horizon," says Spurr. "He built 175 of them. That was a pretty good number of boats, and right before the Triton, too."

Tom Potter, the driving force behind the Triton, agrees. "Ray Greene did bring out a fiberglass boat before we did, at least what you would call the first sailing yacht," he says. "It was kind of an odd looking boat, though. The Triton certainly was the first mass produced boat that sold well."
Bill Shaw also acknowledges Ray Greene as the first to build a fiberglass boat. "And I worked at Sparkman & Stephens when we designed the New Horizon," he says. "I remember Ray Greene very well."

How the Pearson cousins came to be viewed as the fathers of the modern fiberglass industry is not clear, given the many boats that preceded the Triton. Nevertheless, it was the Triton that captured the buyer's heart — and pocketbook — in 1959. In the end, that's all that matters.

Resources for Pearson sailors

Pearson 26 site
Dan Pfeiffer
danp@en.com
<http://www.en.com/users/danp>

Pearson 28 sites
- Ron Davis
  CptinRn@aol.com
  <http:www.geocities.com/cptinrn>
- Edward Lee Kennedy
  lkennedy@acanthus.net
  <http://www.acanthus.net/p28gallery>
- Pearson 28 email discussion list
  Mark Petrush
  P28List@softhome.net

Pearson 30 sites
- Richard Ian-Frese
  rif@u.washington.edu
  <http://staff.washington.edu/rif/Squid>
- Bob Brody
  Bobsprit@aol.com
  <http://members.aol.com/bobsprit/RBP30.html>

Pearson 422 site
Gary Soward
garyjana@concentric.net
<http://www.geocities.com/TheTropics/Paradise/2335/>

Pearson Ariel-Commander newsletter and website
Bill Phelon
42 Las Cascadas
Orinda, CA 94563
925-254-8338
rphelon@juno.com
<http://www.pearsonariel.org>

Pearson Electra contact
Bob Hinely
1204 Condor Dr.
Jacksonville, FL 32223
904-262-2640 (home)
904-269-0027 (work)

Pearson Ensign newsletter and sites
Jay Robinson (newsletter)
21505 Lake George Blvd.
Anoka, MN 55303
612-753-3982
argos@skypoint.com
<http://www.effectnet.com/nitchie/ensign>
<http://www.geocities.com/~ensignclass>

Pearson Renegade Owners' Association
Michael Lehmkuhl
314 A. Street, NE
Washington, DC 20002
ghz@mindspring.com
<http://www.mindspring.com/~ghz/>

Pearson Resolute contact
M. Brent Boydston
132 N. Third St.
Box 5113
Durant, OK 74702
580-924-4455
mbrent@redriverok.com

***The Vanguardian* newsletter**
Conrad (Connie) Hoover
2600 W. 17th St.
Wilmington, DE 19806-1109
302-888-2722
choover@tower-hill.pvt.k12.de.us

Pearson Tritons
- Pearson Triton Association (National)
  Dorothy Stevens
  300 Spencer Ave.
  E. Greenwich, RI 02818-4016
  suter@ix.netcom.com
  <http://www.netcom.com/~suter/nta/>
- Triton One Design Fleet of San Francisco Bay
  Larry Suter
  suter@ix.netcom.com
  <http://www.netcom.com/~suter/todsf.html>

Pearson Vanguard websites
- Fred Fuller
  fredfuller@aya.yale.edu
  <http://www.execpc.com/~feftrpt/>
- Ralph Vinciguerra
  rlv@homemail.com
  <http://rlv.cjb.net/blue-angel/>

Pearson Yacht Owners' Association (National)
Bill Lawrence
28 Vesey St., Ste. 2172
New York, NY 10007
718-789-7105
pearsoncurrent@pipeline.com
<http://www.pearsoncurrent.com/>

Other Pearson sailboats
- <http://www.geocities.com/TheTropics/Paradise/3730/Pearsons.html>
- Email Discussion Group
  <http://www.sailnet.com/list/pearson/index.htm>

Pearson logo clothing
Stuart Ofer
107 Metcalf Dr.
Williston, VT 05495
802-879-1779
sofer4@aol.com

Mystic Seaport website
Philip Rhodes donated all drawings here
<http://www.mysticseaport.org/>

Rostand, R.I., Inc.
Carrol Harrington
Box 737, Dept. WB
Chepachet, RI 02814
Carrollharrington@compuserve.com
Has aftermarket castings and fittings.

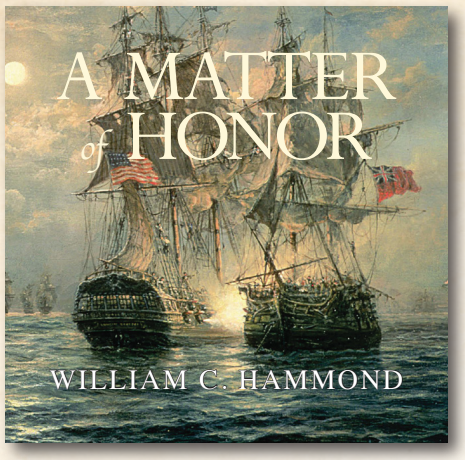
Maier Hatches
<http://www.baierhatch.com>
Has cast aluminum hatches.

Rig-Rite
<http://www.rigrite.com>
Source for old rig castings and standing rigging.

Pearson sailors appear to be blessed with many sources of information and supplies. Many more websites and resources for parts and equipment can be located through the websites listed above.

Historical Sea Stories

Download them now from www.AudioSeaStories.com



A Matter of Honor

A New Novel by William C. Hammond (Historical Fiction)

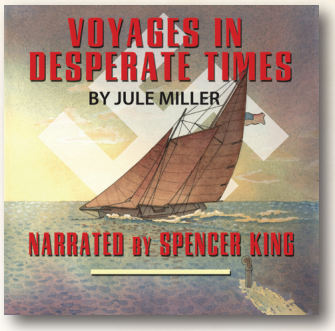
The American Revolution is the daily reality in this story of a Massachusetts teenager who ships out with John Paul Jones. On the high seas, in England and France, on the sugar islands of the Caribbean, as well as on the battlefield of Yorktown, Richard Cutler proves his mettle and wins the love of a beautiful English aristocrat from the very arms of Horatio Nelson himself while also earning the admiration and allegiance of many in the new republic of the United States.

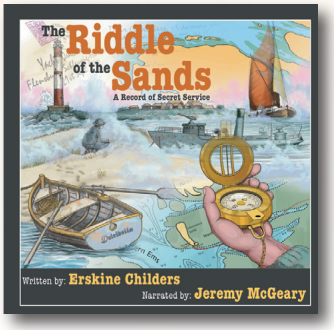
A *Matter of Honor* is the first of the Cutler Family Chronicles, a brilliant new naval historical fiction series by Bill Hammond. This well-researched series will delight fans of Patrick O'Brian books. What sets this historical fiction apart is its focus on the Napoleonic Wars from the perspective of the United States.

Voyages in Desperate Times

by Jule Miller (Historical Fiction)

In the early days of World War II, the U.S. Navy and Coast Guard were woefully short of vessels to fight the battle with German U-boats along the U.S. East Coast, a battle the United States was rapidly losing. The 54-foot schooner yacht, *Tiger Lillie,* was commandeered and became Coast Guard Reserve *Vessel 3114*. The regulations required Ensign Nicholas Worth and his six-man crew to repeatedly take her out into the Atlantic that winter and spring . . . but the regulations did not require them to come back.





The Riddle of the Sands

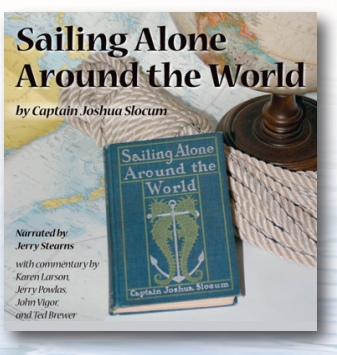
by Erskine Childers (Historical Fiction)

While sailing in the Baltic Sea, two men uncover a secret German plot to invade England. *The Riddle of the Sands* (written in 1903) was heralded as the first true spy novel, written by Childers to encourage the British government to bolster their presence in the North Sea. This story features equally thrilling scenes of espionage and adventures at sea.

Sailing Alone Around the World

by Joshua Slocum: (Historical Non-fiction)

In 1895 at the age of 51, Captain Joshua Slocum began a 3-year, 46,000-mile solo circumnavigation aboard his 37-foot sloop, *Spray*. The first man to ever successfully complete a solo circumnavigation, Slocum recounts the adventures he had along the way in this novel. His eloquent narrative is filled with vivid battles against man and nature and stands as one of the greatest sea stories of all time. Sailors and non-sailors of any age will enjoy this gripping tale.



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The birth of fiberglass

by Dan Spurr

Assigning proper credit to the people behind the first fiberglass boats is difficult for several reasons. The fiberglass boat was not a discovery per se, like Alexander Graham Bell's telephone, or Jonas Salk's polio vaccine. Rather, it evolved from experiments with various glues and reinforcing materials by many different people and companies.

It is evident that a number of enterprising individuals were working simultaneously around the United States and in other countries to perfect plastics for boats. And precious few kept records that survive today. Indeed, the lack of written documentation is an idiosyncratic shortcoming of the boatbuilding industry. Ask the president of a company when, during the 1970s, it switched from building solid fiberglass hulls to balsa-core sandwich hulls and it's not unlikely you'll hear, "Let's see, that would be 1973, 1974. You could ask Manny, the glass-shop foreman, but he doesn't hear so good these days."

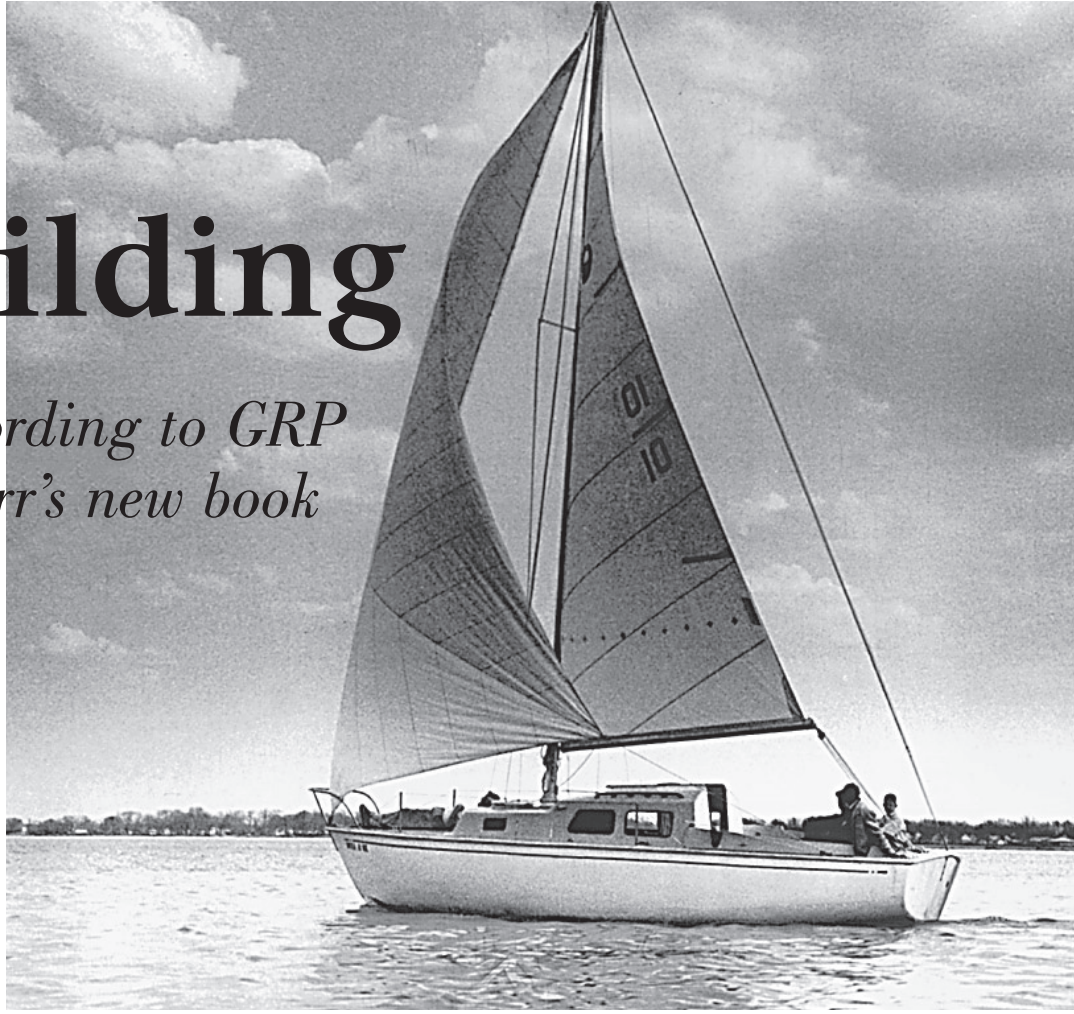
Though the yachting periodicals of the day — *Yachting* and *The Rudder* — documented the growing industry (in particular, authors "Tony" Boughton Cobb Jr., manager of the Reinforced Plastic Boat Division of Owens-Corning Fiberglas, and Pete Smyth, who knew about, or interviewed, early fiberglass boatbuilders), theirs was at best a sketchy history. Beyond these minimal written sources, there are only the memories of builders, owners, and sailors, however blurred by time, to help limn the picture.

Ray Greene built an 8-foot plastic dinghy and the 16-foot Rebel one-design daysailer (shown upper right). Once the fiberglass fabric was wetted out, the hull was covered with an electrically heated box to cure the resin at about 300°F for two hours (above). Once the resin had kicked, the homemade "oven" was removed and the hull lifted from the mold (right).

Toledo Blade

boatbuilding

The World According to GRP from Dan Spurr's new book



Toledo Blade

The New Horizons cruising sloop was designed by Sparkman & Stephens in 1957. Ray was miffed at the designers for creating a similar boat for Douglas & McLeod three years later, the Tartan 27.

First attempt

By some accounts, the first attempt at building a polyester-fiberglass boat was made by a company in the Bronx borough of New York City. Basons Industries had a commission from the U.S. Navy to build some wherries, or small inshore boats. They made a mold of wood and laid up the first hull, but did not use wax or any other mold-release agent. Of course, the hull would not come out of the mold. After repeated efforts, they grew frustrated and dumped the whole mess into the river, where, presumably, it resides to this day.

In 1960, Cobb wrote, "The earliest fiberglass boat we know about was built in 1944 by Universal Molded Products, in Bristol, Virginia." It was a 14-foot skiff, still in operation many years later. Cobb referred to it in answering the question of how long a fiberglass boat could last. While admitting that the boats really hadn't been around long enough to know with certainty, he guessed 20 to 30 years.

And there are a few other stories, none substantiated, of persons converting their wartime knowledge of plastics into boats. Plastic boats had been built since the late 1930s, but none had used glass fiber as the reinforcing agent. How polyester and glass fiber came together in the same hull is a case history of diligence and providence.

"The earliest fiberglass boat we know about was built in 1944 by Universal Molded Products, in Bristol, Virginia."

Ray Greene

Born in 1913, in Brooklyn, New York, Ray Greene was the son of a Canadian chemist. When Ray was six, his father, Herman Greene, moved the family to Toledo, Ohio, where he became chief metallurgist and director of research for the Willys-Overland Company. "Willys," Ray recalled, "doubled his salary and gave him a year to build a research facility and come up with something they wanted."

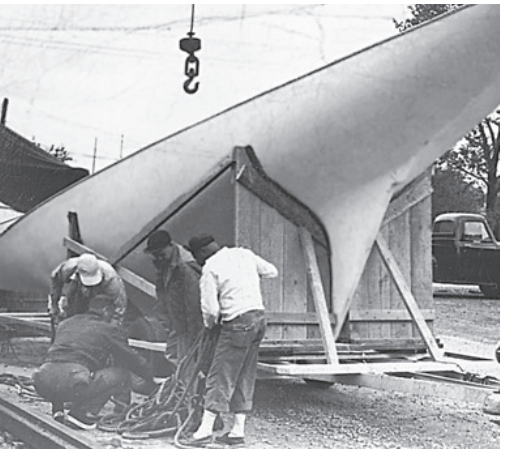
Suffering in the Midwest from hay fever, Herman "Harry" Greene was looking for a summer place "up north." Playing poker one night with several Willys executives, he won enough money to buy his "hay-fever haven" in Traverse City, Michigan. Located 600 feet from beautiful Glen Lake, the home Herman bought had been owned by the foreman of an old sawmill that had burned in 1903. Hiking and swimming with their father, the Greene children relished their proximity to water, and for Ray it reinforced his lifelong love of boats.

Though he built thousands of boats in his career, Ray has always pictured himself more the inventor, like his father, whom he greatly admired. Several anecdotes from his childhood illustrate his mettle.

"For a quarter you could buy a Hire's setup to make root beer," Ray remembered. "You had to bottle it for a week. I didn't know about the expansion of gases, but I did know that frozen CO_2, dry ice, was the foam in root beer. Father had a 5-gallon thing with a gauge on it. So I filled it and put about two pounds of dry ice in. The gauge went over the top. I told Mother to run. The thing blew up and dropped the sink six inches. We had to repaper the whole kitchen."

Jugs of hooch

"Later, during Prohibition, I said, 'Pop, I'd like to make hooch.' I wasn't particularly interested in drinking it, just learning how it was made. Mother was horrified. Father said, 'I can't think of a better way for him to learn chemistry.' So I made a couple of jugs."



In 1956, Ray Greene built this 41-foot R-boat for Cleveland sailor Art Schulmer. It took six men 12 hours to laminate the hull. With the hull suspended from a crane, it is about to be set down on its 9,000-pound lead keel.

Ray Greene

Ray built his first boat at age 12, but his father, disappointed in its construction, threw it out.

While still in high school, at age 16, he had formed Ray Greene & Company to build boats in the family's garage. He was nothing, if not inquisitive, bent on understanding how things work. Like many boatbuilders, he loved messing about in boats. At 18, there was no reason to forever build with the same materials and methods as generations of builders before him: in wood, piece by piece. Some thought preformed plywood panels were a big step forward from conventionally planked hulls, but Ray Greene was interested in a quantum leap. His IQ was reportedly 150, and he was determined to use it.

In 1931, Ray entered Ohio State University, building and selling 15-foot one-design Snipes to pay tuition. As he pursued degrees in mechanical and industrial engineering, his research led him to synthetic resins that then still required the heat of an autoclaving oven to cure, and pressure to remove air bubbles from the laminate.

Lost letters

Herman Greene died in 1934, and Ray, the oldest of four children, was forced to pay his own tuition to finish college, even contributing to the education of the others.

"I wrote to every plastics company in the country," he said. "The letters I got back were lost in a fire, and I wish I still had them because nearly every one of them said that what I was trying to do was impossible. They'd make good reading today."

In the mid-1930s, Ray was building small boats using melamine and urea resins with ordinary cloth reinforcement. "In 1936," said Ray, "I wanted to find a new material for boats. In 1937 I wrote my mechanical thesis on choosing a plastic for boatbuilding.

"I presented a preliminary copy to Professor Moffit. He asked if this thesis was for mechanical design or naval architecture. He suggested I substitute 'large object' for 'boat.' If I did that, he said, the thesis would be OK."

The resins by themselves were brittle. The key was finding the right reinforcement to strengthen the resin. Cotton cloth worked, in a fashion, but it lacked tensile strength. Ray said, "I tried screen wire, unbleached muslin, brown paper, and everything else you can think of. For resin, polyester was not yet available so we used urea-formaldehyde."

"The lack of written documentation is an idiosyncratic shortcoming of the boatbuilding industry. After repeated efforts, they grew frustrated and dumped the whole mess into the river, where, presumably, it resides to this day."

In 1941, Owens-Corning Fiberglas began weaving glass fibers for commercial use. Providentially, OCF was headquartered in Toledo. Greene, who had done some experimental work with rocket tubes for the company, was permitted to buy half the initial run of glass fibers. Using urea-formaldehyde and fiberglass, he baked boat models in a three-foot-long autoclave. To make bigger boats, he constructed an "electric box with heaters and baked things that way." But he was still using resins that required heat and pressure for curing. Not surprisingly, among chemical companies the race was on to develop a thermosetting resin that would air cure in an open room without heat. By now the United States was at war, and the shortage of metals heightened the urgency of inventing alternative materials.

First polyester-fiberglass boat

"In about 1939 I had my plywood sailboat company going, so I started a small autoclave from junk parts," said Ray. This set the stage for his breakthrough.

"By all accounts," wrote chronicler Pete Smyth, "it was DuPont that broke the code that gave us the polyester resin we use today, but it was a laboratory batch from American Cyanamid that found its way, via a mutual acquaintance, to Ray Greene and into the world's first fiberglass polyester boat."

Ray said, "One of the research men at American Cyanamid sent me about a gallon of polyester cold-setting resin. He said it was half of all they made for the laboratory."

The year was 1942, according to Smyth. The boat, in all likelihood, was a dinghy, perhaps the 8-foot Tubby Dink or the 12-foot Nipper, which he had been building for some years in plywood.

Ray found his knowledge in high demand. "People always wanted to come in and gas with me about fiberglass. I put it out in the industry that I was available from 8 to 12, Saturday mornings. I met some characters. Had a farmer come down from the middle of Ohio who wanted to build a fiberglass barn. Then there was a woman who, on inspecting one of my dinghies, said, 'Those aren't fiberglass! I can't *see* through them!'"

Oil overhead

"One of the best was a guy who envisioned a car top made of two plastic shells with oil between them. On dark days you'd pump out the oil, and on sunny days you'd pump in a dark oil. He couldn't get anyone interested in building them. He came to me, and we weren't thinking fiberglass then, but thermoplastics, acrylics. I told him there isn't a plastic that will last more than a couple of years. He wanted to give me $3,000 to build the first one. I said I'd make it if I thought it would work, but I didn't see how."

Ray continued his work throughout the war, serving first in the Army and later as a commissioned officer in the Navy, where he was an assistant supervisor for the building of small craft. "Art DeFever was my counterpart as a naval officer during the war," Ray said. "We were so interested in mixing things that we'd send his girl and my wife out to a show while we started mixing pots in the kitchen. After the stuff went off we couldn't clean the bowls, so we buried them in the garden. For years after, my wife would ask what happened to those bowls, but I never did tell her."

After the war: the Rebel

Returning to Toledo after the war, Ray quickly resumed his boatbuilding business. By 1947 or 1948 (Ray's recollection is unclear) he was building, on a production basis, 8-foot fiberglass dinghies (including the Tubby Dink, introduced in 1942) and the 16-foot Rebel daysailer, a one-design on which he and Alvin Youngquist, a Waite High School drafting instructor, collaborated. More than 5,000 were built, and the boat is still actively raced.

Toledo Blade

In the late 1940s, Greene believed he was the largest builder of fiberglass boats in the world. By 1962, his facility on the Maumee River in Toledo, Ohio, had produced more than 2,000 Rebels, and by 1967, more than 4,000.

"Twenty-five years later," Ray Greene would remember, "I was at an alumni meeting when Professor Moffit stood up and said, 'I'd like to make an apology to one alumnus. Will Ray Greene stand up?' I was startled. 'In 1937 he wrote a thesis choosing a plastic for structural work. I discussed it with many of the other professors. We thought the basis of your thesis was silly, but because of your enthusiasm we let you go ahead with it. We all thought it was nuts. It turned out to be one thesis that was the beginning of an industry.' "

In the following years Ray's work diversified, as it would for the small percentage of forward-thinking builders. He built a fiberglass sports car in 1950, which produced some talk with General Motors about building the fiberglass bodies for Corvettes (which would come in 1953, but not by Greene).

Fiberglass Snipes

In the early 1950s, Ray was approached by the president of the U.S. Snipe Association, who expressed interest in building the boats out of fiberglass. He offered to pay the cost of the tooling. Ray countered that if 10 orders were

Nothing new

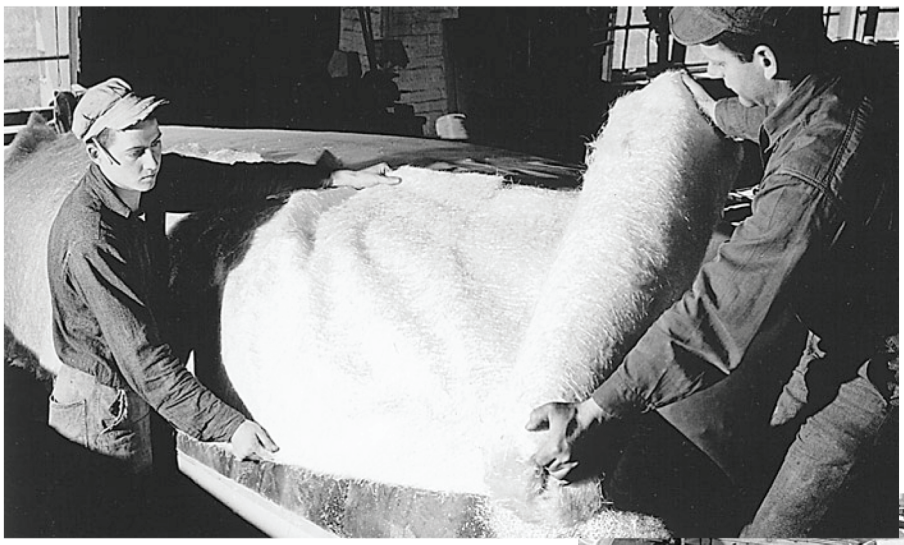
Proving that there's really nothing new in the world, boatbuilders of the 1940s experimented with prepregs; that is, fiberglass saturated with resin prior to layup in the hull. The panels were kept in refrigerators to inhibit curing. When needed, they were put in place, and heat was applied, commencing the curing process. Today, prepregs allow more precise control of glass-to-resin ratios, which are critical to strength and weight.

According to an early source, both Dr. Herbert Muscat and Taylor Winner were advocates of prepregs in the 1940s: "Sometimes the mats are already impregnated with resin when put in the mold. In other processes, the mats are impregnated afterward. The amount of heat and pressure required varies with the process used. Winner, for example, uses a resin that will cure by itself at room temperature. Other resins need no pressure when setting. Most manufacturers, however, find that they get the fastest results if they use resins that require some heat and pressure."

placed, with a $100 deposit for each, he'd bankroll the tooling himself — which he did. After delivering the Snipes, the first ever in fiberglass, he suggested to the association that they license just three builders in the United States so there would be enough orders for each. Instead, the association licensed many more, including, said Ray, "one about 50 miles from me. I said to heck with it."

The Navy contracted him to redesign its air-sea rescue boat, and it also sent him to Vietnam in 1961 to build swimmer-support boats. And the Coast Guard had him build its pavilion for the 1964 World's Fair.

Owens-Corning and Ray Greene maintained a relationship for many years. "Owens-Corning wanted to take all the things I'd done and give them to everybody else," he said, "like making fenders for cars. I'd write a detail on how to do it [a fiberglass fabrication procedure], and they'd publish it so others could make things. I had to do it [explain the process] for the Coast Guard. Once the commandant came up to me and said, 'You wrote the most beautiful article on building boats, but you didn't tell us a damn thing.' I said, 'That was my intention.' "



Toledo Blade

First produced in 1947, the Rebel was originally built with a fiberglass hull and wood deck. The hull was about 1/4-inch thick on the bottom and 3/16-inch thick at the gunwale. These photos, taken in June 1949, show a Rebel hull being laid up over a male wooden mold. After the hull was finished, it was turned right side up and the deck installed (above). At right above, having installed the deck beams, carpenters Arthur Laytart and Robert Ellison work on the centerboard trunk. In 1954, the decks were converted to fiberglass.

Disastrous fire

The June 1950 fire at South Byrne Road, Toledo, caused by an inadvertent mixing of catalysts and promoters, destroyed Ray's office and much of the factory. Deeply in debt and only partially insured, he was devastated and never fully recovered from the loss. Like too many boatbuilders, he was a keen engineer but a lousy businessman. Again, he was an inventor at heart. "If I made a little money in the boat business," he said, "I'd devote the rest of the year to experimenting. The investment/ inventor people rarely make the money."

Several efforts to sell the company (including one to Chris-Craft) fell through, but he hung on until he accepted a contract for his land. He retired in 1975 at the age of 62. He spends summers at his place near Glen Lake, Michigan, where his father had taken him as a youth and where he learned to love boats; he spends winters in the Florida Keys.

"Things have to grow old, get mature, and die," he said. "I made mistakes about 49 percent of the time, and 51 percent of the time I had the right answers. I survived the way I wanted to. And I sure had fun."

Dan is editor of Practical Sailor *and a former senior editor of* Cruising World. *This article is an excerpt from his newest book,* Heart of Glass, *just published by International Marine/McGraw-Hill and available from* Good Old Boat's *bookshelf.*

This historical reference book was 12 years in the making. Dan is the author of Spurr's Boatbook: Upgrading the Cruising Sailboat *and* Yacht Style: Design and Decor Ideas from the World's Finest Yachts, *both available from International Marine, as well as* River of Forgotten Days *and* Steered by the Falling Stars.

The Cheoy Lee *legend*

Asia's largest and oldest boatbuilder is still in business after 130 years

by Kate Godfrey-DeMay

Cruise the waters of the Bahamas, the Gulf of Mexico, or Lake Michigan, and you'll find yachts built by Cheoy Lee. In the British Virgin Islands, we found Cheoy Lee Offshore 31s favored for their liveaboard comfort, cruising capabilities, and a much-desired 3-foot 9-inch draft, crucial for carefree island-hopping. But few boating enthusiasts associate this Hong Kong-based shipyard, now more than 100 years old, with the production of tugs, ferries, pilot boats, and patrol boats for a demanding commercial market. Fewer still know that the Chinese characters for Cheoy Lee translate into a "Happy and Prosperous Business."

The beginnings

Started by the Lo family in Shanghai in 1870, the Cheoy Lee Shipyard specialized in the production of wooden commercial craft and powered cargo vessels built to outrun the Japanese blockade during World War I. In 1936, when the Japanese overran China, then Cheoy Lee president, Lo To, moved the company hub to Hong Kong Harbor. Although all operations ceased for a brief period during World War II, the company resumed production at the end of the war.

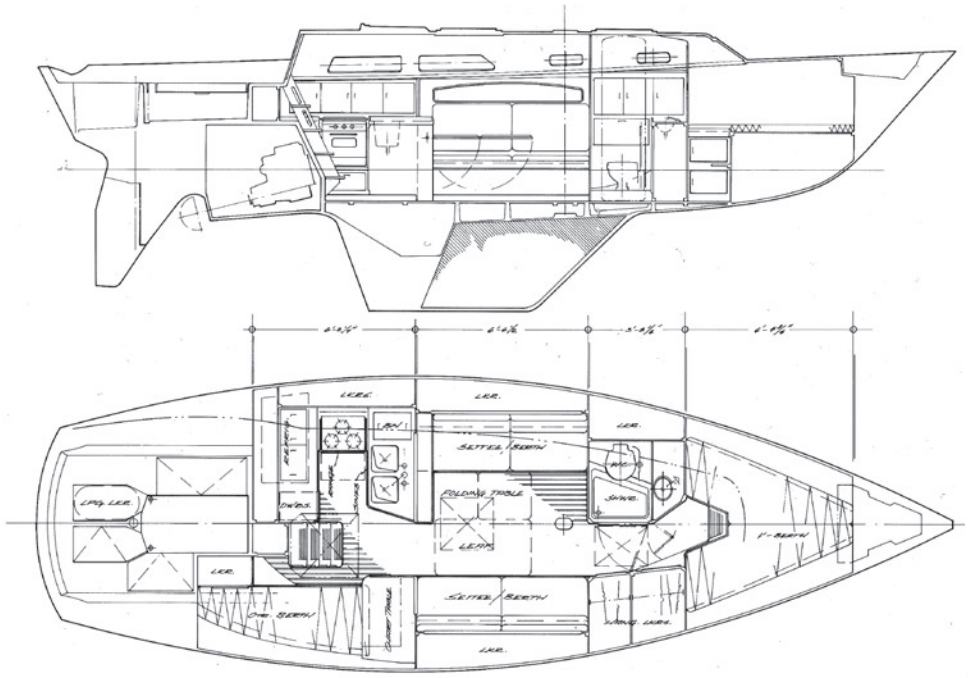
It was during the prosperous 1950s that the shipyard diversified, producing teak sailboats (and motor yachts) billed as "classic bluewater sailing yachts built to Lloyd's of London standards," with the goal of making the sport of sailing attractive and affordable. But Cheoy Lee, family-owned for four generations, was already making progress in the development and testing of a then-revolutionary material called fiberglass or glass-reinforced plastic (GRP). Their studies for Lloyd's of London included numerous combinations of resin and glass and intensive strength testing until a successful mix was found. The shipyard phased out wood construction in the 1960s, becoming one of the first companies to use "glass." They also pioneered GRP/foam sandwich technology in the marine field.

By the mid-1970s, Cheoy Lee boasted a 1,200-employee shipyard on Hong Kong's waterfront. Two decades later, the bottom virtually fell out of the recreational, small-boat market, causing Cheoy Lee to concentrate its efforts on the production of larger, semi-custom sailing yachts, transoceanic trawlers, and long-range cruisers. Over the years, close to 4,700 Cheoy Lees (sail and power) have been delivered worldwide.

The U.S. market

Cheoy Lee's Hong Kong location, the availability of natural Burmese teak, and a cheap labor force made its entry into the American boat market an immediate success. Although Cheoy Lee had been known in this country since the 1950s, it wasn't until the following decade, with the perfection of fiberglass technology, that the company seriously introduced U.S. buyers to its Far Eastern craftsmanship — a level of workmanship that had been unheard of from U.S. yards — and prices that undercut the competition. While some Asian shipyards are noted for having the interiors completed by finish-work families who physically move aboard, the Cheoy Lee Shipyard has always operated a more sophisticated yard.

There are many stories of Cheoy Lee's early popularity in the U.S. One concerns David Toombs, of Lion Yachts. In 1960 David, a United Airlines pilot, spotted a Cheoy Lee 35-foot Lion Class sloop in California. He fell in love with the all-teak design by British naval architect Arthur Robb and imported one for himself. Then he discovered that everyone who saw the boat wanted one, so he started selling boats. After selling 25 Lions in about three months, he had the name for his business. According to David, he set up the company's East Coast dealer organization in 1965 and was hired by Cheoy Lee to put them "on the map here." The first hull on record, imported in 1960, was #782, and about 2,000 yachts were sold up to 1990. After 80 trips to the Cheoy Lee Shipyard, David figured he spent more than a year of his life in Hong Kong. Lion Yachts, on occasion, also handled other boats, some from Holland, and others, like the Ta Shing products, from Taiwan. David, himself an avid sailor, in addition to the Lion 35, has owned a Robb 35, a Rhodes Reliant, an Alden 50, a Luders Clipper 48, and a Cheoy Lee/Perry 48. He now cruises on a Pedrick 43 sloop.



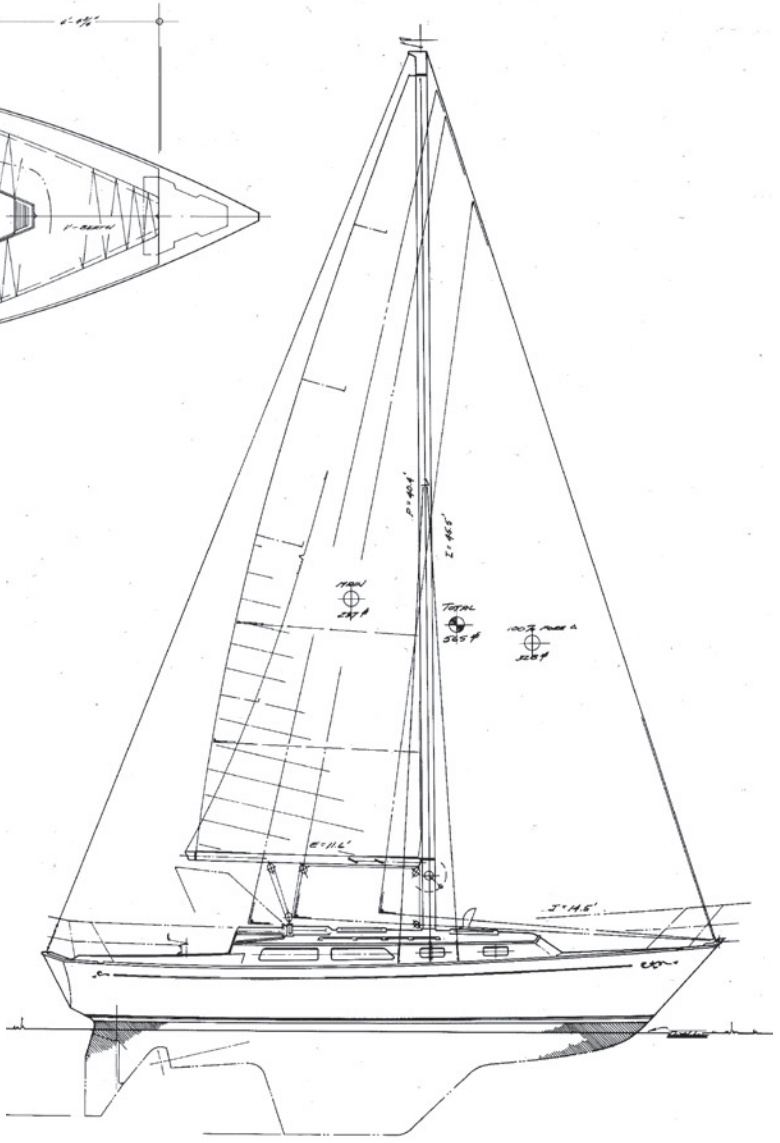
Woody-looking

Cheoy Lee owners a few decades ago were much like those who covet them today. Though they range in experience, all are cruisers — not racers — at heart, in search of a seaworthy, classic "woody-looking" boat. Cheoy Lee used teak above and below the deck to give the illusion of a wooden boat. For example, the Rhodes Reliant, constructed of fiberglass from top to bottom, sported a "teak" cabin. The basic structures, with their bulletproof fiberglass hulls, have withstood the test of time, and enthusiasts from coast to coast favor the early models for modernization and complete rebuilds. By today's standards, the early Cheoy Lee sailing designs are relatively narrow and heavy, but they possess unusual stability and a high level of comfort.

Our Offshore 31's 8-foot 10-inch beam is slender compared with the 10-foot-plus breadth of modern boats of comparable size. Having been an inland sailor most of my life, my own introduction to Cheoy Lee was on my husband Paul's beloved *Clarity*, a 1967 ketch-rigged, Offshore 31. Her classic sheerline, wooden spars, and low freeboard earned her the title of "the prettiest boat on the lake." In the midst of cleaning, painting *Clarity's* bottom, and varnishing teak last spring, we dug out the original brochure that promoted the Offshore 31 as "a modified Herreshoff 28 design with a low wetted surface, long and stable lateral plane, fast and easy to handle with maximum rudder control. Ketch-rigged, she is excellent for offshore cruising." From personal experience, we can attest to the standard company line that a full keel and large rudder make for stable cruising, especially on our shallow, inland lake where the wind and chop can build quickly and fiercely.

The designers

Cheoy Lee sailboats were designed by some of the world's best-known naval architects, a roster that reads like a *Who's Who* in ship design: John Alden, Maury Declerck, Laurent Giles, Bill Luders, Taylor Newell, David Pedrick, Robert Perry, Ray Richards, Philip Rhodes, Arthur Robb, Sparkman & Stephens, and Charles Wittholz. Ted Brewer drew some of the Luders'-designed Cheoy Lees in the late 1960s and early '70s, specifically models in the Clipper and Midshipman series.



Bob Perry's Cheoy Lee 35

Contractual arrangements with Cheoy Lee were a bit unconventional in that the company usually bought designs outright, precluding the payment of royalties to designers. When a mold was nearing the end of its run, as was the case after 44 of the Reliant 40s, a new model and potential designer were sought. The shipyard was also fairly rigid in its approach to outsourcing its work. All structural designs were drafted by Cheoy Lee so they could use their own trained craftsmen and proven materials at the Hong Kong facility, a move that went a long way in keeping costs to a minimum and quality at a premium. The terms required by Cheoy Lee limited designers' control over their own work. Cheoy Lee had

the ability at the time to complete and launch a new production yacht faster than almost any other builder, usually within one year of the signing of the design contract.

Designer profile

Robert Perry designed for Cheoy Lee from 1975 to 1978 and was responsible for the 35, 43 motorsailer, 44, Offshore 48, and Golden Wave 42. When I caught up with Bob Perry in Seattle, he told me he always knew he wanted to be a naval architect. In high school he sent off letters to boat companies and dealers requesting color brochures in the 20- to 80-foot range so he could practice sketching. "Thinking back on it, these boatbuilders received letters literally scratched in a kid's handwriting, and I'm certain that 99 percent of the letters were thrown away," he said. "I did receive one package from a Cheoy Lee dealer here in Washington who sent me everything he had on the company. Years later, I felt proud as an established professional, to be contacted by Cheoy Lee to design for them."

According to Bob, "it was a rather trouble-free 'marriage,' given that there was almost no communication with the company once the designs were sent in. Eight months later, I'd receive or see photos of the boat I designed sailing in Hong Kong Harbor." In 1977, Bob designed the Cheoy Lee 48 at a time when mid-40-foot boats were the rage. The 48 was very popular and made an excellent liveaboard yacht even though its size approached the upper limits of what could easily be handled by one person. He considers the 48 an excellent design and still uses it as a benchmark for other projects. Bob visited the boatyard in Hong Kong but never felt as close to the owners as he would have liked. It was a style they didn't ascribe to.

The relationship with Cheoy Lee ended when Bob Perry turned down the company's last request for a design. "Throughout the design series, I felt I was losing control. Quite frankly, I wanted to be the fountainhead of change. I was young then; we were all pretty cocky and confident."

Cheoy Lee today

Surfing the 'Net brings a variety of references to Cheoy Lee: broker listings from 27-foot sloops to 92-foot motor yachts; home pages created by skippers featuring their own prized "CL" sailing vessels; and owners' organizations and Web sites devoted to a particular "cult" Cheoy Lee design, such as the Rhodes Reliant 40 (some say the most admired and sought-after glass boat from the board of Philip Rhodes). There are motorsailers engaged in chartering, like the 63-foot Blue Eagle that cruises the Caribbean and the East Coast of the United States.

Clarity, ***the author's Offshore 31 at anchor.***

So the legend of Cheoy Lee lives on in its older boats, but is the company still in the sailboat business? According to Cheoy Lee sales manager, Jonathan Cannon, the answer is a qualified yes. "We have not actually ceased sailboat production, although we do not build as many as we did in the past. Our line of motorsailers ranges from 53 to 78 feet, and we are also able to build the 43- to 55-foot David Pedrick designs on a semi-custom basis."

Even though the future looked unsettled for the Hong Kong-based Cheoy Lee Shipyards when the British finally handed the territory over to the Chinese, the transition has been more than successful. Under the stewardship of two of Lo To's children, Ken Lo, an engineering graduate of the University of Michigan, and But Yang, a Cornell alumnus with an MBA from Stanford, Cheoy Lee was able to expand the shipyard facilities and increase its manpower, drawing from a larger pool of highly skilled craftsmen.

On a personal note, Cheoy Lee designs are, to this day, so eye-catching, so head-turning, that even after many years of ownership, Paul and I still turn back, not once, but twice at *Clarity* when we are leaving the dock . . . to see that she is secure certainly, but also for one last look at an elegant lady of the sea.

Resources for Cheoy Lee sailors

Cheoy Lee Shipyards, North America, Inc.,
954-527-0999 (phone); 954-527-4947 (fax)

Cheoy Lee Web site
<http://www.cheoyleeassociation.com>

Rhodes e-mail discussion group
<http://www.sailnet.com/list/rhodes/index.htm>

Rhodes Reliant/Offshore 40 network
<http://nimbus.temple.edu/~bstavis/reliant.htm>

Kate is a St. Louis-based writer whose articles have appeared in the St. Louis Post-Dispatch *and several boating magazines. Kate and her husband, Paul, have sailed the waters of the Chesapeake, Lake Michigan, Florida Keys, the British Virgins, and the Abacos in the Bahamas. They can usually be found cruising the Tennessee and Cumberland rivers from their home port of Green Turtle Bay on Lake Barkley, Kentucky.*

Catalina Yachts: One big

Founding father Frank Butler sets the example and the pace

Call the Woodland Hills headquarters of Catalina Yachts in California, and one thing strikes you right away about the choices the telephone answering system offers you. One option is for Frank Butler. That's rare access in today's hectic business world, but it shows what makes Catalina unique — the constant guiding hand of Frank Butler, who founded the company in 1970.

The stories are legendary among Catalina owners. Call the factory about a warranty item, and chances are you'll end up speaking with Frank himself. Why such access? "I've always been that accessible," he says. "It's the only way to be in this business." Catalina is the largest sailboat manufacturer in the United States. That means Frank Butler has a lot of customers to keep happy, something he obviously relishes.

Born in California in 1928, Frank joined the Navy and attended college before beginning his working life in the engineering field. "I was hired as an engineer in a government facility, and they found out I had lied about having five years' experience. They called me in several months later when they found out, and I admitted it was true. I then told them either they could fire me or give me a raise. I got the raise."

He continues, "I've always had a love for engineering, and drawing came very easily to me. Working with my hands always came more easily to me than schoolwork." Frank went on to start Wesco Tool, his own machine shop, and became a supplier of component parts for the aircraft industry. "I did a lot of work with that industry," he says. "I'd often go to plants and work with the engineers, help them with designs, or help with engineering problems when they asked me to."

Late start

By the late 1950s Frank was sailing dinghies for relaxation. "I was 30 before I really took up sailing," he says. While it was a late start in life compared to most boatbuilders, it opened up a chapter in what was to become Frank Butler's life's work.

Eventually, he wanted something larger than a dinghy so his growing family could enjoy sailing together. Says Frank, "The first boat I bought [for the family] was a Victory 21." But his first boatbuying experience wasn't a good one. The builder was strapped for cash, and when Frank arrived to pick up his boat on the appointed day, neither the boat nor the owner was to be found. He quickly assessed the situation and basically began to build the boat himself with help from some of the builder's employees, all but commandeering the plant until he finished it.

What made him think he could build a boat? "I never even thought about it," he responds. "It was either that or lose my money."

Despite that initial experience, Frank made a loan to the builder. When the builder couldn't pay back the loan, he offered Frank some tooling and materials to build other boats, which Frank accepted. He had the boatbuilding bug and couldn't resist the challenge. He founded a company he called Wesco Marine in 1961 and began building small sailboats. He later changed the name to Coronado Yachts. He still owned Wesco Tool as well.

One of the first people he hired in 1962 for his fledgling boatbuilding company was an Irishman named Beattie Purcell. "I met Beattie through a mutual friend," Frank says. "He had the

Catalina 22, hull #1, sails in the One of a Kind Regatta on Lake Michigan in 1970. The crew, from left: Rod Mortenson, Beattie Purcell, Lee Buffum, and Herbie Mortenson.

family

Tom Violand

Catalina's Three Musketeers: Sharon Day, Gerry Douglas, and Frank Butler.

sailing experience, and I had the manufacturing experience. He and I worked well together. But in those days we all did everything — manufacturing, sales, marketing. It didn't matter."

Tremendous growth

"I happened to be in Canada at the time. I came down and started working for Frank at Wesco Marine long before there even was a Catalina Yachts," Beattie recalls. "I started off building small boats with the fiberglass, and then I got into rigging. We were building a 14-footer and a 21-footer. We started off pretty small but grew tremendously. Fiberglass was in its infancy and just took off. We definitely started at the right time. I also started sailing in different regattas for Frank to promote the boats, which worked out well." In line with the notion that everyone did everything, Beattie also designed the letterhead for the stationery and the exterior sign on the building.

"Frank also had Wesco Tool at the same time," Beattie continues. "We started in Burbank, but we got bigger and had to move to another location. Frank was a busy man running both businesses. But he has great insight, and he listens to people."

The first notable boat design was the Coronado 25 in 1964. States Frank, "I designed it, and a fellow helped me with the tooling for it. The Coronado 25 was the first boat to have a full pan liner in the hull. Before that, manufacturers built components and dropped them into the hull, like a wood-shop approach. It was expensive and more time-consuming.

"I got the idea for the pan liner from Lockheed and how they built planes. I saw lead molds at Lockheed for airplane parts and thought, Why not apply that to building boats?" Frank remembers.

by Steve Mitchell

They fired him

In a move typical of other early sailboat manufacturers, Frank sold Coronado to the Whittaker Corporation in 1968. The business relationship lasted one year. He says, "I didn't agree with the corporate strategy of running a boat manufacturing facility. I wrote them a letter about some things I didn't agree with, and they called me in and fired me. But that was all over long ago. I was right, as it turns out. We're all good friends now."

As part of the separation agreement with Whittaker, Frank had a non-competition contract for two years and couldn't build boats, except for the smaller ones for which Whittaker hadn't bought the rights. He took a trip to Europe and also built a marina in Oxnard, Calif., that Beattie ran for him for a while. They continued to build the smaller boats, such as the Coronado 15, the Omega, the Super Satellite, and the Drifter. "We wanted to change the name of [the Coronado 15] to make it obvious the boat wasn't built by Coronado Yachts," says Beattie, "but couldn't because the class association wouldn't let us. Frank always liked the names of islands — Catalina, Coronado, Capri. We had thought of the name Catalina and liked it. That sort of clicked."

Beattie moved back home to Ireland for a while, but his boatbuilding days weren't over. He remembers, "I was in Ireland, and Frank called me to say that he was forming Catalina Yachts." That one phone call is all it took for Beattie to return to work for Frank. "One of my first jobs for Catalina was to fly to Hawaii. Some people there were having trouble with the rigging for their Coronado 15s, and I was able to help them out."

Most popular

"I had started building boats in 1961," Frank says of founding a new company, "so I had eight or nine years of experience at it by then. Things were much easier than in 1961."

His first design in 1970 was the Catalina 22, the boat he had wanted Whittaker to build. The C-22 turned out to be one of the most popular sailboats of all time, with 15,500 built. He also came out right away with the Catalina 27, another popular cruiser. The Catalina 30 followed in 1976.

According to Beattie, "The C-22 just took off. We couldn't build them fast enough." Beattie has the distinction of being the first person to sail both the C-22 and the C-27.

In the early boats, Frank used what is called the shoebox design to join the hull and deck. In this construction technique, the outer lip of the deck fits over the lip of the hull like the top fits on a shoebox. "I felt the shoebox design was more rigid, and it's basically leak-

proof. It's a very good way to build boats. We might have a problem in one out of a thousand boats with a hull leak, and even then it's usually something else leaking."

With such a high demand for his boats, Frank had to expand his manufacturing capability. An East Coast plant made sense because of the high cost of shipping boats to the East Coast from California.

States Beattie, "Frank sent me east to look for another plant. The shipping costs were killing us. I found a small fiberglass plant in South Carolina that had closed, so we bought it and started building C-22s there. Then we began building C-27s there as well." The year was 1973.

Almost threw him out

Beattie credits a fellow named Wilbur Pokras with much of Catalina's marketing success in the east. "Wilbur was our representative for setting up dealers on the East Coast, " he says. "He did a great job for us."

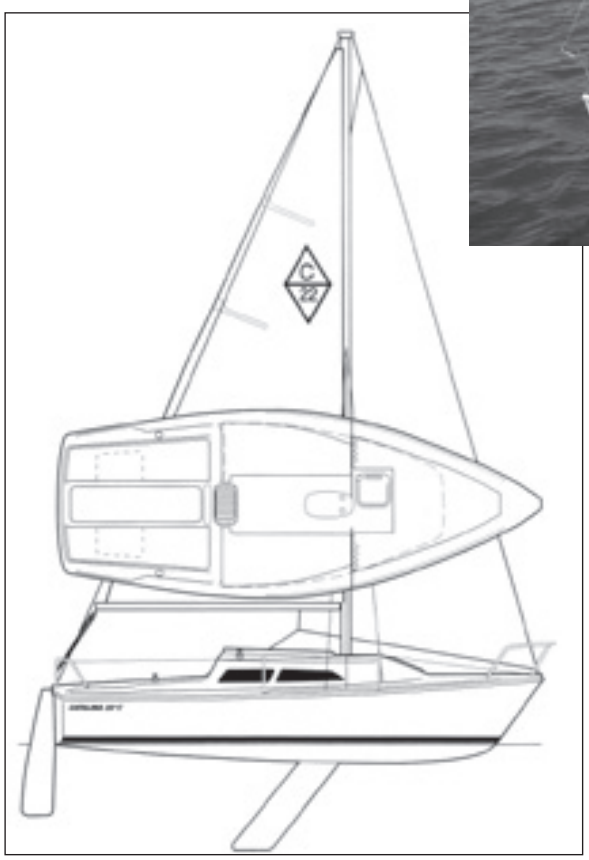
Wayne Miskiewicz, now general manager of Maryland Marina, in Baltimore, remembers Wilbur very well. "Wilbur was the East Coast rep for Catalina and set us up as a dealer in 1970 or so. He showed up trailering a C-22 he had put in the Annapolis show, and he wanted us to buy it. We almost didn't become a dealer. I almost threw him out of the office at first. But we wound up buying the show model and becoming a dealer. Selling the C-22 was amazing. They all but flew out the door."

He continues, "Frank Butler is the Henry Ford of the boating industry in a sense. He's very serious about offering a good boat at a good price. Since he was the warranty coordinator, he could spot trends with problems and fix them right away. He's very hands-on, maybe too much so at times. Frank took [the warranty coordinator role] on as a method of quality control, and was effective in that way. Frank is quite an interesting guy. He had no one to answer to but himself."

By 1977 even the South Carolina plant was too small to handle the East Coast demand for Catalina Sailboats. "One day Frank called me," says Beattie, "to go to Fort Walton Beach, Florida, to look at property for a larger plant. It all worked out, so we moved the plant from South Carolina to Florida, where we could build even bigger boats."

Unprecedented demand

Wayne says about those days in the sailboat market, "Catalina had trouble meeting production demands, and the dealers were put on a quota system. People were so happy with their boats that they came back and bought their second, third, and even fourth boats from us. The company just grew so rapidly it was amazing in those days. Until we had the huge downturn in the market, used boats often cost more than new ones. Used boats were appreciating throughout the entire product line because demand was so high for new ones."



He continues, "One good thing about Catalina is that it doesn't change designs every year. They would come out with a good design and hold onto it. Hunter was our biggest competitor in those days, but it changed models every couple of years. Catalina had a chance to work out production problems with a long run, but not Hunter."

The Catalina 22, the first boat introduced by the company, in 1970.

Seven years later, the company needed an even larger plant on the East Coast. In 1984, Frank purchased Morgan Yachts, based in Largo, Florida. Beattie helped move the Florida plant to Largo. "We were growing so fast," Beattie remembers, "and Morgan Yachts was all but down the tubes. It was a great chance to buy a bigger plant at a good price and to get the Morgan name." Among other large boats, the Largo plant turned out 50-footers for the Moorings charter group. Today it produces C-47s in shifts that run six days a week.

Beattie retired from Catalina Yachts in 1994 after spending more than 30 years working for Frank Butler. "I enjoyed it. Frank was a good guy to work for. We used to race against one another in Satellites and had a great time doing it. It was good fun starting up a company like that, it's interesting all the things you have to do. Frank knows the way to go. He always has. He has great instincts."

Advertising change

For many years, Catalina was the largest sailboat manufacturer that did no national advertising, a terrific economic advantage compared to its competitors in an industry where spending 6 to 10 percent of the retail price of a new boat on advertising and marketing is not uncommon. Given a changing and much tighter market, Frank had to change to keep Catalina's name in the forefront of the industry. "When we went from medium-sized boats to larger ones, I thought I needed to advertise. It was better for the product and better for the consumer to know more about our products. It was something I felt I had to do."

The late 1980s saw a tremendous depression in the boat market caused by an economic recession and by the 10-percent luxury tax the federal government placed on new boats costing more than $100,000. Because few of its models exceeded that cost, Catalina was not affected that much by the luxury tax. But the economic recession that saw so many boatbuilders go out of business made for hard times at Catalina as well. How did the company survive when so many others didn't?

"I'm somewhat conservative, " Frank says. "I knew that what goes up must come down. I tried to be prepared as best I could. It was tough, no doubt about it. We just got through it."

At Maryland Marina, Wayne Miskiewicz saw the downturn coming. "We stopped selling new boats in 1988," he says. "It was just a business decision we made. We still sell used boats today, but not new ones. But if we were to decide to sell new boats again, it would be Catalinas. They're the best product for the money today."

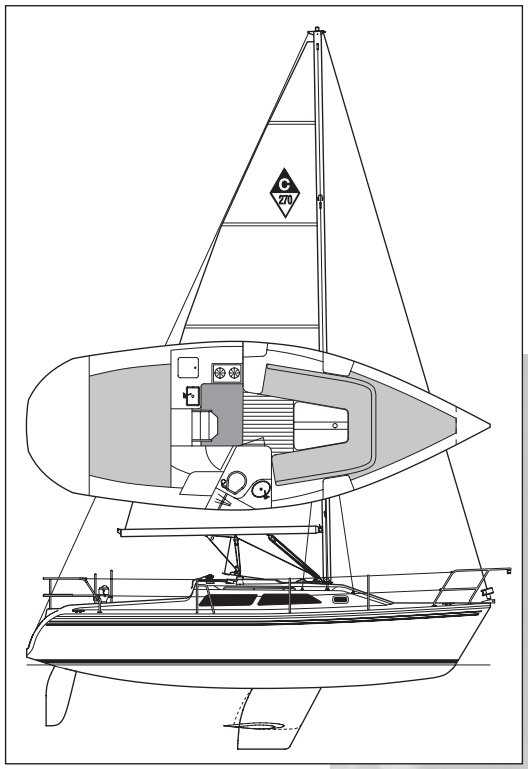
Weathered recession

One can make the argument that Catalina's product line, and philosophy of providing "the most value for the dollar in the industry," as Frank puts it, made the difference in weathering the recession that drove other sailboat manufacturers out of business. Many manufacturers had the bottom drop out of their sales volume; but Catalina's business, while also falling off, didn't drop precipitously. The factories stayed busy, and Catalina did not lay off one worker during that time.

According to Sharon Day, Catalina's national and international sales manager, "We had to tighten our belts, but when we were making money we were able to put some of it away for times like that. With the slow market we were able to increase our inventories of boats so we were ready when the market rebounded."

Will Keene, president of Edson International, seconds the notion about Butler's instincts. Says Keene, "He has the uncanny ability to know the real value of something. He's as honest as the day is long, a guy who speaks his mind. You know where you stand with him every minute of every day. But he also has quite a sense of humor. He's a great kidder, and you don't always know when he's joking. For example, one time he said to me that he was going to put all my competitors' gear on his boats. I nearly had a heart attack before he told me he was joking."

One of Will's first sales trips for Edson around 1980 was to visit Frank in California. "I was scared, absolutely petrified of meeting him. He's a big, gruff guy on the outside, especially if you're a vendor. I was this kid taking over the business from my father and had a lot to prove. Frank suggested a change in a piece of gear, and I took the suggestion back to my boss, who also doubled as my father. He said, 'We just invested a lot of money in that design. Make him like it.' Well, I lost Frank's business on that one."



Team approach

Will continues, "We ended up building a mock-up of the C-30 cockpit and shipping it to California so Frank and Gerry Douglas could see how it all would work together. Our competitor also had trouble delivering on time, so we soon had their account back. It took us 18 months and a lot of hard work, but we did it."

Will enjoys working with Catalina because of the team approach Frank uses. "He will call me up and say, 'We have a problem,' and ask, 'How can we solve it?' " Will says. "He works with you. He's always very even, whether it's our problem or his, or a combination. We're small potatoes compared to the size of Catalina Yachts, and Frank knows we have limitations, but he expects us to deliver, too. Even if we make some dumb mistakes, which we have, Frank and I will talk about it, and then he'll say, 'OK, let's get going here.' He's great to work with."

Will considers Frank to be a mentor, in addition to being a customer. "Frank told me once that when sons got into the family

The Catalina 27, the second boat, introduced in 1971.

business, the business usually failed." Will took the words of advice to heart, as something to work on. "I'm still in the process of proving him wrong on that one," he says. "But I probably won't be able to do that until the day I retire."

To what does Will attribute the success of Catalina Yachts, besides the obvious presence of Frank Butler? He responds, "The boats are a reflection of the people behind them. Frank's employees are the best and are very loyal to him and the company. They make good, honest, affordable boats — good sailers with smart layouts. Just look at the number of people who got into this sport because of Frank's affordable boats."

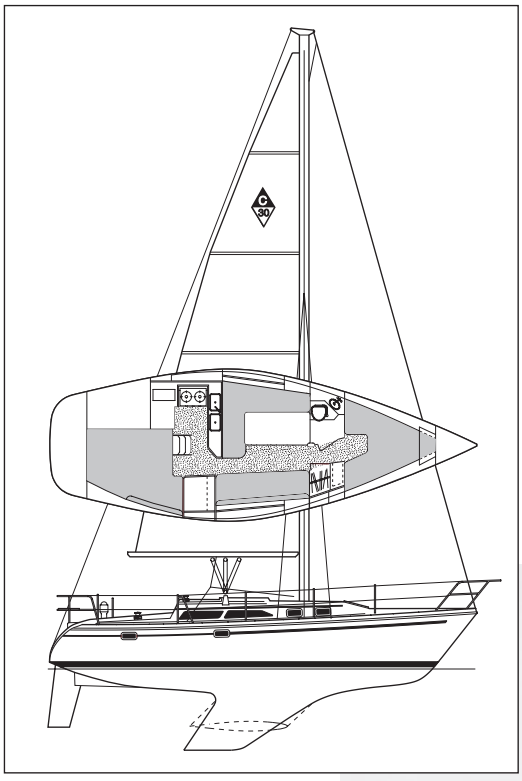
Largest manufacturer

Frank is quick to point out that sales manager Sharon Day and Gerry Douglas, head of engineering and design, are a big part of the success of Catalina Yachts. They really have had more to do with the success we've had than anyone else." Both Day and Douglas now are corporate officers and part owners of the company.

Sharon has been with Catalina for 26 years. "We're the largest sailboat manufacturer in the United States, but we aren't run by a large corporation. So we can keep closer tabs on our customers, to make sure they like our products. I think the boat owners like sharing the company's success because they like being part of the Catalina family. And family is the backbone of our company. Everyone who buys a boat is a part of our family. We especially treat our dealers that way. Lots of them have been with us since Day One, and we appreciate that. They are our front line with our customers, after all."

Sharon continues, "Going to a boat show, we not only sell boats, but we also get to see and talk to our customers. Many of them we see at the shows every year." The face-to-face meetings with customers provide valuable feedback for their likes and dislikes, which leads directly to improvements in the product line.

What's it like working for Frank Butler? "He sets the pace for us," she says, "and that's non-stop. Frank keeps things moving. He's perpetual motion, and has a tremendous amount of energy. It's an entirely different feel in the office when he's there compared to when he's not. He's a fantastic man to work for. His heart is in the right place."



The Catalina 30, the third boat, introduced in 1976.

Lots of overlap

Sharon describes Frank, Gerry Douglas, and herself as the Three Musketeers. "We have tremendous rapport together. It's a good mixture. Even though we all have our own roles, there's lots of overlap in what we do, and lots of lunchtime meetings. Sometimes things may get heated, but by the end of lunch we're all back on good terms, and all three of us are heading down the same path."

From his perspective, Gerry sees two big advantages of Catalina's boats: they can be fixed, and parts are readily available. "Our boats are 100 percent rebuildable, depending upon severe damage, of course," he states. "And parts are available from the factory for all our boats no matter how old. This makes older Catalinas excellent project boats for people looking for a good boat to rebuild."

He points out that "we put the decks on much earlier in the manufacturing process than other builders. This is a big advantage to our customers because it means everything inside the boat came through the main hatch. There are no captive tanks or bulkheads. The customer can take out everything in the boat with hand tools. Catalina is unique in that respect. Most builders put the deck on much later in the process."

He continues, "Our hull liners are designed to distribute loads. Bulkheads don't bear chainplate loads, for example. Those loads pass on to the liner. That's important to know because so many of our owners have modified their boats extensively. Our owners tend to be hands-on people. It's easy to replace things, and you seldom have to cut anything to get a part out."

Rare features

According to Gerry, another Catalina strong point is its customer-service department. "We have good people

owners can talk to about technical issues. That, combined with the availability of parts, is rare in this industry. It makes buying older Catalinas easier. Our boats are good for extended cruising because they have a solid foundation of good, laminated parts.

"Our boats are excellent choices for rebuilding because they are relatively heavy for their length. We still use heavy, hand-laminated, solid glass hulls. We're probably the only builder who fibs on displacement on the light side. This philosophy of durable, rebuildable boats is designed in. It's not by accident," he says.

Loyal owners

Should Catalina owners want resources for projects, all they have to do is turn to *Mainsheet*, a quarterly magazine published by Jim Holder in Midlothian, Virginia. "Frank and I have been good friends since 1970," Jim says. "He asked me to put this magazine together 17 years ago to pull all the newsletters of the various associations into one magazine. I'm the editor and publisher, and Frank is listed as the managing editor. We receive quite a bit of technical assistance from the factory, primarily from Gerry Douglas, who reviews all the material for technical accuracy. Frank is the only manufacturer who does this sort of thing. It's a unique magazine in more ways than one."

Continues Jim, "The magazine is basically written by the owners. They send in all the articles for their projects and such to editors for each association. Those editors send the articles to us to help keep things organized. So it's really written by the owners for the owners. It glues all the association members together. The magazine helps people improve and enjoy their boats — to have fun. That's the object of the magazine, and of Catalina Yachts as well."

He concludes, "Frank has always pushed Catalina Yachts as a family. *Mainsheet* is one vehicle to keep the family together through communication. People who own Catalinas are very loyal, and most of them move up to another Catalina. They also know that Frank is really good about warranty work and that he doesn't want anything happening to his boats he doesn't know about. It's Frank's one-on-one attitude that makes the family aspect happen."

What is Frank Butler's favorite design, of the many he has built? "I have seven children. That question is like asking me which is my favorite child. I can't say. Anyone who ever asks me that question never gets an answer from me. My boats are like my children. One might be for the ocean, another one for near shore or for racing. I love them all.

"The C-22 and C-30 were both extremely well received. We also have sold a lot of 27s. The 36 just passed 2,000 built earlier this year. We're selling a lot of 42s and larger boats. For example, right now we're building 47s at the rate of three a month."

There's no doubt that, as Beattie Purcell puts it, "The C-22 was the boat that really put us in the market in a big way. We were building five of them a day in California in the early days. Used ones were going for more than a new one because people couldn't get new ones fast enough." Concludes Beattie, "The 22 is a good sailing boat, stable, family oriented."

Frank continues, "You should always try to upgrade your product line. You always need to have something more to offer in a new boat. Otherwise people will just buy used ones."

Good relations

When asked if he sees Hunter and Beneteau as his biggest competitors, Frank responds, "Yes they are, but really I think all [sailboat manufacturers] are my competitors. I love competition, I really do. You've got to know your competition. I check them out all the time, not just at boat shows. I have good relations with our competitors. We all get along fine."

To this day, Catalina designs all of its boats in-house and has its own engineering department. Two notable exceptions are the C-27 and C-30. "An outside person designed the hulls for those, and I did the interiors and the decks, " says Frank. "I try to do what our customers need or want. We try to work around that concept. There's no one better than your customers to help you constantly change and improve. Our dealers also are very important to us. We get lots of input from them. And we are always working on new designs."

Today Catalina Yachts employs more than 700 people building boats in three locations, two in California and one in Florida. It has about 500,000 square feet of manufacturing space. The line includes Catalina, Capri, and Morgan sailboats, Nacra and Prindle catamarans, and a 34-foot powerboat sold as the Islander 34. "We purchased that mold when Pearson went out of business," says Frank. "It's the only powerboat Catalina currently makes."

Capri sailboats are the performance-oriented daysailers developed in the Capri Sailboat Division. Current models range from 8 feet to 25 feet. "Capri is our small-boat division under Catalina as the main structure," Frank says. He notes that several Capri models have very active class associations around the country.

Bright future

What does the future hold for Frank Butler and Catalina Yachts? When asked how long he expects to run the company, he says, "I enjoy it so much. It's really in the hands of the good Lord. That's one question I can't give you an honest answer on."

According to Frank, Gerry Douglas and Sharon Day most likely would supply the continuity to keep Catalina Yachts going as it always has, providing "a lot of boat for the money," as most sailors put it.

Certainly Catalina Yachts has a bright future given the thousands of loyal customers sailing its products around the world. The international class associations for the C-22, C-25, C-27 and C-30 are among the largest sailboat groups in the world. Log on to the Internet, and Catalina sites are among the most numerous and busiest to be found. As Max Unger, the treasurer of the International Catalina 30 Association, puts it, "The success of these independent associations emphasizes not only the great number of boats built, but also the family atmosphere created by the owners that keeps us sailing together."

The word family probably best describes Catalina Yachts these days. It's a family comprised of many loyal employees and thousands of loyal customers. And the undeniable head is Frank Butler. He wouldn't have it any other way.

When not working at his job for the federal government or singlehanding his 1989 Pearson 27 in the Annapolis, Md., area, Steve is a part-time freelance writer. He writes for a variety of business and boating publications.

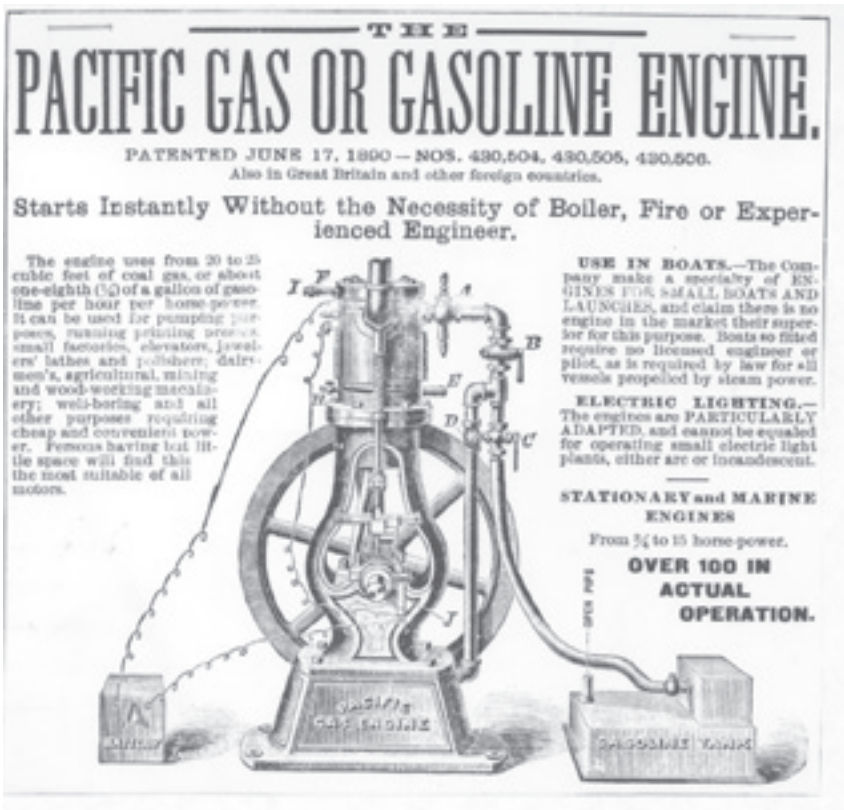
The Halcyon days of auxiliary

The beginnings of marine chitty chitty bang bang

Each time I am becalmed in the Sargasso Sea when single-handing my virtual ketch around the world in my best Walter Mitty style, I fire up my ultra-reliable diesel auxiliary engine and look for trade winds. Others would hear the steady, smooth somnambulant hum of the four cylinders doing their thing. But like Walter, I hear "ta-POK-eta, ta-POK-eta," which is the sound of a vintage three-cylinder engine that was all the rage early in the last century.

Perhaps it's the result of my inherent Walter Mittyness, but I find it fun to reminisce about the old days of marine engines and some of the salient steps in the development of the engines we enjoy today. To me at least, there is a nostalgic hook in seeing, hearing, and smelling an old and noble engine of that era, running merrily along at, perhaps, 300 rpm.

To understand and appreciate the evolution and development of marine engines for sailboat auxiliary power, a bit of history might be warranted. Back around 1880, the steam launch had become popular, but the size and weight of the boiler-engine combination did not really lend itself to smaller sailing craft. Furthermore, it took too long to build up sufficient steam from a cold start for the small boater (except for the "steam nuts" who loved steam so much they didn't care how long it took).


THE
PACIFIC GAS OR GASOLINE ENGINE.
PATENTED JUNE 17, 1890 — NOS. 430,504, 430,505, 430,506.
Also in Great Britain and other foreign countries.
Starts Instantly Without the Necessity of Boiler, Fire or Experienced Engineer.
The engine uses from 20 to 25 cubic feet of coal gas, or about one-eighth (⅛) of a gallon of gasoline per hour per horse-power. It can be used for pumping purposes, running printing presses, small factories, elevators, jewelers' lathes and polishers, dairymen's, agricultural, mining and wood-working machinery; well-boring and all other purposes requiring cheap and convenient power. Persons having but little space will find this the most suitable of all motors.
USE IN BOATS.—The Company make a specialty of ENGINES FOR SMALL BOATS AND LAUNCHES, and claim there is no engine in the market their superior for this purpose. Boats so fitted require no licensed engineer or pilot, as is required by law for all vessels propelled by steam power.
ELECTRIC LIGHTING.—The engines are PARTICULARLY ADAPTED, and cannot be equaled for operating small electric light plants, either arc or incandescent.
STATIONARY and MARINE ENGINES
From ¾ to 15 horse-power.
OVER 100 IN ACTUAL OPERATION.

This all-purpose engine was offered by Pacific Engine Co. in 1890. It could be run on coal (producer) gas or gasoline.

In 1890, the Pacific Gas Engine Company patented their version of a single-cylinder engine that was designed to run on either coal gas or gasoline vapor. Their ads stated, "Starts Instantly Without the Necessity of Boiler, Fire, or Experienced Engineer," and "Persons having but little space will find this the most suitable of all motors." On a per-horsepower basis, this concept was a great advantage to the small boater, much smaller and lighter than steam plants, and ready to go (more or less).

Small-boat adaptations

The company made a specialty of adapting the engine for small boats, and for the first time a practical power plant for relatively small sailboats began to emerge, albeit in fits and starts. Within a few years, there appeared on the marine scene an estimated 200 manufacturers of marine engines. Some of the names are legendary — Universal, Gray, Detroit, Red Wing, Kermath, Scripps, Lockwood-Ash, Knox, and Hartford come to mind. In general, they served a rather local market, since advertising by radio and television was impossible at the time, and marine magazines were

power

by Wes Farmer

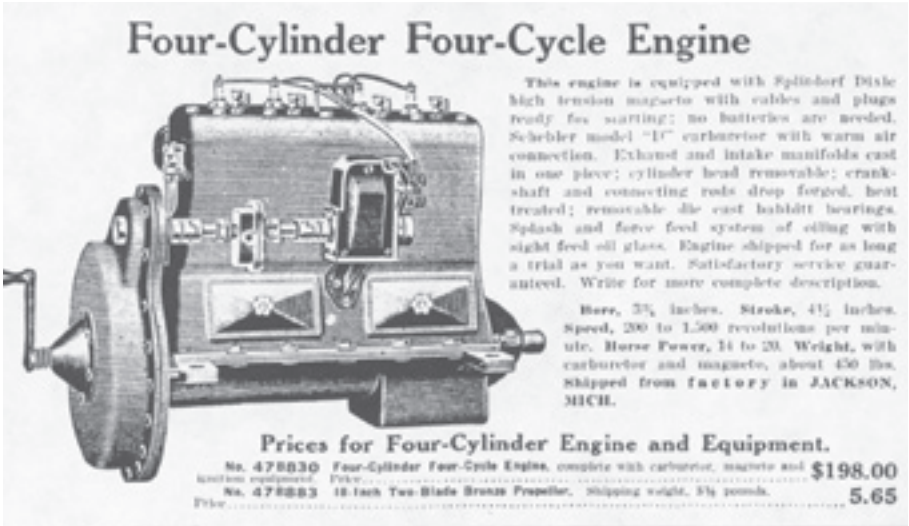
few. However, those ads that you can see in old vintage nautical magazines of the time were sometimes wonderfully naive: "Oriole Engines — Built in Baltimore, Will Run Anywhere" and "The Bridgeport Engine is Guaranteed To Run You Across Long Island Sound Without Fail." What joie de vivre!

Most of the early gasoline internal combustion engines were initially of the two-cycle variety, with make-and-break low-voltage ignition. However, the German, Nicholas August Otto, who invented the basic proposition of the internal combustion illuminating-gas engine, had also invented the earth-shaking Otto four-stroke cycle in the 1800s. This design proved to be smoother, easier to start, and more efficient than the two-cycle variety, and pretty well took over except for outboard motors.

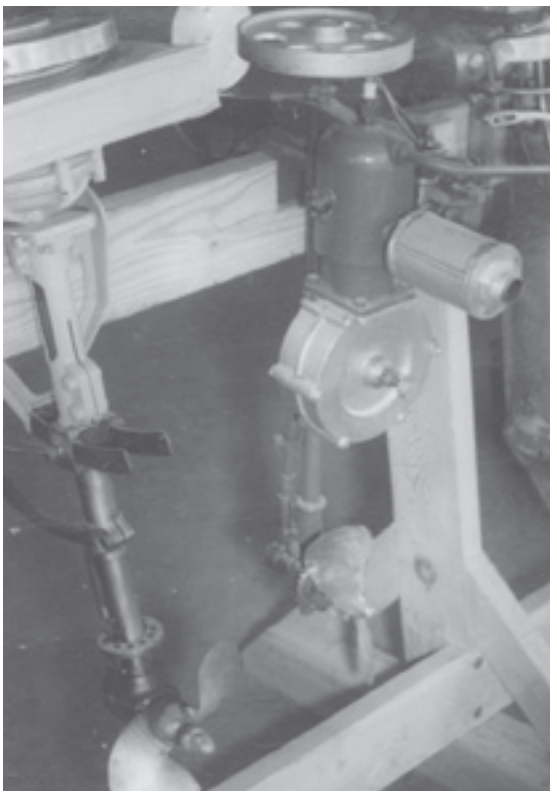
It is interesting to note that until Otto patented this type of machine, which would dramatically transform our world, his illuminating gas engine was capable of but 30 rpm and ignited from a steady flame in a box. The engine stood waist high, developed but 0.86 horsepower, and transferred the piston movement to the flywheel with a rack-and-pinion arrangement. (Otto had bypassed the crankshaft of the steam engine, considering it inefficient in its translation of piston action to rotary motion. Oh, well, Edison had some lousy ideas, too.)

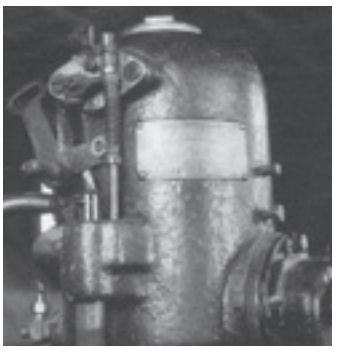
Herr Diesel's engine

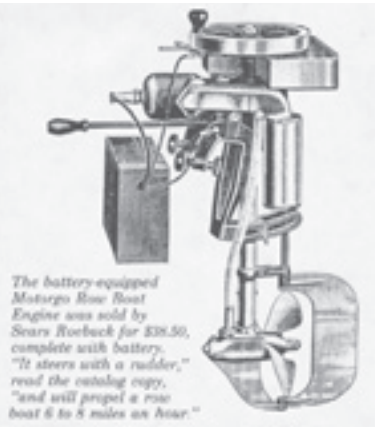
Rudolph Diesel, who came a bit later, invented the engine concept that bears his name to this day. His great idea was to design the engine in such a manner that the compression in the cylinder created a high enough temperature to ignite the fuel without the necessity of a separate ignition system. He must have created great levity when he first

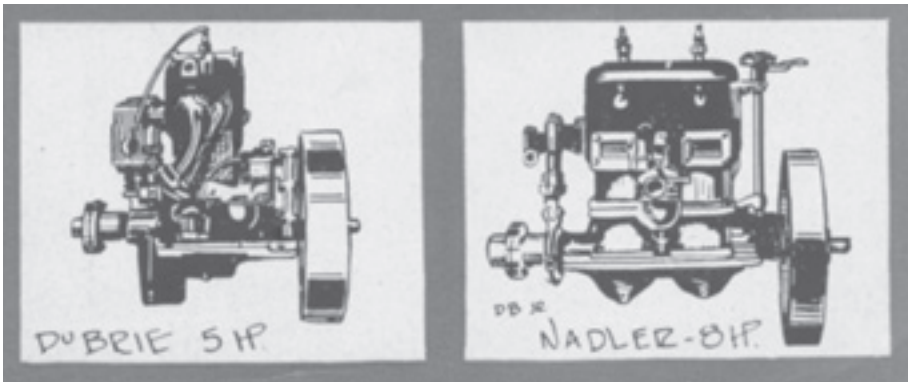


Four-cylinder, four-cycle engine, above, circa 1920. One- and two-lunger engines, far below, circa 1910. Two long-shafts, at left below, also from 1910. No one had yet thought to place the cylinder horizontally. A 1900s make-and-break engine, at right below, and the Sears Roebuck $38.50 Motorgo Row Boat Engine, below that.









tried his prototype; using a mixture of powdered coal and air to inject in the cylinder, he blew his engine to smithereens on its first bang. However, posterity forgives him, and his invention is ubiquitous, as we all know.

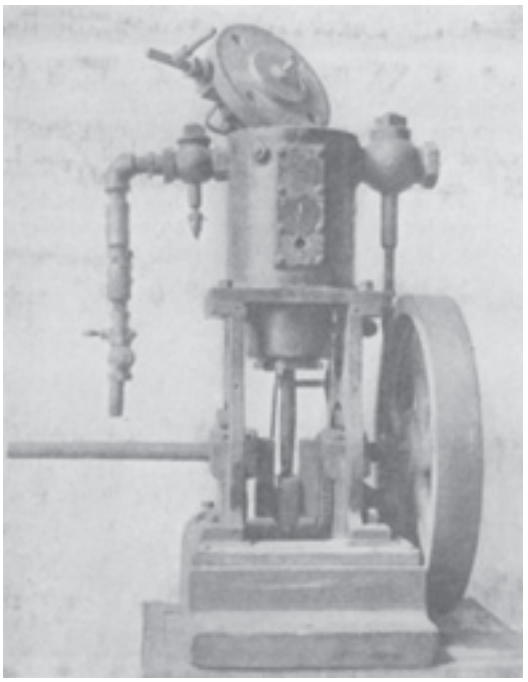
By 1905, anybody who could buy castings and cut metal on a lathe seemed to jump into the engine business. Typically, the Lackawanna marine engine was built by the Coldwell Lawnmower Co. of Newburgh, N.Y., and the Caille Perfection engine was built by the Arthur Caille Co. of Detroit, whose main business was "one-arm bandit" slot machines. Along with the bewildering variety of engines there came a concomitant bewildering variety of "options" — options for carburetors, ignition systems, reverse gears, clutches, reversible propellers, and so on. There was even the Kitchen rudder, a device that not only steered the thrust of the propelled water, but had a separate lever that could reverse the thrust — the same principle used on our modern jet aircraft today to reverse thrust when landing.

My! What carburetor should I choose? Schebler, Monarch, Panhard, Daimler, Garllus, Breeze, Holly, Kingston? You picked your own reverse gear: will it be Baldridge, Gies, Ball, Capitol, Joe's, Tuttle, or Paragon? As far as ignition was concerned, you could choose between low-voltage make-and-break, and a high-voltage jump spark generated by either a magneto or a spark coil/vibrator rig energized by a battery. Atwater-Kent ultimately did away with the necessity of a spark coil for each cylinder by coming up with a single spark coil and a high voltage distributor. That was the ticket! (Atwater-Kent subsequently went on, of course, to fame in radio manufacturing).

Pump choices

You even had a choice of the type of water pump you wanted. Plunger pumps were best, some said, because they ran off an eccentric, and had less wear than these new-fangled gear pumps. Steam and naphtha men swore by the eccentric, and saw no reason to ever change this scheme of things.

This, then was the general scene during the years from about 1900 to 1917, when World War I came our way. For the relatively short time we were engaged, there was a hiatus in marine engine development for small craft, as emphasis was placed on the design and development of larger engines for Army, Navy, and Army Air Corps use. For example, a lot of effort went into the large V-12 engine that went into the Army Air Corps' JN-4 trainer (the Jenny). The marine conversion version of this machine was also used in Elco's 80-foot patrol boat, of which the company constructed 550 units in 500 working days! This engine was the Curtiss Liberty OX-5, and they were sold as surplus after the war, brand new and in crates, for $50 each. Many of them made their way in the 1920s into private craft of various types.



Above, one of the first marine engines marketed. It was produced in 1884 by the Union Engine Works of San Francisco. The carryover from steam engines is evident. Notice that there is no crankcase. This first ran on illuminating gas and was later adapted to gasoline vapor.

It was after the war that the development of marine engines resulted in sufficiently low weight, compactness, reliability, and efficiency to make them really practical as auxiliary power for relatively small sailboats. Many new ideas (and much new wealth) entered the scene in the 10 years following the armistice in 1918. This led to the design and development of the Atomic 4, among others, which became very popular for auxiliary power, and which in turn led to standardization that allowed mass production for the mass market. For example, the Brennan "IMP" was almost a carbon copy of the Atomic 4.

Early outboard

The first auxiliary power plants were inboard engines, of both the 4-cycle and 2-cycle variety. Then, one day in the early years of the century, Arthur Caille put an outboard engine on the market, to be attached to the transom. This was nothing more than a small 1-hp marine engine, tilted at an angle, with a long propeller shaft running down into the water behind the boat. Then Ole Evinrude decided it would be better to mount the engine essentially vertical, and transfer the rotation to the propeller by the use of right-angle gears. For sailboats, the "long shaft" was applied. (Notice in the photo on Page 51 that some of the bevel gears, the water pump, and the non-retractable, knuckle-busting starting handle on the flywheel are in evidence).

Then someone further decided that the cylinder would best be laid horizontal — this was a better orientation, and since they were 2-cycle engines, they needed no oil sump. This scheme has lasted approximately 85 years to this day in 2-cycle outboards.

Yes, those were halcyon days of auxiliary power, to be sure. At least from the standpoint of the romance of it. Those who lived through the era without a broken thumb can be proud.

Wes Farmer is a retired engineer, now living in Deephaven, Minn., on the shores of Lake Minnetonka. He has had a lifelong love affair with small boats, both motor and sail, having owned one type or the other since he was 13. (His first boat was named the Leakin' Zephyr.*) He has a continuing interest in marine history, especially that of small craft.*

The Monterey boat connection

Famous California boats spawned many derivatives

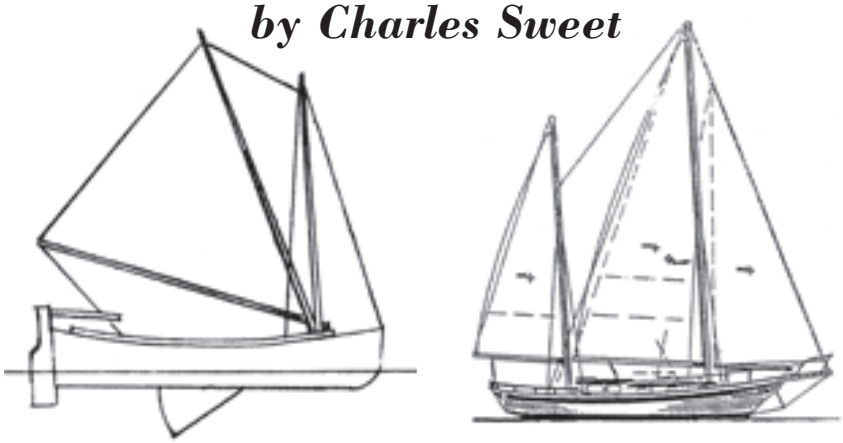
by Charles Sweet

Reese Palley profiled the Cherubini 44, Hinckley 40, and Valiant 40 as classic American sailboats in the May 2000 issue of *Good Old Boat*. To this list might be added three groups of West Coast counterparts: the Pacific Seacraft Crealock 34, 37, 40, and 44; the Henry Morschladt DownEaster 32, 35, 38, 41, and 45; and the William Garden and Clair Oberly Mariner 32, 35, 40, 45, and 50. *(The author notes that a group of Lockheed executives, inspired by his proposal for a fiberglass boat division similar to Grumman's Pearson subsidiary, supported the production of Mariners at Kawasaki in Japan; the other boats were built in Southern California. **-Ed.**)*

These West Coast boats are related to the East Coast group by W.I.B. Crealock's and Robert Perry's canoe sterns and by John Cherubini's, Henry Morschladt's, and William Garden's clipper bows. Bob Perry has credited the North Sea boats for his inspiration, and the Cherubinis aspired to L.-Francis Herreshoff's *Ticonderoga*.

The West Coast boats were derivatives of the clipper-bow, double-ender California Monterey fishing boat, which itself was developed from the lateen-rigged Sicilian beach boat, which Howard Chapelle says was "politely called the San Francisco felucca." Very few authentic Monterey fishing boats were built after 1941 due to the wartime relocation of their Italian builders away from the coastline and the consequent loss of their boatyards, skilled workers, and material sources.

Both Crealock and Garden made several attempts to produce these boats in quantity before achieving success with their better-known sailing derivatives. It is fitting that an Italian, Sam Filippo, produced a mold over a plug made from an authentic wooden boat. This mold was used by several boatbuild-



The 1850s Sicilian felucca 19 (above left) became the 1860s Columbia River 22 to 28 and the 1870s 28- to 40-foot Monterey boat, with a clipper bow. The Mariner 40 (above right), one of many derivatives. At top, an excellent restoration of a Monterey boat.

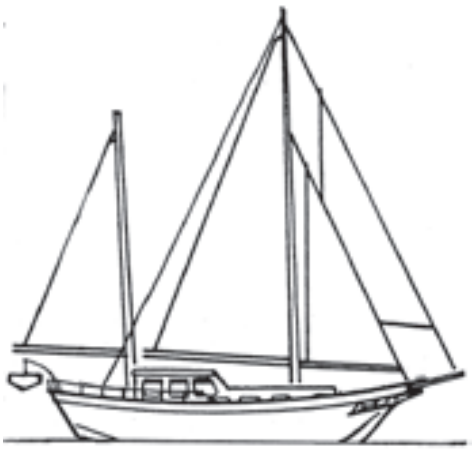
ers to replace hundreds of aging commercial boats. Many of these replacements are still actively working the West Coast fisheries from Mexico to Alaska. Unfortunately, the appeal of the classic Monterey boat as a yacht was eclipsed by low-cost, glass-over-plywood, twin-screw boats that could reach Santa Catalina Island from Los Angeles in one hour instead of three.

Credit for the first Monterey boat derivative goes to Annapolis-based Thomas Gilmer for the Sea Horse 30 motorsailer, which he designed around 1950. In his own words, "I always admired those little boats when I was stationed with the Navy in San Diego."

Since 1942, hundreds of Monterey boat replicas and derivatives have been built. Primarily constructed from fiberglass over molds taken from original classic Monterey designs, many of these boats have retained the charm of those classics without the inevitable deterioration of wood. Only a few authentic wooden Monterey boats have survived and can still be found in fishing ports along the West Coast. The ingenuity of the Italian immigrant boatbuilders and the simple beauty of their design is still evident in many of today's modern yachts. Their boats served as inspiration for many of the sailboats that followed.

Monterey boat enthusiast Charles Sweet began his lifelong passion for boats as a teenager working in the Wilmington, California, boatyards during the 1930s and throughout his 50-year career at Lockheed. Charles recently sold his fully restored Monterey boat, Mary Ann, *to Universal Studios for use in a theme park in Japan recreating Fisherman's Wharf in San Francisco. He is writing a book about Monterey boats.*

Visitors to Monterey, Calif., are greeted by the* Francesca, *on display in the heart of the shoreside community. A sign, commemorating the area's commercial fishing fleet and its Sicilian fishermen, says she's a 1937 Monterey-style salmon troller.



Thomas Gilmer's first Monterey derivative, the Sea Horse 30, designed in 1950, above left. At center, the author's 1956 design, developed with a proposal to produce replica boats from molds built over wooden 30- and 34-foot Monterey boats. At right, Monterey lover C. E. Ackerman's Newporter 40, the first runaway success as a Monterey boat derivative. At least 25 replicas were produced and more than 50 derivatives.

Monterey boat replicas

Year	Designer, Name, Length and Manufacturer	Qty	Mat	Bow	Stern	Notes
1942	George Meese, **Morning Star 36** minesweeper for U.S. Navy	25	CDR	S	TR	San Francisco
1946	Harry Champlin, **Monterey 30 & 39** at Fellows & Stewart	lea	MHG	C	DE	Wilmington
1956	Thomas C. Gilmer, **Sea Horse 30** adaptation by Charles Sweet	0	FBG	C	DE	
1959	William Garden, **Vega 36 & 40** at Willard, Costa Mesa, Calif.	low	FBG	S	DE	
1960	Robert Beebe, **Monterey Clipper 35** at Monterey Boat Works	1	MHG	C	DE	
1960	William Garden, **Monterey Clipper 30** on East Coast and Taiwan	2	FBG	C	DE	
1960	George Calkins, **Bartender 19, 22, 26, 29** for Coast Guard	100s	F/W	S	DE	Semi-Vee
1961	Sam Filippo, **Monterey Clipper 32** at B.F.P. on Cannery Row	100s	FBG	C	DE	Filippo mold
1962	Edwin Monk Jr., **six double-ender 30s** for Westlake, Seattle	low	AL	S	DE	Semi-Vee
1962	Ben Ostlund, **Pee Wee 30** surfboat for Honolulu, Hawaii	1	F/W	S	DE	Semi-Vee
1962	Ben Ostlund, **Troller 34** for Ed Douthit & Crane, Santa Rosa	low	F/W	S	DE	Semi-Vee
1962	Nils Lucander, **Monterey Clipper 30** for Roland Reed/Cheoy Lee	low	FBG	C	DE	Semi-Vee
1963	A1 Mason, 30 foot **Monterey-type** cruiser for East Coast	1	FBG	C	DE	
1964	Edwin Monk Jr., **Dieselcraft 31** for Reinell in Salem, Ore.	low	F/W	S	DE	Semi-Vee
1964	Bill Tritt, **Monterey 26** daysailer and cruiser for McDougall	low	FBG	S	DE	Santa Barbara
1965	W.I.B. Crealock, **Carib 30** for Skipjack of Ft. Lauderdale, Fla.	med	FBG	S	DE	Filippo mold
1968	Edwin Monk Jr., **Monterey Clipper 32** for Puget Sound, Seattle	100s	FBG	C	DE	Filippo mold
1970	W.I.B. Crealock, 5 models of **Vega 30** for Willard, Costa Mesa	low	FBG	S	DE	Filippo mold
1972	Udo Vogel, **Vega 36, 40, 45** trawlers at Vega, Long Beach, Calif.	Low	FBG	C	TR	Semi-Vee
1974	Edwin Monk Jr., **Monterey Clipper 32** motorsailer, Puget Sound	100s	FBG	C	DE	Filippo mold
1975	John Schaefer, **Monterey 22** at Dreadnought, Carpinteria, Calif.	low	FBG	C	DE	
1975	Westport Shipyard, **Sportfisher 40 Laura J** at Westport, Wash.	1	FBG	C	TR	Semi-Vee
1976	W.I.B. Crealock, **Vega 8-Ton** at Willard, Fountain Valley, Calif.	low	FBG	S	DE	Filippo mold
1981	Ray Jones, **Monterey Clipper 34** at Monterey Marine	5	FBG	C	DE	Long Beach
2000	Thomas Gilmer, **Monterey Marine 34** adaptation by Charles Sweet	0	FBG	C	DE	

Key: **AL:** Aluminum • **CDR:** Cedar • **FBG:** Fiberglass • **MHG:** Mahogany • **F/W:** Glass over plywood
C: Clipper • **S:** Straight • **DE:** Double-ender • **TR:** Transom stern

The history of Columbia Yachts

Columbia founders: Richard (Dick) Valdes and Maurice (Morey) Threinen

The rise and sudden fall of a boatbuilder with thousands of boats still in use today

by Mike Keers

Columbia Yachts. Ever heard of them? They were one of the largest manufacturers of production fiberglass sailboats in the country, and perhaps the world, for a time. The company soared, leading the fiberglass sailboat industry in production and innovation, then went through several owners, and finally — literally — faded away in a puff of smoke.

From 1961 to 1986, perhaps 30,000 boats were produced bearing the Columbia name. Fifty models were offered, from an 8-foot Sabot up to the magnificent Columbia 57. Columbia had two U.S. plants, one in California and one in Virginia; it licensed production in Canada, Australia (International Marine), and Japan (Yamaha); and boats carrying the Columbia shield were also produced in Italy and Spain.

In addition to an in-house design team, Columbia Yachts came off the design boards of Sparkman & Stephens, Charlie Morgan, William B. Crealock, Bill Tripp, Wirth M. Munroe, and Alan Payne Sr. Thousands of Columbias are still found all over North America, and indeed the world.

Columbia's story begins with the birth of the fiberglass boatbuilding industry in Southern California. Columbia Yachts started life as Glas Laminates, in Costa Mesa, California. Started in 1960 by Richard (Dick) Valdes and Maurice (Morey) Threinen, Glas Laminates' primary business was manufacturing fiberglass camper shells, shower stalls, and portable chemical outhouses for the construction industry.

But Dick had long been interested in boats, even prior to forming GlasLam. In his third year attending UCLA on a naval scholarship, he started a company called Continental Fiberglass Corporation, which produced about 200 Sabots for Sears, Roebuck and Co. Dick met Morey Threinen when he hired him for that first company. Dick sold his interest in Continental Fiberglass and went to work for a coincidentally named, but unrelated, company called Continental Plastics, which produced hundreds of fiberglass runabouts in the 12- to 18-foot size. Dick hired Morey as a sales manager while working there.

New-fangled stuff

After college, Dick and Morey decided to have a go at this new-fangled fiberglass stuff and started Glas Laminates, manufacturing the items noted above. But Dick had boats on his mind, and before long they were producing and selling fiberglass Islander 24s in a joint venture with McGlasson Marine. The Islander 24 was originally a wooden sloop designed and built by Joseph McGlasson. Under the joint agreement, GlasLam produced molds from the wooden boat — including the grooves from the planking — and GlasLam began to produce fiberglass hulls and decks, which were sold to McGlasson to finish and sell.

According to Vince Valdes, Dick's son, GlasLam would also pay McGlasson to finish off boats, with the hull, deck, ballast, and rudder supplied by GlasLam, for GlasLam to sell through its own dealers. At the time, GlasLam had no woodworking facilities. The Islander 24 drew much interest, and production sold out the first year. (McGlasson and Ritchie also produced the Catalina Islander, an Alden-designed wooden sloop, which is unrelated to the 24-foot Islander.)

GlasLam and McGlasson parted ways sometime in 1961 or 1962, and the McGlasson connection branches off into Wayfarer and Islander history. The 24-foot boat continues to play an important role in the Columbia story, and more will be said in a moment about it.

GlasLam began producing the first model of their own in 1962. This was the Columbia 29, a Sparkman & Stephens design, Number 1508, originally commissioned in 1959 by a lumber company owner named Lester Bitney of Palo Alto, California. Bitney built the tooling and molds and completed three or four boats, at which point Dick Valdes purchased the tooling and all rights to the design, as well as the Columbia name for $40,000. The C-29 was a big hit and inspired the company to adopt the Columbia name for all their models. (Although the company referred to the boats by the full name "Columbia" and the number or model name, the boats are commonly referred to simply as "C-whatever" and will be for the balance of the article.)

"They saw an ad in the Wall Street Journal: *'Wanted: Merger with boat company. We have substantial cash and no liabilities.' "*

Started it all

In 1962, GlasLam was producing the C-29 and the Islander 24 — this is where the little boat that started it all re-enters the story. When GlasLam and McGlasson went their separate ways, GlasLam retooled the 24-foot design, including removing the planking grooves to produce a smooth hull, raising the sheer four inches and enlarging the trunk cabin. They named the resulting boat the Columbia 24. (Jumping ahead for a moment, Columbia subsequently produced two additional 24-foot models based on the same hull, the Challenger and the Contender.)

There were no laws at the time preventing anyone from making a mold from an existing boat, "splashing" as it was called, and producing similar boats under a different name. The original 24-foot design was splashed by another entrepreneur to become the Del Rey 24. It was fairly common for fiberglass molds to be taken from wooden hulls (or even other glass hulls) and the designs produced in glass.

A Chicago dealer, Bosworth Marine, placed the first large order with the young company in 1961, and 24 C-24s and 12 C-29s were delivered. Business was brisk.

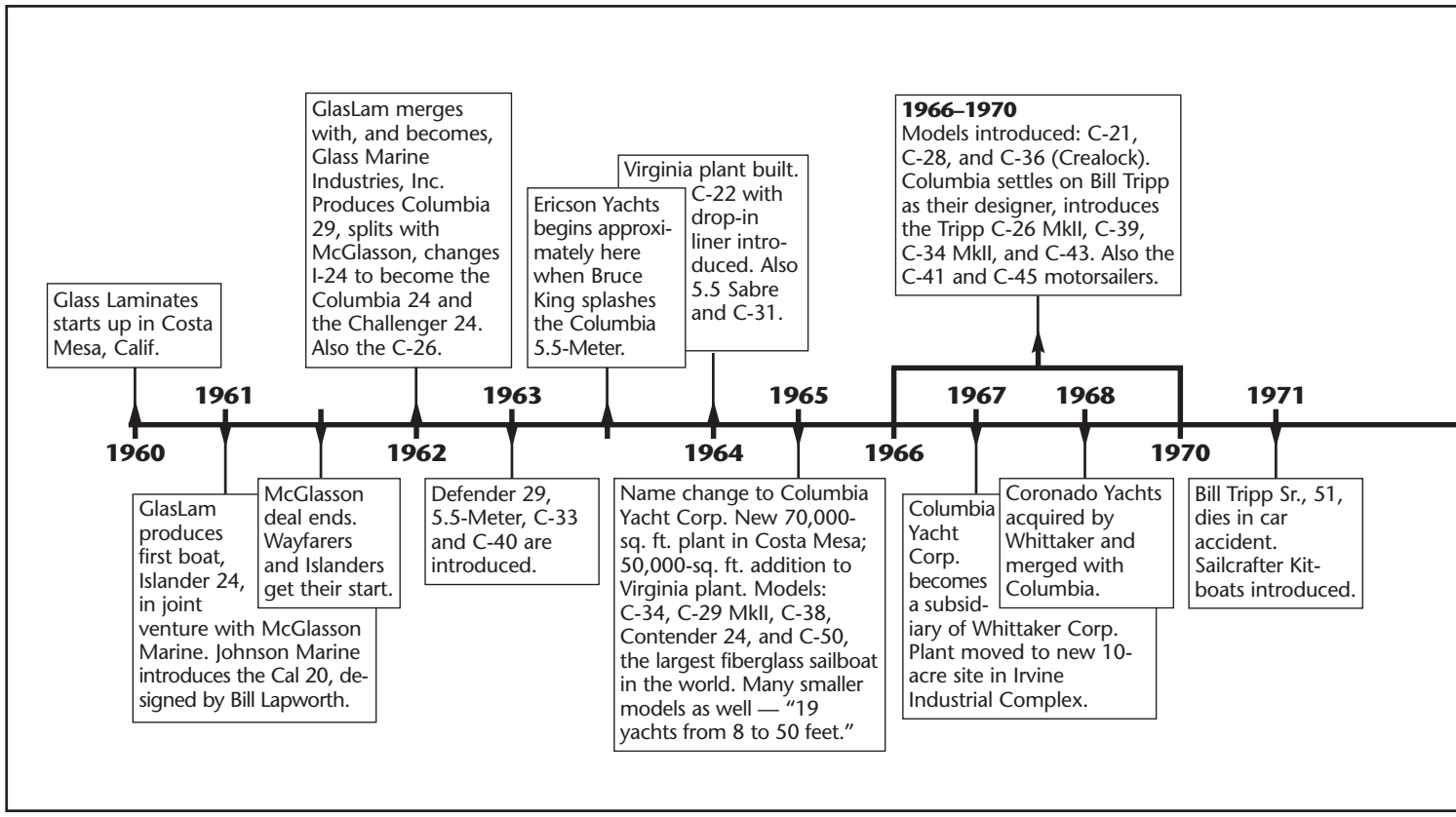
Glas Laminates became Glass Marine Industries in a serendipitous uphill merger. Dick and Morey were at the Chicago boat show in 1962. Their company, Glas Laminates, was already making the C-29 and the I-24. They saw an ad in the *Wall Street Journal*: "Wanted: Merger with boat company. We have substantial cash and no liabilities." Following was the name, Joseph E. Bell, attorney, with a Chicago address and phone number. It was the weekend. When nobody answered the phone, Dick looked in the phone directory for Bell. By chance, the first J. Bell they phoned was the correct one, and a merger was worked out in the following months.

Merger arrangement

It was just luck that Dick and Morey were the first to contact Joe Bell in person. Glass Marine Industries, which he represented, worked out a stock-swapping merger arrangement with GlasLam, which left GlasLam owning Glass Marine Industries. The merged company was publicly offered under the Glass Marine Industries name with boats "produced by Columbia Yachts, an inspiring addition to a growing division of Glass Marine Industries Inc.," according to one brochure. The Columbia name was adopted in honor of the popular Columbia 29 design. Boats were manufactured in Costa Mesa, California.

Following the merger and name change, the company took off. A procession of new models was

A pair of Columbia 24s, the boats that started it all, at far left; a Columbia 50, center; and at right, a Columbia 29, the first boat to be called a Columbia and the one for which the company was named.



introduced. Joining the 1962 model lineup of the C-29 and C-24 was the C-26, a stretched version of the C-24, and then the Challenger, which was a raised-deck version of the C-24. The Cal 20 had recently come out, and raised decks were all the rage; the Challenger sold for $3,995, $500 more than the Cal 20, but it offered stiff competition since it was a lot more boat for a little more money (for more on the Cal 20, see *Good Old Boat*, July 1999). There are many Challengers still to be found sailing, and an active fleet races in Stockton, California.

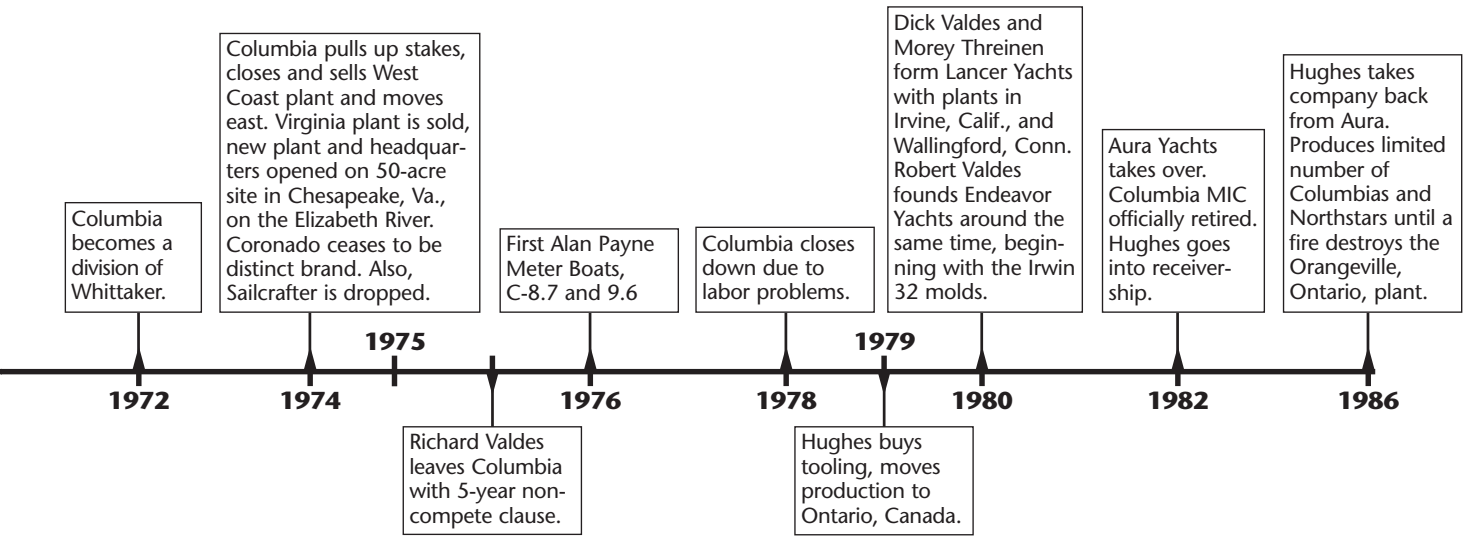
Raised-deck version

Raised-deck boats are often referred to erroneously as "flush-deck boats." On a true flush-decked design, the deck, usually uninterrupted by a cabin or doghouse, is at the same level as the natural sheer of the hull. On a raised-deck boat, there is a cabin, but the cabinsides are brought all the way out to the rail. There are no side decks. In effect, the hull sides continue upward above the sheer line to form the "raised deck." Raised-deck boats are not a new idea; for an example of a more traditional looking design, see the 1931 Sam Crocker-designed Stone Horse featured in the January 2002 issue of *Good Old Boat*, rendered in fiberglass by Edey & Duff.

In 1963, Columbia introduced the Defender 29, the 5.5-Meter boat, and the C-33. The Defender is a raised-deck version of the C-29 — the same hull, but a different deck dropped on. The C-33 is a Wirth Munroe design, traditional in appearance, with longer overhangs and a centerboard.

The 5.5-Meter is a very interesting boat. These boats were designed and built to the Olympic 5.5-Meter International Measurement Rule. At 32

The Columbia 22 is noteworthy as the first fiberglass boat with a molded drop-in liner. This C-22 has been lovingly restored by Lori Van Hove.



Columbia history in review 1960–1986

feet, 5 inches long, with a very narrow 6-foot, 3-inch beam, and displacing only 3,900 pounds, these boats just shout "performance" in the older full-keel, flush-deck daysailer style. With a waterline length of only 25 feet, this boat sports impressive and beautiful classic overhangs *(see photo on Page 14)*. The boat is startlingly narrow for its length, especially compared to more conventional designs.

A full-page ad for the Columbia 24 from the November 1963 *Yachting* magazine lists the 1964 model lineup as the 5.5 (Olympic class) Meter boat, C-29, Defender 29, C-26, C-24, Challenger 24, and two Columbia "flagship" models, the C-33 and C-40. Also mentioned are three Columbia "power yachts," 30, 35, and 40 feet long. Columbia only dabbled in powerboats, with several designs never leaving the drawing board. According to Dick Valdes, only one, the Columbia Express 30 cruiser, actually made it into production. Between 1964 and 1966, 167 of these were produced. The design, along with the hull and deck tooling, was subsequently sold to Luhrs.

The success of Columbia and consumer interest in their products warranted a cross-country expansion. 1964 saw Morey Threinen overseeing the building of an East Coast plant on a nine-acre site in Portsmouth, Virginia. The move reduced the distance and delivery times to the East Coast markets. Again the company expanded its product line, introducing the Bill Crealock-designed C-22 and the Charlie Morgan-designed C-31 and C-40, both centerboard designs. The 5.5 Sabre was also introduced, which was the 5.5-Meter boat with a cabin and deckhouse, providing full, if cramped, cruising amenities. (Ericson Yachts got its start when Bruce King, who had worked for Columbia, splashed the Columbia 5.5, added a cabin and different deck, and produced the first Ericson).

Noteworthy boat

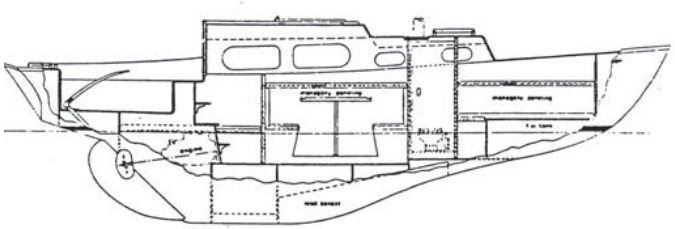
The C-22 may be one of the most noteworthy boats Columbia produced, for the model marks an important development in fiberglass boat production — the introduction of the molded drop-in hull liner. Up to this point, fiberglass boats had most or all of the wooden interior structure and furniture laboriously crafted and installed, each piece attached to the inside of the hull with fiberglass tape (tabbing) and components, assembled for the most part, in place aboard. According to Dick Valdes, who pioneered the idea, the introduction of the liner cut some 40 to 50 manhours of labor — labor that had to be skilled in carpentry and other trades. The Columbia 22 was strong competition for similar pocketcruiser designs because of the savings in labor and the increased quality the liner provided. The C-22 remains one of the more numerous Columbia models seen around the docks, with more than 1,500 boats made before production ceased in 1972. It was offered in a deep fin-keel version and a centerboard-fin version. Sales literature from the period boasts that the 22 is "hailed by many to be the biggest 22-footer afloat."

Business was booming in 1965, and Columbia officially became "Columbia Yacht Corporation," linking the new corporate name with the well-known Columbia Yachts brand. Ground was broken for a new 70,000-square-foot plant located on 5½ acres in Costa

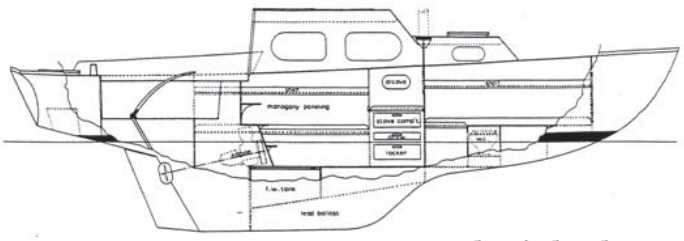
Sailcrafter Models

As far as can be determined, the following models were available in kit form as Sailcrafters. The corresponding Columbia models are in parentheses.

22 (C-22); 28 (C-28); 36 (C-36); 50 (C-50); 56 (C-56, but not listed in a brochure); 57 (C-57). A flier also lists a 23- and a 25-footer, both almost certainly Coronado models also available in kit form.



The Columbia 29



The Columbia 24

Mesa, California. The builder's fee was to trade his C-40 for a new C-50. The ever-growing demand for Columbias was also met by a 50,000-square foot addition to the Virginia plant.

Innovative style

In keeping with the company's innovative business style, more models were introduced including the C-29 MkII (a new deckhouse and rigging improvements for the original design), a C-34, C-38 (a budget C-40), the C-50, and the Contender.

The C-50, a Bill Tripp design, was announced in late 1965, with hull #1 to be launched in January of 1966. It was the largest production fiberglass sailing yacht in existence and is a stunning blend of a traditional-looking hull above the waterline, a flush deck that seems to go on for acres, and a relatively small rounded doghouse, a precursor to the Tripp "bubbletop" designs to come. The underbody has a cutaway forefoot and a spade rudder. The C-50 was definitely in the "performance cruiser" category and was a very successful ocean racer. A promotional blurb exclaims, "The first luxury fiberglass yacht that is big enough to be completely comfortable . . . fast enough to win major ocean races . . . and not too big to be owner maintained."

The 24-foot Contender model harkens back to the very beginnings of the company. It was a development expressly for the more traditional East Coast markets — Columbia simply returned to the original Islander 24 design (sans planking grooves), reintroducing it to the East Coast markets as the Contender. The Islander 24 and the Columbia Contender are essentially identical and often mistaken for one another. Apparently the tradition-steeped East Coast markets were not quite ready for the modern raised-deck boats like the Challenger and Defender, so popular on the West Coast. Other West Coast manufacturers like Cal, Coronado, and McGregor had jumped on the raised-deck bandwagon as well.

Five new boats

A company magazine, *Columbia News*, boasts the following in the 1965 fall/winter issue: "More big news is our forthcoming entrance into the small boat market with five new boats: the Columbia Sabot, an 8-foot sailing dinghy; the Columbia Cadet, a 14-foot sailboard; the Columbia 14, a 14-foot self-bailing daysailer; the Columbia Kat, a 16-foot catamaran; the Columbia Jolly, an 18-foot high-performance class boat; and the Columbia 20, a 19-foot, 6-inch planing daysailer . . . With the addition of the Columbia 34 and the fabulous Columbia 50, our line now totals 19 yachts from 8 to 50 feet in length."

Business was good, and Columbia's star continued to rise.

"There were no laws at the time preventing anyone from making a mold from an existing boat, 'splashing' as it was called, and producing similar boats under a different name."

Continued growth and some big changes, on both the business and design fronts, marked the period from 1966 to 1970. On the design side, Columbia continued to introduce new models, including the C-21, a daysailer version of the C-22, the Crealock-designed C-28 and C-36 models, and perhaps the most noteworthy, a daring new line of boats by Bill Tripp.

The introduction of the Tripp designs ushered in a new era of common lineage and vision to the product lineup. Up until this point, Columbias represented an eclectic mix of designs and designers. The company drew on half a dozen outside designers and an in-house team that produced new models by making modifications to existing designs. The end result was an amazing array of models; many shared a distinctive large bullet-shaped window in the main cabin, and the cabin silhouettes were similar, but the boats did not share a common heritage. By turning to Tripp as the sole designer of the new boats, Columbia was introducing an element of continuity to the new lineup.

Tripp's "bubbletops"

The first of these Bill Tripp designs, the so-called "bubbletops," were rolled out in 1966 and 1967 — the C-26 MkII, C-34 MkII, C-39, and C-43. The MkII appellation signified far more than simple upgrades or design changes to the previous 26 and 34 models; these were totally new designs. All four were a radical departure from the more traditional narrow full-keel type designs of the day. These new designs were beamy and of light displacement, with severely cutaway underwater shapes sporting fin keels and spade rudders. They carried high freeboard, flush decks, and a small rounded doghouse (hence the bubbletop nickname). These "performance cruisers" were controversial in their day for their striking design and appearance.

Probably the best-known examples are the C-26 MkII and C-34 MkII *(shown on opposite page)*, with at least several thousand produced and many still sailing. *Practical Sailor* observed in an August 1984 Used Boat Survey of the 26 MkII that the bubbletop designs "were perhaps too radical for their day." It went on to say, "the bubble cabin never became fashionable" and the designs were ahead of their time, but . . . "their time never came." Nevertheless, many were sold, and they are still to be seen nearly everywhere. Thirty-something years later the boats now have a contemporary modern look. Perhaps "their time finally came" after all. Remarking on the bubbletops, one Columbia owner states, "I've always thought of them as a love 'em or hate

The 29-foot Defender, at far left, a raised-deck version of the C-29; the 24-foot Challenger, at center, a raised-deck version of the C-24; and the 24-foot Contender, at right, another version of the C-24 introduced later.

'em deal, with few people on the fence. Looking at some of the modern racers today, such as the Around Alone boats, you see very similar flush-deck-bubbletop styles. Maybe form does follow function."

Remarkably successful

One thing about the Tripp designs no one questioned was the performance. Speaking of the 26 MkII, *Practical Sailor* noted that the boat remains "a remarkably successful club racer . . . and (performs) creditably against even the most up-to-date boats of the same dual-purpose design."

The 34 MkII, also billed as a performance cruiser, has made some impressive bluewater voyages. The bubbletop appeared on the 26 MkII, 34 MkII, the C-35, C-39, C-43, C-52, and the C-57, all Tripp designs. The Constellation and C-50 carry what might be called "proto bubbles," as these earlier cabins are longer and not quite as radical as the "true bubbles."

By this time, at the end of the 1960s, Southern California fiberglass boat production was in its boom days, and there were many manufacturers competing with Columbia in this still-evolving market, including Catalina, Cal/Jensen, Coronado, Aquarius, Balboa, Wayfarer/Islander, Venture/McGregor, Schock/Santana, and a host of other well-known and not-so well-known players.

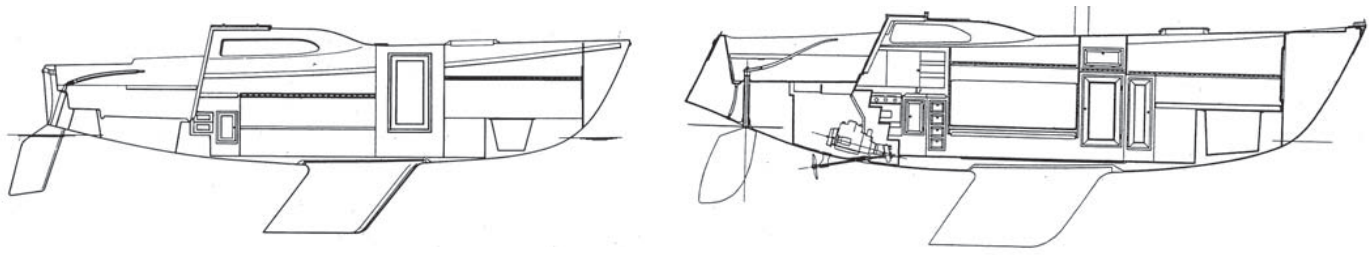
The Tripp "bubbletop" series may have been an attempt by Columbia to regain declining market share with an exciting and eye-catching line of boats, designed to set them apart stylistically and performance-wise from the rest of the pack. The Tripp bubbletops remain distinctive more than 30 years after their introduction, and the 26 MkII continues to be a very competitive boat, perhaps the most numerous Columbia model out there sailing. They are exceptionally roomy and sporty boats. During this period the C-41 and C-45 motorsailers were introduced, which were based on the C-39 and C-43 Tripp hulls, with interiors and decks designed by Blain Seeley.

Undergoing changes

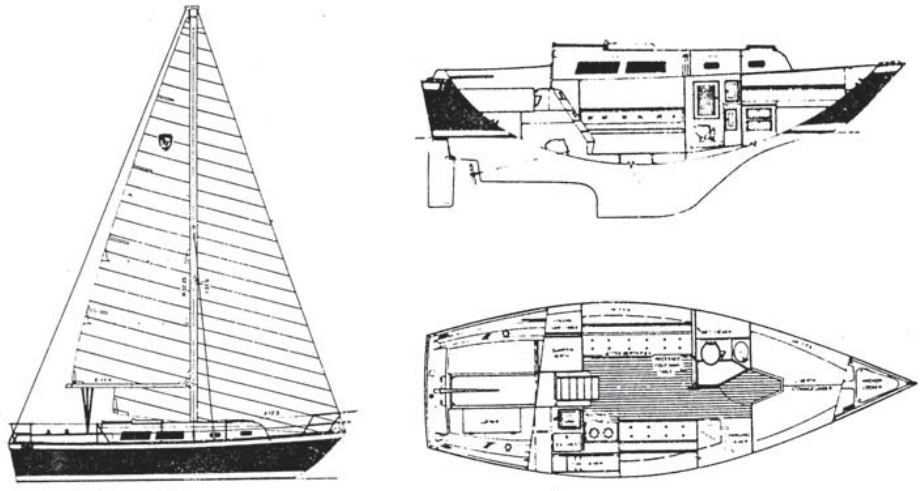
Not only the designs, but also the company itself was undergoing some big changes. In 1967, Columbia Yacht Corporation became a subsidiary of a California-based conglomerate, Whittaker Corporation, and the headquarters and West Coast plant moved to a 10-acre site in Southern California's Irvine Industrial Complex. The additional managerial expertise and financial support, coupled with the technical and engineering resources of the parent company, allowed Columbia to further strengthen its position of innovation and growth in the sailboat industry.

One year later, Whittaker acquired Coronado Yachts, merging it with the Columbia operation, but maintaining separate marketing policies. There was some cross-breeding between Columbia and Coronado designs. For example, the C-28, designed by Bill Crealock for Columbia, appears to be marketed as a Coronado 28 by simply substituting the emblems on the hull. The Bill Tripp-designed C-34 Mk II bubbletop inspired the center cockpit Coronado 35, with a different deck and interior and perhaps some minor changes to the hull. The Coronado 27 was derived from the C-26 MkII. There may be other crossover models.

The decade of the 1970s continued to be one of change for Columbia, marking perhaps the zenith of the company's success. In 1971, Columbia launched Sailcrafter Custom Yachts, which were kit boats based on the regular production models. A brochure lists five kits available: finished hull; deck and deck headliner; lead ballast; rudder, fittings, and steering gear; engine and controls. According to a flier, the models available as Sailcrafter kits were the Sailcrafter 22 (C-22), 28 (C-28), 36 (C-36), 50 (C-50), and 57 (C-57). Several Coronado models were also available, the S-23, S-25, and S-32. Columbia deep-sized the Sailcrafter kit-boats in 1974. Evidently few were sold, and it was felt that kit-boat production was interfering with regular production.



The Columbia 26 MkII and the Columbia 34 MkII, both bubbletop designs



Tiny bubbles: Alan Payne's Columbia 8.7 (28 feet).

Whittaker division

There was important corporate shuffling happening. In 1972, Columbia changed from a subsidiary to a division of Whittaker Corporation. In 1974, Columbia pulled up its stakes from its birthplace in Southern California and re-established its headquarters on a new 50-acre site on the Elizabeth River in Chesapeake, Virginia. The Irvine, California, and Portsmouth, Virginia, plants were sold. One observer suggested Columbia had simply "worn out its market on the West Coast." Coronado Yachts were blended into the Columbia product line. This seems to be the end of Coronado as a distinct brand.

Dick Valdes left Columbia in 1975 or 1976. He apparently had a five-year non-compete clause. As soon as that expired, he formed Lancer Yachts in Irvine, California. (Dick's brother, Robert, who had managed the Virginia operation, went on to form Endeavor Yachts, buying the molds for the Irwin 32 and producing the Endeavor 32. Endeavor Yachts closed around 1989.)

It was in the mid-70s that the first of the Alan Payne-designed meter boats appeared. Columbia, after settling on Bill Tripp as their designer, was forced to shift gears by Tripp's untimely death in an auto accident. The company settled on the Australian Alan Payne, perhaps best known at the time for his America's Cup boat, *Gretel.* Around 1976, the C-8.7 (28 feet) C-9.6 (31 feet), and the C-10.7 (35 feet) appeared. These were followed in the later 1970s by the C-7.6 (25 feet) and C-8.3 (27 feet). The switch to metric was probably part of a marketing strategy to bring the boats into the modern era. The new designs reflected this as well; the Payne C-8.7 was rolled out as "The First Widebody Supercruiser! You've never sailed a 29 footer like her!" And indeed, at 10 feet of beam on a 28-foot 7-inch length overall, it was certainly a departure from the narrower designs of the day. The "Widebody Supercruisers" proudly carried a wineglass-shaped transom, of which much was made. It was advertised that the " . . . traditional wineglass transom . . . pulls the quarter wave aft, and makes for a fine trailing edge at all angles of heel. This results in a light, bubbling wake, not a boiling trail of foam." A wineglass of champagne and the title "Tiny Bubbles" headed this promotion.

Trouble brewing

Despite the introduction of the meter boats, the company merely idled along for several years, and trouble was brewing. Production continued until 1978, when Columbia closed down because of undefined "labor problems." In 1979, Howard Hughes, from Hughes Boat Works (no, not *that* Howard Hughes of Hollywood and *Spruce Goose* fame) picked up all the molds, brought them to Centralia, near London, Ontario, in Canada and began producing Columbia Yachts. These are known as the "Hughes Columbias" and were for the most part the above-mentioned meter boats. Several of the most popular models from this period are the C-8.7 and the C-9.6.

It's unclear if Hughes actually introduced any new models or just reshuffled some designs and names. For example, the Hughes C-36 appears to be a Coronado 35 (based on the Tripp-designed C-34) with some modest design changes. Hughes changed the long-standing and well-known Columbia shield by adding a vertical wing-shaped V element that intersected the shield. Hughes also produced the Northstar line of sailboats. Hughes did not do well either, and in 1982 the troubled company went into receivership.

The speedy 5.5-Meter, 32 feet, 5 inches.

According to the U.S. Coast Guard website, "CLY," the Columbia manufacturer's identification code (MIC) was retired August 28, 1982. Many Columbia owners observe this date as "Columbia Day," a day of mock-solemnity to mark the passing of this fine line of boats and, of course, to hoist an appropriate beverage in honor.

In 1982, Aura Yachts took over Hughes or what was left of it. Aura apparently produced a limited number of boats, exact production figures are unknown. Aura must have run into problems. Around 1986, Hughes took the line back. From 1986, Hughes built boats until a fire destroyed the factory in Orangeville. It is unclear when this fire took place, how many of the molds may have survived, or what happened to them. There is anecdotal information about some of the Columbia molds. One rumor has the C-50 or C-57 molds ending up in Texas. There was even a rumor several years ago that new or kit versions of the 50 or 57 might be made again. But this fire certainly marked the end of Columbia's long run.

"The C-22 may be one of the most noteworthy boats Columbia produced, for the model marks an important development in fiberglass boat production — the introduction of the molded drop-in hull liner."

Largest concentrations

Columbia sailboats may be found today all over the U.S. and Canada, but the largest concentrations seem to be found around the two areas of former production: Southern California and the Chesapeake. There are thousands of boats still in service; used models of all sizes can be found for sale in any condition, from lovingly restored and upgraded to better than new, to, uh, shall we say "awaiting someone to fall in love with them." While the boats have not been produced for quite some time, and were admittedly in the mass-produced Chevy category of their time, they were well made and built to designs by noted naval architects. There are many resources available to owners, including the large and active Columbia Yacht Owners Association (CYOA) with a website, <http://www.columbia-yachts.com>, a quarterly journal, <http://www.cnuz.org>, and two online discussion groups with hundreds of people participating, hosted by Yahoo and Sailnet. All in all, Columbias present an excellent opportunity and good value for the good old boater. Now you've heard of Columbia Yachts!

The author thanks all those who have collected and contributed information over the years. Sincere appreciation goes to Eric White, the Valdes family — Dick, Vince, and Marguerite — and Doug Ward for their direct contributions and co-operation.

Columbia Yachts Models 1962 to 1987

(All models would carry the full name "Columbia" in front of the model number or name; the "C" is used for brevity. Designer given where known. This list is as complete as the historians with the Columbia site have been able to make it. Please contact author Mike Keers with any additional information: emkay@theriver.com.)

Columbia Sabot (8 feet); sailing dinghy
Columbia Cadet (14 feet); sailboard
Columbia 14 (14 feet); daysailer
Columbia Kat (16 feet); catamaran
Columbia Jolly (18 feet); one-design
C-20 (19 feet, 6 inches); planing daysailer
C-21 (open cockpit daysailer version of C-22)
C-22 (W. B. Crealock)
C-23T (Alan Payne)
C-24
Challenger 24
Contender 24
C-7.6 (Payne)
C-26
C-26 MkII (Bill Tripp)
C-26T (Payne)
C-8.3 (Payne)
C-27 (Australian)
C-28, C-28 MkII (Crealock)
C-8.7 (Payne)
C-29, C-29 MkII (Sparkman & Stephens)
Defender 29
C-30 (Tripp)
C-31 (Charlie Morgan)
C-9.6 (Payne)
C-K9.6 (Kettenburg Limited Edition interior)
C-31.5 (Hughes model)
C-32
C-5.5 Columbia Class (Olympic 5.5m)
C-5.5 Sabre (development involved George O'Day)
C-33 (W. M. Munroe)
C-34
C-34 MkII (Tripp)
C-35 (Tripp)
C-10.7 (Payne)
C-36, C-36 MkII (Crealock; yawl option advertised 1968)
C-36 (Hughes model; center-cockpit sloop/ketch; flier says designed by Tripp – was Coronado 35)
C-11.8 (possibly Payne)
C-38 (also yawl rig)
C-39 Constellation
C-39 (Tripp)
C-40 (Morgan)
C-41 (Tripp)
C-43, C-43 MkII, MkIII Sailcrafter (Tripp)
C-45 (Tripp; also ketch rig)
C-50 (Tripp)
C-52 (Tripp)
C-56 (also Sailcrafter)
C-57 (Tripp)

The history

C&C Yachts, the largest-ever builder of sailboats in Canada, was named for two of its founding partners, George Cuthbertson and George Cassian, both yacht designers. But the story of C&C Yachts runs far deeper, to George Hinterhoeller, to two other boat-building firms — Belleville Marine Yards and Bruckmann Manufacturing — and to a stockbroker who had the bright idea of bringing them all together to form a single company that would shape and profoundly affect the entire North American sailboat industry. A number of the company's innovative building techniques were widely adopted by others. C&C's rakish designs and lightweight construction excelled on the racecourse and were cruised by many families around the Great Lakes and around the world.

George Cuthbertson

George Cuthbertson was born in 1929, in Brantford, Ontario. His father died when he was 13, precipitating his family's move to Toronto. The next year he joined the Royal Canadian Yacht Club's junior sailing program where he was introduced to the sport as well as to the form and structure of sailboats. A 1983 corporate history of C&C Yachts says, "He was beginning to see beauty, grace, and speed as qualities that could be governed by mathematics, albeit a mathematics tempered by artistic instinct." Making drawings, often of ships and airplanes, was a favorite pastime of his. Soon he was drawing sailboats, too.

At age 17, Cuthbertson was made the club's official measurer, a testament to his ability in mathematics. In 1950, he graduated from the University of Toronto with a degree in engineering. His first job was with the Swedish ball-bearing manufacturer, SKF, but he soon teamed up with fellow club racer Peter Davidson to build small fiberglass boats.

Beginning in 1953, the two young men built about 80 Water Rat dinghies. There wasn't a lot of work for yacht design in Canada at that time, so they operated a yacht brokerage, which imported yachts from Europe, under the name of Canadian Northern Co.

His big break in yacht design came when the Canada's Cup was revived in 1954. This was a match-racing event between selected yacht clubs — U.S. and Canadian. It was contested in 8-Meter yachts between Cuthbertson's Royal Canadian Yacht Club and the Rochester Yacht Club in the U.S. Cuthbertson was hired to rework an existing boat named *Venture II*, owned by Norman Walsh. Cuthbertson drew the modifications, and he and Davidson also crewed, winning three straight races to return the cup to Canada for the first time since 1903.

This timely success landed Cuthbertson a handsome commission from Norman Walsh: *Inishfree*, a 54-footer which was launched in 1958. Her successful racing career established the young designer's reputation. He and Davidson dissolved their partnership when Peter moved to the U.S. to become a sailmaker.

Cuthbertson modified a number of European yachts for the North American market. These Canadian Northern 35s were designed and built of steel by Kurt Beister in Norderney, Germany. A half dozen were built by Cliff Richardson in Meaford, Ontario, including one named *Carousel* for Perry Connolly. This relationship would continue to be beneficial for both men.

"At this time, Ted Brewer was very involved with our brokerage and import activities," Cuthbertson says. "Ted was with us for about three years, functioning as a yacht broker (and a very effective one) while studying yacht design in his spare time through the Westlawn course. In time, he also moved to the U.S. to take a job with Luders Marine Construction in Stamford, Conn., and so began his distinguished career."

George Cassian

In 1959, aircraft designer George Cassian walked in the door of Cuth-

bertson's office in Port Credit, Ontario. A project he'd been working on involving the Avro Arrow jet fighter had been canceled, and he was in search of design work. Cuthbertson told him that there was little to be had in the marine field and that his fledgling firm made most of its money brokering boats, many from Europe. Cassian still was interested, and a few days later Cuthbertson offered him a job, which he held for less than a year before bolting to Detroit, hoping to make it big in the automobile industry.

They kept in touch, however, and it wasn't long before Cassian asked for his old job back. This time he wanted a share in the company as well. Cuthbertson sold him a 25 percent share, which eventually was increased to a third. Their partnership was formed in 1961 as Cuthbertson & Cassian.

Cuthbertson managed the business, doing much of his design work late into the evenings. The two worked in collaboration, with Cuthbertson doing the preliminary lines and calculations and Cassian the interior plans and details. Later they would come to be known by staff as "Cumbersome and Casual," a humorous reflection on their differing styles. Their first designs included a 34-foot steel boat, *Vanadis*, built by Kurt Beister in Germany and *La Mouette*, built of wood at Metro Marine in Bronte, Ontario.

The stage was set for Cuthbertson's return to fiberglass, a material he had not worked with much since his early experience of building Water Rat dinghies. The opener came from yet a third George, this one named Hinterhoeller.

George Hinterhoeller

Born in Austria, where he learned the boat carpenter's trade at the Frauscher yard, George Hinterhoeller emigrated to Canada in 1952. "I arrived in North America, where the streets are paved with gold," he wrote, "with a box full of tools, a training in boatbuilding, and $30 in my pocket." He had a job waiting for him at Shepherd Boats in Niagara-on-the-Lake. "This was a model boatyard and the premier powerboat builder in Canada," he said. "The only trouble was that, as an ardent sailor, powerboats were not my love."

In his spare time Hinterhoeller began building sailboats. Sandy Edmison bought a Y-Flyer from him, which won the Canadian championship. As the design of *Inishfree* had done for Cuthbertson, this bit of providence propelled Hinterhoeller into a full-time business of his own. Hinterhoeller incorporated in 1963 and, in all, built 40 Y-Flyers.

When that market dried up in 1959, he designed the 24-foot Shark, an incredibly fast sloop that once *averaged* more than 10 knots in an 80-mile race. Interestingly, in 1964 a Shark took line honors in the 40-mile Blockhouse Bay race, finishing just ahead of the 56-foot *Inishfree*.

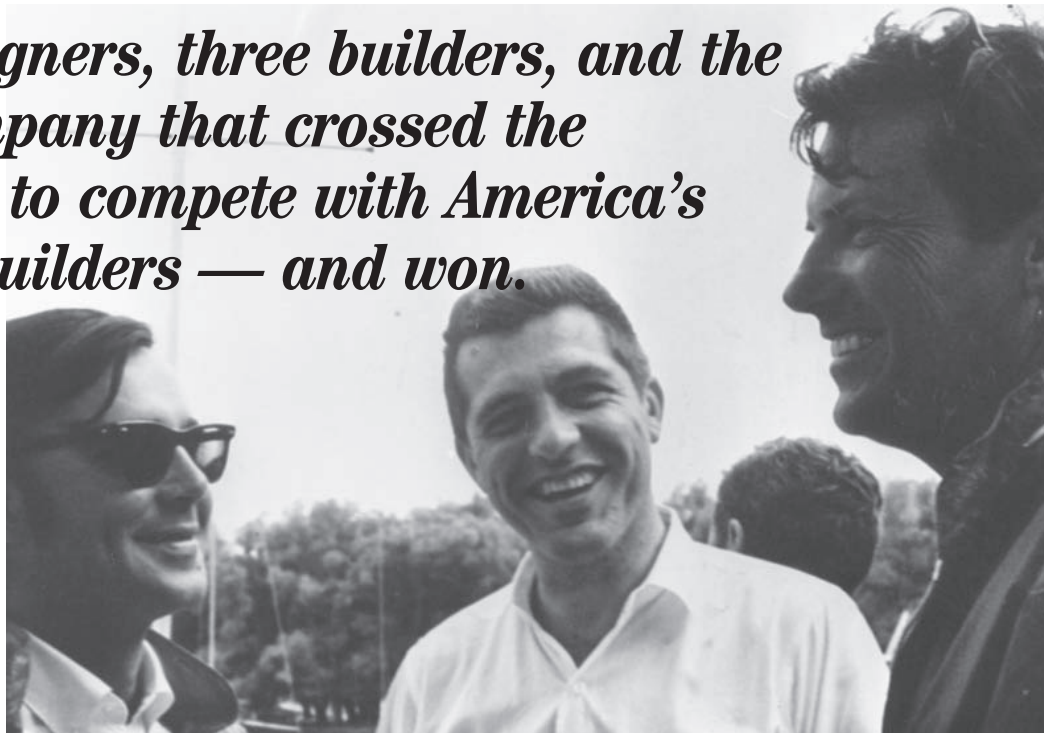
It was with the Shark that Hinterhoeller made the transition from wood to fiberglass. "The first boats were of cold-molded plywood construction," he said. "Then Bill O'Reilly came along and stated that he liked the design but wanted a fiberglass boat. 'But fiberglass is no good,' I countered, after which he asked how familiar I was with that material. Bill introduced me to Bert Miller, who built fiberglass powerboats as a hobby.

"Bert was an exuberant person, a tool and die maker with several patents to his name. He said, 'Why don't you come to my shop on Saturday morning and help me build a 16-foot hull?' On one Saturday morning a 16-foot hull? I thought the man was pulling my leg. But I watched Bert spray the gelcoat at 8 a.m., at 9 a.m. two more fellows showed up, and by 11:30 the job was completed. I was stunned. I drove home shaking my

# of C&C Yachts

A tale of two designers, three builders, and the publicly held company that crossed the Canadian border to compete with America's best racers and builders — and won.

by Dan Spurr



John Reeves

Facing page, *Red Jacket*, the winner of 11 of 13 races in her first year, making history for C&C Yachts. At right, George Cassian, George Cuthbertson, and Perry Connolly in high spirits in 1969 at the launching of *Manitou*. Perry Connolly was the original owner of *Red Jacket*.

head all the way. Then I called my business partner, Gordon Brinsmead, informing him that there was indeed a faster way to build a boat."

Other Hinterhoeller boats of the early 1960s included the Niagara 30, the Hinterhoeller 25 and 28, the latter his own designs. When he decided to commission an outside designer for his next boat, he selected C&C. The design they delivered was named the Invader 35, their first boat in fiberglass. About two dozen were built, followed by the more popular Redwing 30 and 35. (The latter was never sold as the Redwing 35, rather as the C&C 35, because it came along just as C&C Yachts was being formed.)

Other players

In 1965, Ian Morch of the Belleville Marine Yard commissioned C&C to design the 31-foot Corvette. The centerboard sloop was built of fiberglass and numbered several hundred before production ceased.

The same year, Canadian yachtsman Perry Connolly, who a few years earlier had bought a 35-footer from Cuthbertson, asked C&C to design a custom 40-foot racing machine for him. The design directive called for flat-out speed. Connolly said he wanted "the meanest, hungriest 40-footer afloat," Cuthbertson recalls.

The builder selected was German-born Erich Bruckmann, who had emigrated to Canada just two years after George Hinterhoeller, in 1954. Bruckmann had been shop supervisor

"Despite a number of forays into the cruising genre, primarily with the Landfall series, C&C's bread and butter always was the racer/cruiser, with emphasis on the racer."

at Metro Marine when *La Mouette* was built. In 1966 he set up his own boatbuilding company, Bruckmann Manufacturing, in Oakville, Ontario. *Red Jacket*, as she was christened, was his first job.

Cuthbertson avers that *Red Jacket* was the first boat with a balsa-cored hull (other earlier boats had balsa-cored decks, and powerboat builders were using it in transoms and superstructures). No doubt the weight savings and panel stiffness of her cored hull contributed significantly to her racing success.

During her first summer racing on Lake Ontario, *Red Jacket* took 11 of 13 starts. In 1968, she won the SORC, which was a series of six races with the major two being from St. Petersburg to Fort Lauderdale and from Miami to Nassau. *Red Jacket* made a name for her owner as well as for her designers and builder. She is still actively raced by her owners, members of the Royal Canadian Yacht Club.

C&C Yachts formed

The four eventual partners — Hinterhoeller Ltd., Belleville Marine Yard Ltd., Cuthbertson & Cassian, and Bruckmann Manufacturing Ltd. — were small outfits, none with many employees, but they recognized a certain interdependence. Hinterhoeller and Bruckmann bought stanchions from Belleville Marine Yard's machine shop, and all three were working closely with C&C's seven-member staff, building boats to their designs.

Though there had been some informal discussions between the four about pooling their efforts, it was not until Bob Sale, president of the investment firm of Walwyn, Stodgell & Co., made a formal proposal that things began to move forward. Sale owned a Corvette 31, knew the various operations, and believed there were distinct advantages for each.

George Hinterhoeller described these events: "In 1969, Bob Sale, a stockbroker, asked (us) how we felt about forming a publicly owned holding company. We liked the idea, and by fall we were one big happy family.

"The value of each company was determined in part by the earnings of the year prior to amalgamation. Ours was the lowest. Miraculously, from that point on we provided the lion's share of the (business of the) three boatbuilders, even before the shop expansion.

"We decided that my company should build keelboats 25, 27, 30, 35, and 39 feet long. The Bruckmann-built Redline 25, and our Hinterhoeller 25, Hinterhoeller 28, and Redwing 30 were phased out. By about 1972 we displayed our fleet at the Annapolis Boat Show."

The C&C corporate history states, "On September 26, the lever was officially pulled that brought their independent operations together under one roof, to be known as C&C Yachts Limited. In addition to varying cash considerations, each company acquired 150,000 shares in the new venture. These companies continued to function as individual entities, with the parent company responsible for the financing, marketing, and accounting for the group."

Owing to his degrees in engineering and business administration, Ian Morch of Belleville Marine Yard was made president. George Cuthbertson directed the design effort, Erich Bruckmann the custom work, and George Hinterhoeller production.

The year of the merger, 1969, was a high-profile year for the young company. It was Canada's Cup time again, and Bruckmann built three C&C designs for the Canadian defense of the cup. *Manitou* was the eventual winner of the trials and won the series 4-0 over the Sparkman & Stephens-designed challenger, *Niagara*. Perry Connolly was skipper and one of the three owners. The sailing world took notice.

"The exposure and high public interest doubtless had a lot to do with the success of the C&C Yachts Ltd. public offering later that year," Cuth-

George Cassian, at left, in the early days (early 1960s). George Cuthbertson, on facing page, in the late 1980s.

bertson recalls.

In addition, in 1971 *Endurance*, a C&C 43, won the Chicago-Mackinac in a fleet of more than 300, Cuthbertson notes.

"Probably our most successful year on the racecourse and in the public profile was 1972," he continues. "Not only did *Condor* win the SORC overall (our second), but we took three of the five classes. Also *Robon*, a C&C 61, was first to finish of 180 starters in a heavy upwind Bermuda Race, defeating six maxis in the process. Second overall was our 50-foot *Phantom*."

"Probably the most popular model of all time was the C&C 27, first introduced in 1970 and reissued in four versions, plus a 26-foot version that looked a lot like the last 27 iteration."

Expansion of the plants

The 1970s were good years for the sailing industry, and C&C Yachts experienced similar growth. Not only was fiberglass making boat ownership less expensive and less maintenance-intensive, but the energy crunch of that decade, headlined by the OPEC oil embargo, made sailing more affordable than powerboating.

During those years, C&C was also designing boats to be built by others. "At home," Cuthbertson says, "Ontario Yachts built the Viking 22, 28, and 33/34 plus the Ontario 32. Paceship built four or five of our designs in Nova Scotia. In the U.S., Lindsey Plastics (later Newport Yachts) built many Newport 41s. In England, Anstey Yachts built the Trapper 27, 28, and 35 (which was a C&C 35). We did the Whitby 45 for Kurt Hansen of Whitby Boat Works. We designed several yachts for OY Baltic in Finland and the Benello 37 for Cantiere Benello in Livorno, Italy. There were others, but those are the ones which come to mind."

With the strong Canadian dollar, trade between America and Canada favored the latter; U.S. boats sold in Canada were subject to a 17.5 percent tariff, whereas Canadian boats sold in America paid only a 3 percent tariff. The industry as a whole was growing at double-digit speed — 10 to 15 percent a year — and C&C Yachts participated fully in that prosperity.

Going in, Belleville Marine Yard was the largest of the three builders, with a 20,000-square-foot facility and 55 employees. By 1970 it would add another 12,000 square feet. In 1969, Hinterhoeller's 57 employees built 181 boats. Its 20,000-square-foot addition doubled capacity to 386 units.

"The plant expansion, development work, and production came off without a glitch," Hinterhoeller said. "We now had some 100,000 square feet of floor space, five production lines, and 150 people on the shop floor. Soon thereafter, we purchased an adjacent piece of land and built the development shop, machine shop, and spar shed, adding another 20,000 square feet. Belleville Marine Yard was closed down as a result of consistent losses after amalgamation."

A dealer network was established and expanded during the early 1970s. By September 1970, five dealers were added in Canada and eight added to the 15 already established in the U.S. Models included the C&C 25, 27, 30, 35, 40C, and the custom C&C 61, probably the largest semi-production fiberglass sailboat of that time. *Sorcery* won a number of races, and her lean and mean lines were exciting just to look at. The next year, 1971, the C&C 39 was introduced. Total sales that year reached $5.2 million.

But all was not rosy. Ian Morch's Belleville Marine Yard was losing money and probably as a means of avoiding bankruptcy, he vigorously pursued a plan whereby operations would become more centralized. Cuthbertson opposed the plan, seeing virtue in their degrees of autonomy. After a number of heated board meetings, Morch's proposal was accepted, and the four firms became as one.

"The holding company was transformed into a wholly owned corporation," Hinterhoeller said. "That is, C&C Yachts, and names like Hinterhoeller, Division of C&C, disappeared. I voted for this transition, which proved to be a mistake."

Production at Belleville Marine Yard ceased. This shifted the production burden (other than Bruckmann's custom work) to Hinterhoeller, and a plant expansion was undertaken. Personality differences were not resolved by these moves, however, and Morch resigned. He bought back the assets of Belleville Marine Yard and then was forced to sell them to Credit Foncier.

The board named George Hinterhoeller to succeed Morch as president, but it was a role for which he was not particularly well suited, nor one he liked. A boating writer described him as a "craggy man, with a worn look, who smokes heavily and looks across at a pile of telephone messages with small enthusiasm . . . a dreamer with dirty hands."

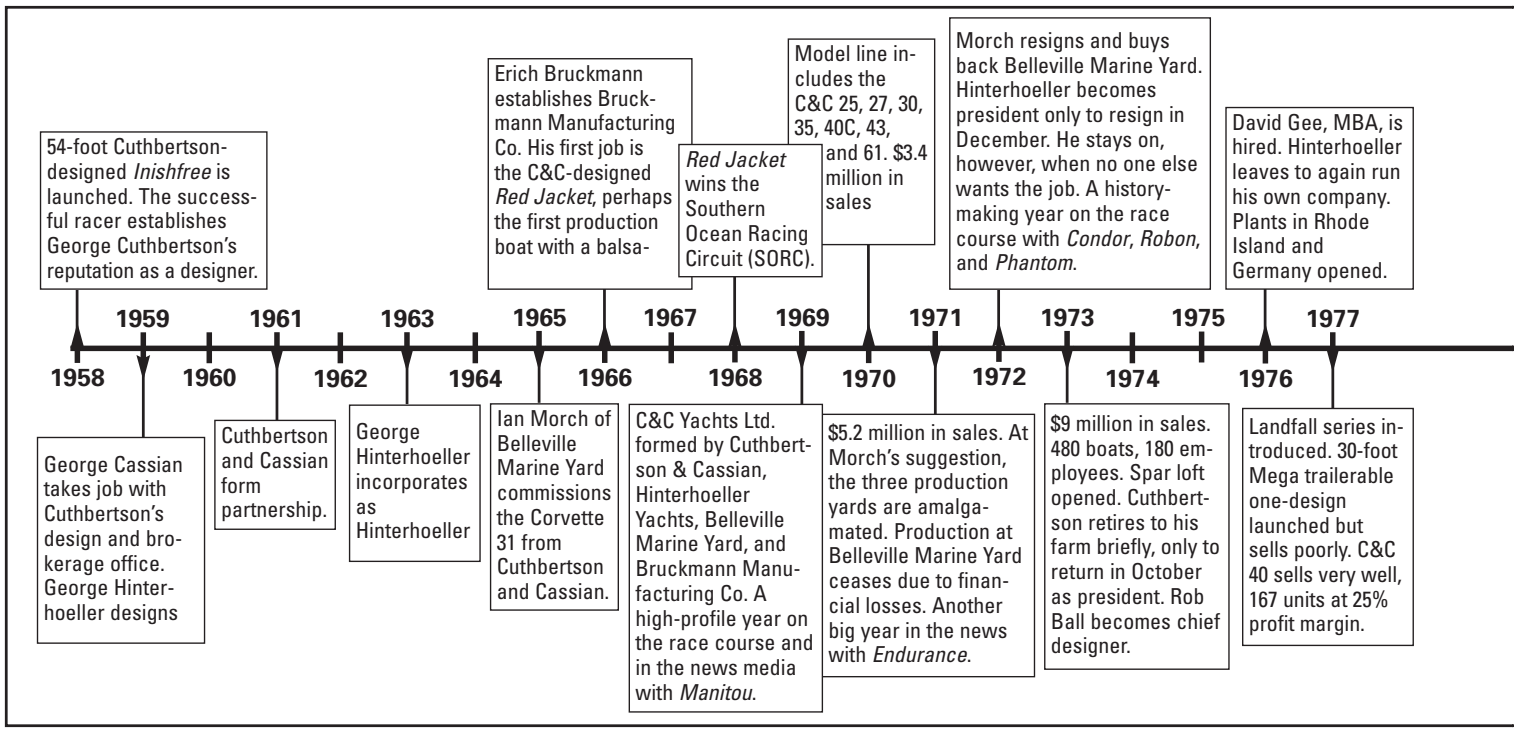
He lasted less than a year before returning to the shop, which was his love. Among his innovations were placing hulls in holes dug in the shop floor so workers didn't have to climb ladders, a trailer with hydraulic arms to move hulls, and the reverse flange hull/deck joint with vinyl rubrail sandwiched in between, which became a standard industry practice. Hinterhoeller eschewed split molds and did not like large molded interior pans and headliners that prevent "proper" bonding of bulkheads to the hull.

In the spring of 1973, Cuthbertson burned out and retired to his farm to recharge his batteries. Rob Ball became chief designer in his place. Cuthbertson couldn't stay away for long, however, returning at the end of the summer and agreeing to take the helm of C&C, a position he retained for eight years.

Committed to performance

Despite a number of forays into the cruising genre, primarily with the Landfall series, C&C's bread and butter

John Reeves



always was the racer/cruiser, with emphasis on the racer. By using balsa core in hulls as well as decks, C&C proved that for most uses, and certainly racing, lightweight, stiff hulls are superior to heavy, single-skin hulls.

C&C's first real commercial success was the C&C 35, essentially the same boat as the Redwing 35 designed originally for Hinterhoeller. First off the line was *Redhead*, taken to the 1970 SORC with Bruce Kirby, editor of *One Design & Offshore* magazine, at the helm. Unfortunately, *Redhead* was rigged for light air, and that week it blew. She broke a rudder in the St. Petersburg to Ft. Lauderdale race. "We did not feel *Redhead's* performance was a disappointment," Cuthbertson said. "And neither did the public, I guess. The C&C 35 sold like crazy and was later identified, with the C&C 61, as two of the definitive designs of the era." Success again visited C&C in 1972, when *Condor*, the prototype for the Redline 41, won the SORC, as noted previously.

Probably the most popular model of all time was the C&C 27, introduced in 1970 and reissued in four versions, plus a 26-foot version that looked a lot like the last 27 iteration. Somewhere around 1,000 27s were built. The C&C 30 came out the following year and also developed a huge following. A few years later, when management thought that the C&C 25, 27, and 30 were growing tired, it tried to replace them with the C&C 24, 26, and 29 but with poor results. Like most, if not all of the large production builders, C&C found itself competing with its own used boats: why buy a new 29 when you can buy a four-year-old 30 that's bigger, better equipped, and costs less?

By the end of 1973, there were 180 employees producing 480 boats in six models, plus four models at Bruckmann's plant. C&C was having terrific success in penetrating the U.S. market. But, Cuthbertson recalls, "There was a lobby active in Washington seeking to impose a heavy import duty because we had gained such a high portion of the U.S. market. We needed more productive capacity and decided to locate in the U.S. as a defensive measure against possible imposition of such a tariff."

"C&C's first real commercial success was the C&C 35, essentially the same boat as the Redwing 35 designed originally for Hinterhoeller."

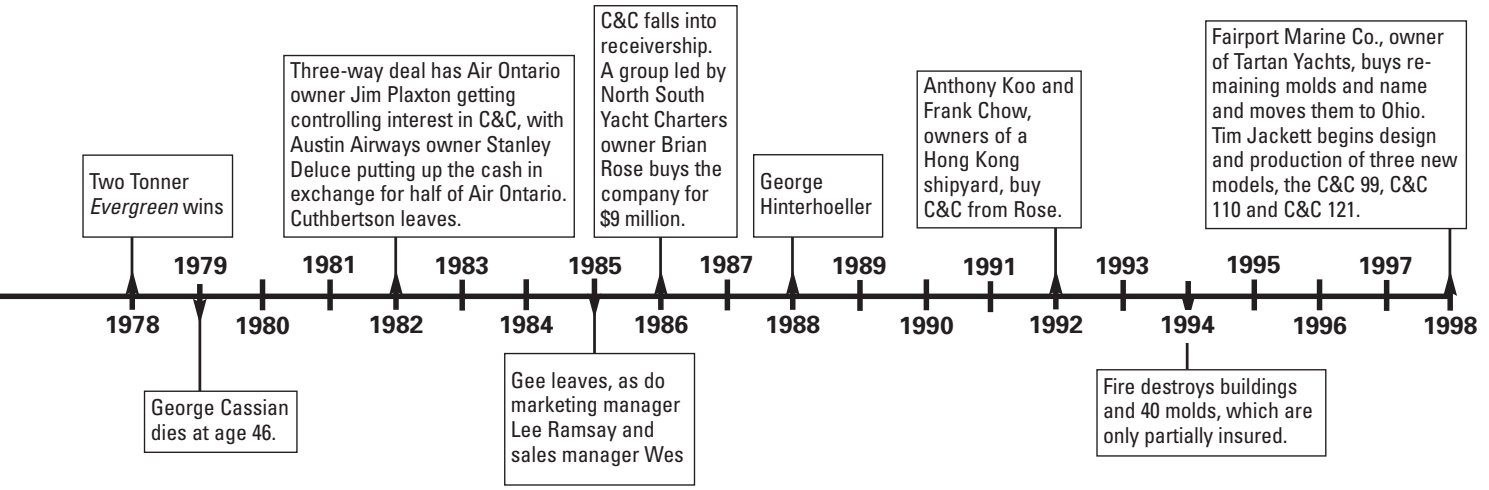
In February 1976 C&C opened a 56,000-square-foot plant in Middletown, Rhode Island, financed in part by a $1.5 million bond sale from the Rhode Island Port Authority and Economic Development Corporation. The C&C 24, 29, and the new 33 were scheduled to be built there, as well as the Mega 30.

Ahead of her time

The Mega, introduced in 1977, is one of the most interesting boats ever built by a high-volume production yard. It was the brainchild of C&C and North Sail's Peter Barret, who proposed to serve as the class-association president. Their idea was a trailerable one-design, but so many demands were placed upon it that the boat ended up at 30 feet with standing headroom, a self-tacking jib, and a retractable bulb keel. "In some respects, such as the open transom and the deckhouse configuration," Cuthbertson says now, "the design anticipated the future."

Only 150 Megas were ever sold. Cuthbertson explained the public's dismal reaction: "We became too concerned about the trailerability aspects just at a time when people stopped buying big cars, let alone trailering big loads behind them. Trailerability aside, the concept was good; the failure was in execution. The market refused to embrace Mega for three reasons: unorthodox appearance, mediocre performance (particularly upwind), and many warranty problems. On the plus side, C&C produced a useful 30-footer at half the price ($16,000) of a typical C&C 30-footer. Now, if we had just done it right . . ."

This disappointment was offset by two highlights of 1977-78, the first of



C&C history in review 1958–1998

which was the introduction of another C&C 40, which raced well, and 167 were sold.

And a C&C won the 1978 Canada's Cup. Her name was *Evergreen*. She was a most unusual boat, perhaps the most sophisticated of her time. The Two Tonner's hull was cored with balsa, the norm for C&C, but her deck was a paper-honeycomb laminate, and the bulkheads were cored with an aluminum honeycomb. She had a four-spreader, hydraulically tuned rig and a jibing daggerboard.

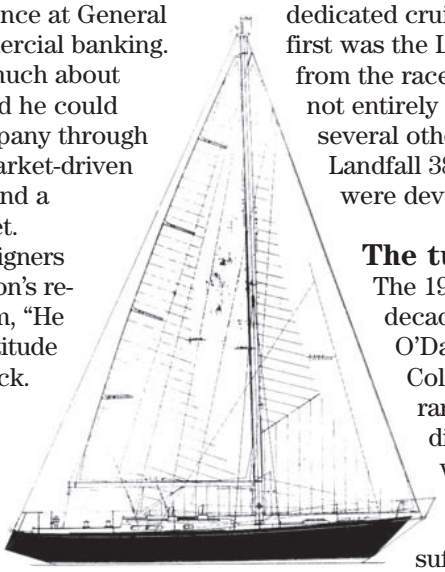
Changes

C&C's international ventures didn't end in the United States. The same year it moved to Rhode Island, C&C got a loan from the city of Kiel and the state of Schleswig-Holstein, West Germany, to build a 27,000-square-foot plant there. Workers were trained by C&C staff, and in 1978 production of the C&C 30E, 24, and Mega began. As luck would have it, the deutsche mark chose that time to jump from 32 to 65 cents Canadian, making it cheaper for C&C to build at home and ship overseas than to build abroad. The company reported an annual loss of $496,000.

By now, George Hinterhoeller had left C&C to recreate Hinterhoeller Yachts as an independent company. "A number of factors, which I don't care to describe, led me to the conclusion that we should part company," he wrote. He left at the end of 1975 and by 1977 had persuaded four former C&C employees to join him in building several designs by Mark Ellis, who'd also been employed by C&C. These were the Niagara 35 and the Nonsuch line of catboats.

In 1976, Cuthbertson hired David Gee to oversee Erich Bruckmann's custom division. Bruckmann was an expert builder, and Gee came with an MBA and experience at General Foods and commercial banking. He didn't know much about boats but believed he could improve the company through team building, market-driven product design, and a corporate mindset.

One of the designers said of Cuthbertson's return from the farm, "He had a different attitude when he came back. Cuthbertson said that while everyone wanted to design race boats, even a good one didn't stay on top long. He said it was a fickle business . . . and aimed us more toward a combination boat."



***Red Jacket* sail plan**

Hence, the general purpose racer/cruiser that can compete in Wednesday-night club races and also take the family on a week's cruise with some degree of comfort. But it was the speedy end of the performance continuum that identified C&C and to that end the boats had to be light (balsa cored) and fast looking: Cuthbertson's knife-edge bows, reverse transoms, and strong sheerlines filled the bill. The perforated aluminum toerail, to which one can shackle blocks anywhere, became a C&C trademark and was much copied by others.

In 1977, the Landfall series of dedicated cruisers was initiated. The first was the Landfall 42. This break from the racer/cruiser formula was not entirely successful, though several other models — the Landfall 38, 39, and 48 — also were developed.

The turbulent 80s

The 1980s was a difficult decade for boatbuilders. Cal, O'Day, Pearson, Ranger, and Columbia, to name a few, ran out of money and disappeared. While C&C would weather the storms of recession and cultural change, it also suffered.

As a publicly held corporation, C&C was unique in the industry. But C&C owner and Air Ontario businessman Jim Plaxton became nearly obsessed with wanting to buy the company and, after a protracted battle, he finally got controlling interest. His initial offer of $3.1 million ($4.50 per share) for 51 percent of the shares was turned down. Next he offered $5.25 per share for 70 percent. Cuthbertson and the

C&C Yachts 1968-2002

C&C 24	C&C 30 Mk II	C&C 35 Mk II	C&C 40
HR 25	Mega 30	C&C 35 Mk III	C&C 41
C&C 25	Redwing 30	Landfall 35	Landfall 42
C&C 25 Redline	Corvette 31	C&C 36	Landfall 43
C&C 26	C&C 32	C&C 36 XL	C&C 44
C&C 26 Wave	C&C 33	C&C 37	C&C 45 C
C&C 27	Viking 33/34	C&C 37 R	(Star catamaran)
HR 28	C&C 34	C&C 37 +	Landfall 48
C&C 29 Mk I	C&C 34 R	C&C 38	C&C 51
C&C 29 Mk II	C&C 34 +	Landfall 38	C&C 54
C&C 30 Mk I	C&C 35 Mk I	Landfall 39	C&C 57

Note: Not listed are the custom boats, most of which were built as one-offs by Bruckmann's plant.

The four models below were designed by Glenn Henderson late in C&C's life and have uncertain production runs.

C&C SR 21	C&C SR 25	C&C SR 27	C&C SR 33

other directors owned 65 percent of the outstanding 404,000 shares and held out for $6 per share, emboldened by year-end profits of $1.7 million on sales of $39.6 million.

Plaxton was undeterred. To raise the cash he formed a partnership with Stanley Deluce, owner of Austin Airways. The deal went down in January 1982, with Deluce paying the C&C shareholders and in return getting half of Plaxton's Delplax Holdings, which owned Air Ontario. Plaxton replaced Cuthbertson as chief executive, and Gee stayed on as president.

It was another case of an MBA believing he can run any kind of business, because the principles taught in the classroom and boardroom are the same for any industry. But C&C wasn't the first boatbuilder to prove the danger of such thinking. The errors are several: first, the building of large boats continues to resist labor-saving shop methods such as injection molding and, second, the pleasureboat industry is swayed by hard-to-predict vagaries of the economy and cultural trends, the high cost of slip space, perceptions of onerous maintenance, and state-by-state tax laws.

Under a cloudy forecast, Gee jumped ship in 1985. Marketing manager Lee Ramsay and sales manager Wes Dalby did the same, leaving Stanley Deluce's son, Bill, in charge. C&C fell into receivership in April 1986.

In June, a Toronto group, headed by charter operator Brian Rose, bought C&C for $9 million. In 1992, Anthony Koo and Frank Chow of Wa Kwang Shipping in Hong Kong took C&C off Rose's hands, but within a few years they, too, would be gone. In 1994, a devastating fire destroyed 40 molds and three C&C 51s under construction. Insurance covered only part of the loss, and Koo and Chow found it too expensive to restart. The doors closed. Tooling for just the C&C 36 was shipped to China with the vague notion of possibly supplying the Asian market.

In 1998, the Fairport Marine Company, which had bought Tartan, purchased the name and remaining molds. None of the old designs were built by Fairport Marine, however. The president and designer, Tim Jackett, designed several new boats, the C&C 99 (32 feet), C&C 110 (36 feet), and the C&C 121 (40 feet) as lighter, cleaner, more performance-oriented alternatives to the increasingly sluggish Tartan cruiser lineup.

The early staff in a photo by George Cuthbertson: Mark Ellis, Steve Killing, Rob Mazza, Rob Ball, Tony Godwin, Ruth Gard, George Cassian, Ruth Coombes, and Len Cox.

Epilogue

C&C was a source of national pride for Canada, and rightly so. It competed head-on with U.S. builders and won, not only on the racecourse but also in the showroom. In its first 17 years, C&C built 7,000 boats. They were sufficiently fast, good-looking, and well built that the company survived the persisting tensions of its four founding members. It is not surprising, however, that C&C eventually succumbed to the cancer within and the many slings and arrows loosed upon it: the 15 percent U.S. tariff, a strong U.S. dollar (which opened the door for French giants Beneteau and Jeanneau), a policy of accepting C&C trade-ins at original prices, and its own high prices . . . not to mention the other economic and cultural factors noted earlier. Interestingly, the two large U.S. builders who did survive — Hunter and Catalina — are closely managed by hands-on owners, not corporate teams.

George Cassian died of a heart attack following a strenuous squash tournament in 1979 at just 46 years of age. George Hinterhoeller's new company also changed ownership several times during the 1980s. He retired for good in 1988 and died in the spring of 1999. Erich Bruckmann is retired, but his son, Mark, carries on the tradition of building boats under the family name.

George Cuthbertson lives a quiet life on the same property to which he fled in 1973 trying to escape the workaday world of C&C Yachts. Most of his papers have been given to the Marine Museum in Kingston, Ontario. Presently, he is awaiting a new sail for one of his Water Rat dinghies, which he converted to sailing. Nearly 50 years old, this Water Rat shares, along with its designer and builder, a wonderful legacy that still is the pride of Canada.

Hallberg *plus* Rassy

Two famous boatbuilding names — and a line of classy bluewater voyagers

by Jahnn Swanker Gibson

HALLBERG-RASSY HAS THE LONGEST-standing and strongest North American presence of any Swedish boatbuilder, with two dealers on the East Coast and one on the West Coast. All European imports to this country are high-end, and Hallberg-Rassy's line of cruising boats is no exception. Regarded as one of the top European builders, Hallberg-Rassy has always enjoyed a good reputation, but much has changed since the first Hallberg-Rassy sailboat reached American shores in 1972.

The name Hallberg-Rassy combines those of the two men who had a hand in its founding 30 years ago. It is a common misconception, however, that Harry Hallberg and Christoph Rassy were partners. How their names became connected is a story of simple business practicality.

> *"The Mistral 33 was the first Hallberg boat to be sold in the United States, for the whopping sum of $33,000 in 1972."*

Harry Hallberg (1914-1997) began building wooden boats in 1928, when he was just 14 years old. In the early 1940s he opened his own boatyard in Kungsviken on the Swedish island of Orust. His customers explained their particular needs and desires to him, and he built them boats mainly by instinct. He had no formal training and did not feel the need for drawings or blueprints. These boats were, to say the least, custom designed. He is reported to have said, "Someone who cannot build a boat without drawings cannot call himself a real boatbuilder."

As time went on, he began to build boats in series, that is, production-model wooden boats in which many identical hulls are laid up in the same mold. Hallberg's first series-produced model was the famous Swedish Folkboat. Production commenced in the 1950s. It was followed by the Kungskryssaren, or King's Cruiser (the Swedish design, not the Finnish design by the same name). Other boatyards also manufactured the same classes of boats.

Wooden superstructures

In 1963, Harry Hallberg became a pioneer in the construction of fiberglass hulls with wooden superstructures. Soon he produced the P-28, which he designed himself, the Misil 24, the Mistress 32, and the Mistral 33. The last three were designed by Olle Enderlein, one of the leading Swedish yacht designers of that time. The Mistral 33 was the first Hallberg boat to be sold in the United States, for the whopping sum of $33,000 in 1972.

Christoph Rassy was born in 1934 in Bavaria near a lake called the Starnberger See. He had a natural interest in boats, building many model boats and expanding into full-sized boats. As a young man, he apprenticed at a small yard in southern Germany building wooden boats. His interest grew, and he decided to move to Sweden, a seafaring nation that he knew to have many fine large boatyards. In 1962, he found employment at the Karl Erik Andersson Yard making Vindo boats. He arrived at the yard in Nötesund empty-handed; a bicycle was his only possession.

Magnus Rassy, Christoph's son, says of his father, "In Southern Germany, at the age of 12, having always dreamed about yachts, he started with small models, and later as an apprentice at a small local boatyard. He wanted to build bigger and more stable boats. This didn't exist in Germany."

In his spare time, Christoph built boats for himself. He enjoyed racing these boats, often winning, which enabled him to sell them at a profit, as people always want to own a winner.

The Hallberg yard, at right. Above, Christoph Rassy.

This success prompted him to set out on his own. As it happened, Hallberg had outgrown his boatyard and put it up for sale. The timing was providential for Christoph Rassy, who managed to purchase it in 1965. Hallberg moved his operation to a new yard in Ellös, just 10 kilometers from Kungsviken.

Conversion to glass

From 1965 to 1972, Harry Hallberg and Christoph Rassy ran their respective businesses as competitors, even using the same designer, Olle Enderlein. At first, Christoph began designing custom one-off boats, but soon turned to more profitable production models. The first of these was the Rasmus 35. The first two boats were made entirely of mahogany. Each took a year to build.

The powerful engine, center cockpit, and windshield of the Rasmus 35 made it rather unusual. The windshield was a new innovation on a sailboat, and its popularity led to its incorporation into the current line of Hallberg-Rassy yachts. A logical extension of the windshield is the fiberglass hardtop, an option on some models (HR 42F to the HR 49 of the current line).

Construction of the Rasmus 35 was soon converted to fiberglass. Of this change Magnus Rassy says, "There was a period of several years with both GRP (glass-reinforced plastic) and wood. It was early understood that this change was a condition to survive for the long term. We have always loved working with wood and still do today. The Mistral, with GRP hull and mahogany superstructure, was a typical boat of the overlapping time with a bit of both worlds."

In 1972, Harry Hallberg retired, and Christoph Rassy, looking for new and larger quarters, bought his yard once again. Hallberg's company had four boats to its name, while the Rassy yard had just one, the Rasmus 35. Christoph named his new company, which offered all five boats, Hallberg-Rassy.

The first design crafted under the Hallberg-Rassy name was the Monsun 31, introduced in 1973. This boat proved to be very successful, with 900 manufactured over the next 10 years. By 1975, the demand for boats was so great that the yard doubled in size. The next model was the HR 41, which the company claims was the first aft-cabin sailboat with a bow-to-stern walk-through. For its time, this boat was splendidly outfitted, with heated pressure water, a shower, an electric anchor windlass, a furling headsail, and two heads. The production run of the HR 41 lasted from 1976 to 1981, with 105 boats delivered.

Trademark stripe

The HR 38 was designed in 1976 and 1977. It was the first with the trademark blue hull stripe. The HR 352 arrived in 1977, and by the time production ceased in 1989, more than 800 had been sold. Like the HR 41, it also had an aft cabin and walk-through interior plan, a difficult feat on a 35-footer. The HR 312 also ran up impressive numbers during its production years of 1979 to 1991 with 700 sold. The queen of the fleet, the HR 49, was designed in 1982.

In 1983, Magnus Rassy built an experimental 26-footer using Aramid fibers and Divinycell foam core. It

After converting from wood to fiberglass, Harry Hallberg built a number of popular sloops, beginning in 1963. Once Christoph Rassy bought Hallberg's yard, the Misil 24 (now the HR Misil II) and the Mistral 33 were built under the name Hallberg-Rassy. The HR 43, at left, is a recent German Frers design with the HR trademark blue hull stripe and teak decks. The Mistral 33, top right, was built alongside the Misil 24, center right. Both are Olle Enderlein designs. The HR 38, bottom right, was built between 1977 and 1986, and numbers 210 hulls.

featured an external lead keel and a reverse counter with a bathing platform. *Rassker* was fast and won many races. In 1987 he built another high-performance boat, the 35-foot *Rassker Magnum*, which also raced well. These two boats were never mass-produced, but they did lead to design innovations in later boats. The company says they also showed what future models "should *not* look like."

In 1985, two armchairs were added to the saloon of the HR 49, purportedly a first in the sailing industry.

For years, Hallberg-Rassy subcontracted the fiberglass work to another company, which it bought in 1987. This company was named Hallberg-Rassy Marinplast AB. This wholly owned subsidiary produces hulls exclusively for Hallberg-Rassy, giving the yard control of the complete construction cycle.

In 1988, Hallberg-Rassy teamed up with yacht designer German Frers from Argentina, well-known for his Whitbread and America's Cup designs. He is equally at home designing fast, seaworthy cruising boats, and his Hallberg-Rassy designs have been winning races all over the world. "We instantly loved his good eye for lines and proportions," Magnus says. "He was exactly the right man we were looking for. He combines the best of performance, nice lines, and the tradition Hallberg-Rassy stands for. He knows the difference between cruising and racing. He also designed other boats at the time, and his family even had their own boatyard in Argentina."

Hallberg-Rassy Varv AB

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More than 8,000

To date, German Frers has designed 10 boats for Hallberg-Rassy. In chronological order they are the HR 45, HR 36, HR 34, HR 42, HR 39, HR 31, HR 53, HR 46, HR 62, and HR 43. Hallberg-Rassy has delivered more than 8,000 boats, about 2,000 of them designed by German Frers.

According to the company, Hallberg-Rassy boats are "built to Lloyd's specifications for 'Certificate of Hull Construction,' and under the personal supervision of a Lloyd's surveyor."

The company recently introduced the HR 40, also designed by German Frers. The hull is solid fiberglass below the waterline and insulated above the waterline with Divinycell PVC foam. Where some older models, like the HR 42, had iron keels, the new 40 has a lead keel attached with stainless-steel bolts. Masts are deck-stepped, which might seem at odds with the traditional wisdom that favors keel-stepped masts, the idea being that if the rig comes down there's a better chance of a stump being left with which to jury rig some sail. Hallberg-Rassy's opinion is that keel-stepped masts leak at the partners, allow water into the bilge, and obstruct the interior.

Interior woodwork on all Hallberg-Rassys is matte-finished mahogany.

When asked which models are his favorites, Magnus Rassy says, "All are favorites in a way. Which one depends on how you like to sail for the moment. I love the HR 34 for local cruising and racing and occasional longer distances. For cruising long distances, the HR 62 is a dreamboat."

As for the future, Magnus said, "We prefer not to talk about the future."

A Hallberg-Rassy comes all inclusive, in ready-to-sail condition. They are so popular that there is a two-year waiting list. As they say, "Good things come to those who wait."

Hallberg-Rassys on the go

John Neal has cruised the Pacific and other oceans aboard a succession of Hallberg-Rassy boats, beginning with a Monsun 31, moving up to a HR 42, and two years ago, to a HR 46, *Mahina Tiare III.* He and his wife, Amanda, own Mahina Adventure Charters, giving customers offshore experience from Tahiti to Cape Horn to Spitzbergen.

John Neal, who runs Mahina Adventure Charters with his wife, Amanda, out of Friday Harbor, Washington, owns a German Frers-designed HR 46. He and Amanda take people cruising all over the world on *Mahina Tiare III*.

After John's South Pacific wanderings in the 1970s aboard a Vega 27, he bought a Monsun 31, which he sailed 44,000 miles over the next 11 years. His next boat was an HR 42, called *Mahina Tiare II*, designed by Olle Enderlein. He sailed it 70,000 miles in seven years, including six Cape Horn roundings and a visit to Antarctica. John and Amanda's current boat, *Mahina Tiare III*, purchased in January 1997, has taken them 58,000 miles, including two visits to Norway and Russia above the 80th parallel. They are currently undertaking a trip to Tahiti, through the South Pacific to New Zealand, a trip of 8,000 miles.

The Neals feel that the Hallberg-Rassy's bluewater capabilities are "hard to beat." Better yet, the boat's value appreciates over the years. John says, "The last two Hallberg-Rassys I've owned have appreciated, selling for more than I paid, even after 44,000 and 70,000 miles."

Since the Neals live aboard seven to 10 months a year, they find comfort and convenience, as well as seaworthiness, to be important. They teach bluewater sailing, and find the boat easy to handle and to teach in under varying conditions at sea. John says, "If we could find a better boat, we would." So far, he and Amanda have stuck with Hallberg-Rassy.

Chris-Craft's classic sailboats

This famous builder of mahogany runabouts and cabin cruisers also built fiberglass sailboats

by Susan Peterson Gateley

Chris-Craft, named for its founder, Chris Smith, offered sailboats beginning with this 35-foot Sail Yacht in 1963.

TELL SOMEONE YOUR SAILBOAT IS A Chris-Craft and the usual response is, "Chris-Craft? I didn't know they made sailboats."

But yes, Chris-Craft, founded at the dawn of the 20th century and the largest American builder of pleasure boats during the 1960s, did indeed build sailboats. Between 1964 and 1973 Chris-Craft produced nine different models (10 if you count one hull with two deck designs). Today they're still turning up in boatyards, backyards, and yacht clubs on both coasts, on the Great Lakes, and in a few harbors overseas. Several have even graced the pages of *Good Old Boat* (May 2001, "The Quick Haulout").

They aren't the fastest, fanciest, or saltiest of sailboats. And there never were very many of them — most models had production runs of less than 100.

"Chris-Craft . . . the largest American builder of pleasure boats during the 1960s, did indeed build sailboats."

Chris-Craft's line of sailboats belongs to the classic glass fleet from the 1960s and early 1970s when most designs were heavily influenced by the Cruising Club of America (CCA) rule that predated the International Offshore Rule (IOR). They are generally slender of beam, have moderate displacement, low freeboard, large mainsails and small foretriangles, and show fairly long overhangs and a nice sheer.

They are less roomy below than modern designs, but some authorities maintain these types of hulls are more seakindly when compared to newer designs with wide beams and nearly flat bottoms.

These 30-year-old yachts still sail sweetly, working up eagerly to windward in the puffs, meeting the waves with a bold bow, and coming through when conditions grow lively. And they still do it with style.

Company history

Chris-Craft's corporate history dates back to the early 1900s, originating on the inland waters of Michigan. It was founded by Christopher Columbus Smith, born May 20, 1861. He and his brother, Henry, were professional hunters, so their first boats were sinkboxes and duck boats for shooting birds on the St. Clair River, north of Detroit. In 1919, the brothers began building boats for hunting clients.

Soon, Henry left to pursue other interests, and Chris set off on his own. By 1921, the famous raceboat driver, Gar Wood, invested heavily in the company. At the end of the decade, sales of its varnished mahogany runabouts totaled nearly $3.5 million. Chris Smith died in 1939, leaving the business in the hands of his son, Jay W. Smith.

By the century's midpoint, Chris-Craft was one of the largest American boatbuilders, with more than 100 different models of powerboats in production. Its name became synonymous with sport and class. And it was all-American — the first boat to land on a Normandy beach, heralding the Allied invasion of Europe, was a Chris-Craft personnel carrier.

In the late 1950s, Chris-Craft began experimenting with fiberglass construction, though it had such a huge investment in wooden-boat production that it was slow to embrace the new technology. In 1957, it bought a company called Lake 'n Sea that built runabouts of plywood and Styrofoam covered with fiberglass. Predictably, these hulls delaminated badly, furthering Chris-Craft's skepticism of fiberglass. Finally, however, they could no longer ignore the inevitable, and in 1962 the company established a research-and-development department to learn to build more successfully with the material.

By the time their sailboat models were in production in the mid- to late 1960s, the company's designers and shop workers had a thorough understanding of how to work with fiberglass and polyester resins. But Chris-Craft's wooden boat production didn't cease until 1972.

In 1960, Chris-Craft was sold to National Automotive Fiber, a maker of automobile seat covers. According to Robert Pemberton, founder and secretary of the Sailboat Division of the Chris-Craft Antique Boat Club, it was interest in sailing yachts on the part of major shareholder Cornelius Shields, a keenly competitive yachtsman, that probably led to the launch of Chris-Craft's first sailboat, a heavy, 35-foot sloop.

The Sail Yacht

Chris-Craft had the resources to hire the best for their new sailboat line and chose the firm of Sparkman & Stephens to design it. S&S had drawn the lines of high-profile America's Cup winners, like *Intrepid*, and ocean racers, such as *Finisterre* and *Dorade*.

The company's first sailboat, the 35-foot Sail Yacht *(pictured on the facing page)*, was introduced in 1963 and billed as a motorsailer due to its 563 square feet of working sail area and 18,000-pound displacement. The Sail Yacht's sail area/displacement ratio is 13.1, definitely low for lively sailing performance, and its displacement/length ratio is a moderately heavy 347. Perhaps this was a reasonable marketing approach considering the company's reputation as a builder of powerboats. She has a full keel and a simple sloop rig designed for comfortable cruising. She has a midships cockpit, and some models came with the company's hardtop option that converted the cockpit and its windshield into a pilothouse of sorts. (This predates by many years its use by Hallberg-Rassy, which now markets the windshield as a trademark design element (See January 2003 *Good Old Boat*). Draft is 4 feet 8 inches and beam is 11 feet.

"These 30-year-old yachts still sail sweetly, working up eagerly to windward in the puffs . . . And they still do it with style."

Like a number of early fiberglass boats, the first Sail Yachts had cabin sides of mahogany and cabintops of plywood. The original power plant was a husky 60-hp gasoline engine in keeping with the motorsailer concept and, unlike some of the later Chris-Craft sailboats, the Sail Yacht, according to sales literature, carried a goodly amount of fuel — 160 gallons — so she had a cruising range under power of more than 1,000 miles.

The Sail Yacht's moderate draft, low cabin profile, and full keel, along with the midship cockpit and the pilothouse option, are appealing to many people who like conservative designs, private accommodations, and comfortable coastal cruising. She is a steady, sure-footed cruiser that will get you to your destination comfortably, if not with blazing speed.

About 80 Sail Yachts were built. The hull was then reworked and given new topsides and cabin and sold as the Caribbean 35, with either a sloop or ketch rig. This was Chris-Craft's last sailboat design; production ceased in 1973 with hull number 110.

Other offerings

Chris-Craft's next offerings were the 30-foot Capri, followed by the Shields 30 one-design, and the 26-foot Capri and Capitan. Both 26-footers have the same fin-keel hull but very different cabin and deck layouts. The Capri has a rather bulky cabin for maximum headroom, while the Capitan was given a minimal cuddy and a huge cockpit. Aimed at a hardier set of yachtsmen, both are considerably livelier sailers than the easy-going Sail Yacht.

The Capri 30 is a keel centerboarder that draws just 3 feet 9 inches with the board up. She displaces 11,700 pounds with 4,000 pounds of lead in her keel, and she spreads 476 feet of sail. The Capri 30 came equipped with a 25-hp Graymarine gas inboard engine. According to the sales literature, she was intended for "the sailing family of modest income."

The 30-foot Capri, the 35-foot Sail Yacht, and the Caribbean were cruisers first and foremost. Chris-Craft built with good-quality materials

The author's Cherokee 32, *Titania*.

and workmanship and, for the most part, the boats have held up well through the decades.

Three of the larger boats that S&S designed — the Cherokee, Apache, and Comanche — were intended like many of their CCA contemporaries to serve as racers and cruisers. The two smaller sloops — the 26-foot Capri and Capitan — were designed to race under the MORC (Midget Ocean Racing Club) rule. The company also produced the 30-foot Shield's one-design, designed by S&S and commissioned, of course, by shareholder Cornelius Shields. Several other yards also built these one-designs, and a number are still in use today as trainers and racers at colleges and sailing schools around the country.

The so-called Indian series — the 26-foot Pawnee, the 32-foot Cherokee, the 37-foot Apache, and the 42-foot Comanche — were built between 1967 and 1971. Only 40 Cherokees, 65 Apaches, and about 25 Comanches were built in 1967 and 1968. All three are handsome, sweet-lined sailers and reasonably good performers, with a strong family resemblance to one another.

"Chris-Craft's line of sailboats belongs to the classic glass fleet from the 1960s and early 1970s . . ."

Chris Gateley's previous boat, a 26-foot Capitan.

A quick end

Chris-Craft had a long association with speed and the racecourse. For many decades, racing was the test bed for design and construction. Chris-Craft promoted its sailboats as sharp performers and winners on the racing circuit just as it had for the previous 50 years of powerboat production. A full-page ad in *Yachting* magazine for the Comanche touted her windward ability and her overall lively performance, while the 26-foot Capitan, with its big cockpit and small cuddy, was billed as an "out and out racer." A newly commissioned Comanche won the Chicago-Mackinac Race, and fleets of Capitans raced as one-designs in Canada. Yet after just 12 years of production the company abandoned them and nearly all their other sailboats.

So what went wrong?

They were well-designed boats and as well made as contemporary competitors' boats. Robert Pemberton explains that one reason for the short-lived foray into sailboats was the difficulty Chris-Craft had with its distribution system. Most boat sales were through dealers, and most Chris-Craft dealers knew and serviced only powerboats. Mastering the peculiarities of sailboats was another game altogether, and the learning curve associated with servicing this new "culture" was a steep one. The wide gulf between sail and power is illustrated by an anecdote (possibly apocryphal) regarding the new owner of a Comanche who stipulated that the customary trademark Chris-Craft builder's plate ***not*** be affixed to his new yacht's cabin.

Scattered production

Another reason, Robert writes in the sailboat owners' newsletter, is that (unlike most smaller builders) Chris-Craft scattered its production around the country at four different plants. For the short production runs of sailboats (at least compared to the huge volume of powerboats turned out), this was neither efficient nor economical. With engineering and service departments spread widely at a time when inter-company communications weren't as easy as they are today, inefficiencies and production glitches resulted.

In analyzing the rapid demise of Chris-Craft's sailboat line, Robert points out that most small builders launch a boat, test it, campaign it on the racecourse, and then tool up for production after working the bugs out. Chris-Craft, he says, worked on the inevitable bugs and problems *after* they had already begun production.

Partly because of this and the generally high-quality construction, Chris-Craft sailboats were not cheap compared to other offerings of the time. But while this probably contri-

Specifications for Chris-Craft Yachts

	Pawnee 26 1970-71	Capitan 26 1966-67	Capri 26 1965-67	Capri 30 1964-65	Shields 30 1965-69	Cherokee 32 1967-68	Caribbean 35* 1971-73	Apache 37 1966-69	Comanche 42 1968-71
LOA	26' 2"	26' 3"	26' 3"	30' 0"	30' 3"	32' 0"	35' 2"	37' 0"	42' 0"
LWL	20' 0"	19' 0"	20' 0"	25' 0"	20' 8"	22' 6"	28' 6"	26' 3"	30' 4"
Beam	8' 0"	8' 2"	8' 2"	9' 8"	6' 5"	9' 0"	11' 0"	10' 2"	10' 10"
Draft	4' 0"	4' 0"	4' 0"	3' 9"	4' 9"	5' 1"	4' 8"	5' 9"	6' 6"
Displ.	4,800 lb.	4,300 lb.	4,800 lb.	11,740 lb.	4,600 lb.	8,698 lb.	18,000 lb.	14,280 lb.	17,641 lb.
Ballast	2,000 lb.	1,830 lb.	1,830 lb.	4,000 lb.	3,080 lb.	3,350 lb.	5,000 lb.	6,000 lb.	8,650 lb.
SA	340 sq. ft.	301 sq. ft.	301 sq. ft.	476 sq. ft.	580 sq. ft.	434 sq. ft.	577 sq. ft.	606 sq. ft.	740 sq. ft.

***Sail Yacht 35 1963-65** same hull as the Caribbean 35

buted to the company's brief dalliance with sailboats, it was to the benefit of those budget-minded sailors who sought quality and bought a Chris-Craft in the closing years of the 20th century. While the boats aren't perfect, they have held up very well on the whole.

Construction

The general quality of the deck hardware and fittings on Chris-Craft sailboats is at least as good as, if not better than, other comparable contemporary production boats — Monel fuel and water tanks, heavy bronze seacocks, and open-body turnbuckles. And the keel-stepped spar, sturdy bridge deck, comfortable cockpit, and a deck cored with foam (that has well resisted water absorption) are additional pluses.

But no boat, even a 30-year-old plastic classic, is perfect, and when Robert surveyed the membership of the sailboat owners' association a few years ago, he found a few consistent complaints and problems, a couple of which are also detailed on Internet websites.

"Chris-Craft promoted its sailboats as sharp performers and winners on the racing circuit just as it had for the previous 50 years of powerboat production."

Some problems, such as deck leaks, are fairly common among sailboats built at that time. But a couple of fairly specific and chronic problems also show up.

One is the skeg-and-rudder arrangement present on the fin keel Capitan 26, Capri 26, Cherokee 42, and Apache 37. These boats have rudders attached to skegs that sometimes develop cracks and other structural weaknesses. And on the Cherokee and Apache, the so-called balanced rudder was quite shoal. Several owners have replaced these rudders with deeper, higher-aspect-ratio blades and have reported excellent results. The original low-aspect-ratio rudder has a tendency to stall in heavy seas. And under power the balanced rudders cause an excessive pull on the boat's helm, generated by prop wash hitting the leading edge of the blade. It's so obnoxious on the Cherokee that it is wise to keep speed below 6 knots. One owner said it's only proper that a powerboat company would design a sailboat that sails sweetly and motors badly. On the plus side, the Cherokee is very maneuverable in reverse.

Backing plates

Several models have steel backing plates embedded in their decks. When saltwater penetrates the deck they rust and swell, causing cracking and delamination of the deck. One owner of a saltwater Apache faced with this problem cut out the old rusted steel plates and glassed in replacement stainless plates, working from below to make the repair less conspicuous.

The fin-keelers have cast-iron keels and galvanized keel bolts, also suffering a predictable problem with corrosion and sometimes with subsequent leaks at the keel-hull joint. A few well-meaning owners have replaced the original bolts with stainless-steel ones (see Mail Buoy in the November 2001 issue of *Good Old Boat* for why this is not a good idea).

Another design flaw that some of the Chris-Craft boats share with a number of other older sailboats is that of chainplate attachment. Both the Capitan and Capri use the plywood bulkheads belowdecks to anchor the chainplates. If (when) the water finds its way through the deck and down along the chainplate, the result is a rotten spot. If not noticed and repaired, dismasting may be the result, as it was a few years ago with a 26-foot Capri that was in a close race on a blustery day off Sodus Bay, Lake Ontario.

The Cherokee, for one, has a lot of holes in its bottom. Two of the

The Apache 37, top left, Capri 26, top right, Commanche 42, bottom left, and Pawnee 26, bottom right.

through-hulls that seem a bit unnecessary are connected to a pair of deck scuppers. At least one owner has closed them and redirected deck drainage overboard through the rail.

A loyal following

So the boats aren't perfect. But the relatively small number of Chris-Craft sailboats that were produced still seem to have gathered an intensely loyal following. David and Robyn Waltrip, who recently purchased a Caribbean 35 ketch, wrote in the sailboat owners' newsletter, "Due to our experience with the Capri, we only seriously considered other Chris-Crafts as an option."

Another long-time owner of a Capri 30 is Jack Klang, who has sailed his boat since 1974. He writes of his "trusted friend," *Hells Bells:* "I hope that our family will enjoy sailing her for many, many years. After all, a good friendship lasts forever."

Chris-Craft changed hands several times during the 1980s. In 1981, G. Dale Murray, celebrity attorney F Lee Bailey, Walt Schumacher, and Tonight Show host Ed McMahon bought the company. Murray then sold $32 million worth of interest to Saudi Arabian billionaire Ghaith R. Pharaon, who brought in aircraft-industry executive Chuck Husick to jump-start the financially feeble outfit. But debts mounted — $69 million in 1989 against assets of $61 million — and in 1989 it was purchased by OMC (Outboard Marine Corporation). That onetime giant of the industry, maker of Evinrude and Johnson outboard motors, declared bankruptcy in 2000. Arch rival Genmar Holdings bought Chris-Craft at auction and then resold it to Stephen Julius and Stephen Heese, who now run the company.

Today, Chris-Craft builds a small line of fast power cruisers — nine models ranging from the Launch 22 to the Roamer 43 — but no sailboats. It's doubtful it ever will again. But people still remember the Chris-Craft sailboats of the 1960s and '70s, which now are a legendary part of modern sailing history.

Behind the Sabre

How Roger Hewson managed the cut and thrust of boatbuilding

by Ken Textor

Roger Hewson, founder of Sabre yachts, is now retired and actively involved in the development of a book.

The history of Sabre Yachts is inextricably entwined with the life of Roger Hewson. Almost no one connected with the 33-year-old company based in Casco, Maine, contends it is possible to understand one without the other. And although the company founder no longer participates in the day-to-day operations of one of the few production-boatbuilding success stories left in New England, his ideas, opinions, and standards are as alive and well today as when he first conceived the company back in the 1960s.

"I have always enjoyed sailing and the creativity involved in designing boats," Roger says, musing on his burning desire to get into the boatbuilding world some 40 years ago. That desire kept cropping up and intensifying in the late 1950s and early 1960s when he ran a very successful construction company in Montreal, Quebec. With contracts to build huge manufacturing, warehousing, and office buildings, as well as some of the exhibit buildings at the 1968 Montreal Expo, Roger used his engineering degree from McGill University in Montreal to ride the construction boom that was then sweeping Canada and the United States.

To most outside observers there seemed no reason for a successful businessman to leave a steady, ongoing concern in his native Canada to begin building sailboats in the United States. But Roger knew otherwise.

"I think it was in my blood, probably from an early age," the 70-year-old retired executive says today. But it was more than that because Roger is not a man of mere whimsy, dreaming up impossible nautically related tasks just for the sake of personal challenge. Indeed, he is nothing if not a dedicated researcher, planner, calculator, and seriously self-disciplined designer and executor of personal philosophies and ideas — all of which have found their way into a long line of well-built, well-designed, and still highly prized sailboats, a line that now includes powerboats as well.

Roger in the shop in 1987 supervising the development of the Sabre 42.

Quality construction

Indeed, the legacy of Sabre Yachts was built upon Roger's early dedication to quality construction. That commitment is present in the 14 sailboat designs Sabre has produced, plus the three powerboat designs he drew in his final years at the company. Altogether, the company has turned out nearly 2,200 yachts, some 1,700 of which were built while Roger was at the helm of the company.

So where did his design genius and commitment to quality construction begin? Evidently, much of it began at age eight when Roger helped his father build a boat. A Canadian building contractor himself, Roger's father decided in 1941 that the family needed a small motorboat for use at a resort lake an hour or so north of Montreal. Trouble was, with World War II raging boatbuilding materials and labor were in short supply. So his father decided to build the boat himself with young Roger as his assistant. "I remember fetching screws and tools for my father while he put things together," Roger says of the project. "It was all very orderly. I think that appealed to me."

It wasn't until after the war ended and boatbuilding materials became more readily available that Roger got his first real taste of designing and building boats. Zippy little hydroplanes were very popular at the time, and Roger thought he could put together a particularly fast one. "I don't really know what made me think I could do it," he recalls. "I guess it just never occurred to me that I couldn't." A slightly faded black-and-white photograph shows Roger's first hydroplane gliding through still waters. A very serious lad of 14 has his hand firmly on

the tiller of the 5-hp Johnson outboard, making what looks to be good progress across the flat waters of a lake. He appears to be a lad who clearly knows where he is going.

Remained dedicated

Once bitten by the boatbuilding bug, Roger remained dedicated. He turned away from powerboats and took up sailboats with a vengeance. He raced 14-foot International Dinghies, noting what makes a boat go fast. He also raced Dragons, Lightnings, Flying Dutchmen, and Snipes. Much of this racing was done while Roger built up Hewson Construction Ltd., of Montreal. By all accounts, he was a man of boundless energy. "He was always doing something," says his wife Charlotte, who met him in college in the early 1950s. "He loved to learn and was always energetic about it. He could easily do two or three things at once." So it was natural enough that Roger turned his yen for building things and for sailing fast to his first notable racing sailboat, the Sabre Scow.

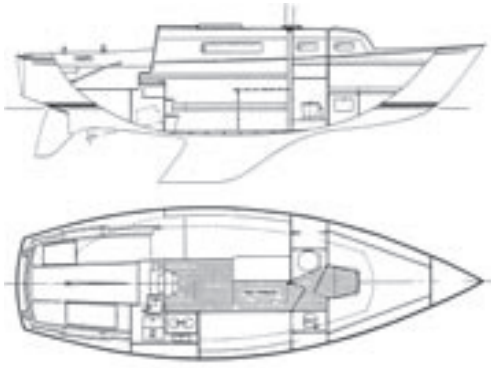
"…his ideas, opinions, and standards are as alive and well today as when he first conceived the company back in the 1960s."

"It was really a very good boat in its class," Roger recalls. It was also the first design in which he put his self-taught naval architecture skills to the test. In addition to an eye for good lines in a boat, Roger drew heavily on the knowledge packed into *Elements of Yacht Design*, a book by Norman L. Skene, first published in 1927. "I owe a lot to that book," Roger says.

Dagger-like bilge boards

In the 1960s he developed the fiberglass 26-foot Sabre Scow. It featured very flat lines, almost like a surfboard, along with deep, stabilizing, dagger-like bilge boards. The name "sabre"

Roger sails the first Sabre 28 in 1971.



Sabre 28

Designer: Roger Hewson
LOA: 28 feet 0 inches
LWL: 22 feet 6 inches
Beam: 9 feet 0 inches
Draft: 4 feet 3 inches
Displacement: 6,500 pounds
Sail area: 370 square feet
Ballast: 2,800 pounds
Headroom: 6 feet 0 inches

The famed Sabre 28

by Ken Textor

More than 30 years after its introduction, Sabre Yachts' kick-off design, the Sabre 28, is still drawing accolades as if it were just being unveiled at the fall boat shows. In fact, on January 10, 2003, the Sabre 28 was inducted into the American Sailboat Hall of Fame, a Rhode Island-based recognition group that has among its inductees the Hinckley Bermuda 40, the J/24, the Pacific Seacraft 37, and the Sunfish, to name just a few.

"Sabre's quality workmanship was evident immediately to buyers," says John Burnham, editor of *Sailing World* magazine and one of a panel of judges who considered boats for this year's Hall of Fame inductees. "But over time, that quality has proven more than skin deep."

Indeed, buyers in the market for a good old boat continue to give this 28-foot, medium-displacement boat the most important vote of confidence of all: hard-earned cash. In the early 1970s, a new Sabre 28, modestly equipped, would sell for about $12,000. These days, depending on condition and location, the same boat sells for between $15,000 and $30,000.

"The construction details of the Sabre 28 are among the best of any 28-foot production boat on the market," says marine surveyor Jack Hornor, of Annapolis, Maryland. "Secondary bonding and attachment of bulkheads and structural members is almost always flawless," he says in his Hall of Fame notes on the model's induction. "The Sabre 28 is rather high priced for its size and accommodations; however, the boat has proven to be a good investment due to its ability to attract buyers willing to pay a little more."

With 588 Sabre 28s produced between 1970 and 1986, they should be available for many years to come.

was applied to it because of its ability to cut quickly through the water like a saber sword. The "scow" description was appended because of its flatness. Popular among racers, 13 Sabre Scows were produced between 1965 and 1967. This model was chosen as the one-design class for Montreal's 1967 Men's North American Sailing Championship regatta for the Mallory Cup.

But even with the relative success of his racing boat, Roger's passion was probably misdirected. "I realized rather soon that you can't make a living producing racing sailboats," he recalls, noting the limited appeal that larger racing sailboats had at the time. "It was fun but not very profitable." Still, Roger was hooked on boatbuilding. "The enjoyment of building the series of Sabre Scows was the driving force in my decision to sell the construction business and go into boatbuilding full time," he says. Thus, in 1968 Roger began developing his idea for a fast, but also roomy, production cruising sailboat.

In the late 1960s, the world situation was conspiring to push Roger into the sailboat business in the United States. The tumultuous 1960s unleashed a worldwide movement for minority rights in multi-ethnic countries. Led by the civil rights movement in the United States, cultural minorities around the globe rose up to demand a bigger voice. French-speaking Canadians were among the minorities demanding, new privileges and considerations. Roger saw this as potentially divisive to the nation as a whole and a serious drag on business in particular. "It seemed the right time to re-establish a business elsewhere … away from the trouble," he says.

"I realized rather soon that you can't make a living producing racing sailboats," he recalls … "It was fun but not very profitable."

than an occasional weekend aboard. But Roger was not alone in this analysis.

Indeed, he entered a fairly crowded field. By his own reckoning, there were no fewer than eight established boatbuilders producing hulls that would compete with the Sabre 28. To be successful, Roger knew he had to take steps to set himself apart from the crowd. One of those steps led to Maine.

"I was considering three locations, actually," Roger says of his search for a place in which to build. Maine won out.

"The long nautical tradition here and the pride in workmanship were among the factors that finally settled me on being in Maine," he says in the office at his home, located only a few miles from the Sabre production plant. The land on which the first plant was built was near property that had been in his wife's family for generations.

Detailed plans

Roger left nothing to chance. He developed spreadsheets and unbelievably detailed business plans to back up his theory about the Sabre 28. One by one, he also developed comparative analyses of all of his potential competitors, considering such arcane but nonetheless important numerical variables as sales-to-inventory, sales-per-employee, sales-per-square-foot of production space, net profit as a percent of total corporate worth, and the like. And finally, as recommended by his favorite yacht design book, *Skene's*, he built a scale model of the Sabre 28 and took it to the Stevens Institute of Technology in Hoboken, New Jersey. There, the model was tank tested for two days, running through all sorts of controlled sea and wind conditions in the institute's famous water tank. "You can see how well it performed," Roger says today, brandishing the aging graph on which each of the dozens of runs through the tank were pinpointed and quantified. Roger Hewson is nothing if not thorough.

Thus prepared in 1970, Roger and his wife, Charlotte (better known as Charlie), moved with their three children to what was then considered the backwoods of Maine. He personally participated in the construction of the 4,000-square-foot production plant, doing everything from helping to pour the concrete to swinging a hammer whenever it was needed.

At age 37, he says, he was having "a wonderful time," often putting in 14-hour days to get the first Sabre 28 finished for the coming boat shows and to a small network of dealers on the East Coast.

Commitment to excellence

"We wanted to stand out with our commitment to excellent workmanship and materials," Roger recalls, noting that teak toerails, solid teak joinery belowdecks, and hand-laid fiberglass hull construction were just some of the extra efforts that early buyers appreciated. Quietly, Roger boasted of building his boats by specifically *not* hiring experienced boatbuilders. "I wanted to train our workers in how to build boats the Sabre way," he was fond of saying. "A boatbuilder will tell you how to build a boat *his* way. That can be pretty counterproductive."

The Sabre 28 was well received in 1971. Start-

The Sabre 28

Roger had by the late 1960s already developed the lines for the Sabre 28, which his thorough research showed was the ideal size for a cruising boat at the time. The generation that fought World War II was coming into its prime earning years. A 28-foot fiberglass sailboat could be big enough and affordable for a buyer with a modest income and the leisure time to spend more

Tank testing the scale model of the Sabre 28 at the Stevens Institute of Technology in 1969.

ing with just six employees that year, Roger's work force was up to 75 in just six years, producing nearly 100 boats annually. More importantly, though, Roger started right from the beginning creating a "Sabre culture" that continues to be an entirely self-sufficient and self-sustaining marriage of the producers, the product, and the end users.

His approach was deceptively simple: manufacture just about everything in-house, mainly to keep a firm grip on quality control but also to give the workers a sense of pride in their product. Indeed, Sabre workers built not only boats but also the various expansions of the production facility. Foremen and even supervisors had to have hands-on knowledge of the boats they were building. Nearly everyone, including Roger, got his hands dirty, brushed sawdust from his clothes, and knew intimately the smell of post-cured resin.

Roger was also a big believer in advertising of all kinds. In addition to display advertisements in national sailing magazines, he created a newsletter, encouraged owners' associations, gave awards to owners and dealers, encouraged racing, and constantly schmoozed at boat shows and other media-related events. But his promotions of the Sabre line weren't empty hype and huckster patter.

"He really believed in his boats," one long-time Sabre owner says. "If you bought one and then met him at a boat show, he really wanted to hear about what you liked, what needed improvement, all that. He'd stand there and talk to you as long as you wanted. It was amazing." Thus it's no surprise that the Sabre 28 went through two revisions during its 15-year production run. There are Mark I, Mark II, and the Mark III versions, all incorporating new ideas that Roger felt would improve the boat.

"Indeed, the legacy of Sabre Yachts was built upon Roger's early dedication to quality construction."

Jack of all trades

No aspect of the creation of the Sabre culture was left to chance or to someone else's interpretation. Roger himself did nearly all of the photography, layout, and graphic design of advertisements, newsletters, and company brochures for the 28 and subsequent Sabre sailboats. He even wrote the owners' manuals for each of the Sabres created during his stewardship of the company. "I love the challenge of learning something new, something like photography," he says.

By the mid-1970s, it became clear Sabre would need more than just the traditional-looking 28 to appeal to an increasing market for sailboats. Arab oil boycotts were rocking the American economy, sometimes doubling and tripling the cost of gasoline in a matter of months. The boating public responded with a renewed interest in sailing, eschewing gas-guzzling powerboats for cheaper-to-operate wind-driven vessels. That inspired Roger to design the Sabre 34, which is perhaps as renowned as the 28 but with some entirely different approaches to its design. The use of the reverse transom, common today but a bit unusual for its time, is a case in point.

Roger explains: "The driving force behind the designs of all Sabres, after the Sabre Scow experience, was determining market preferences regarding each detail in our design of the next Sabre model. Traditional transoms were the popular and accepted style in the 28-foot range, but we determined that reverse transoms were the popular choice in the 34-foot range." His non-stop interaction with customers, dealers, and the boating public was Roger's design guide.

Updated designs

"Also," he continues, "we had decided on a contemporary overall design concept that could be gradually updated each year to the latest market preferences, rather than a more traditional design concept that would by necessity be locked into classic design features. It was really a business and marketing decision rather than a choice of which (type of transom) was right."

Some manufacturers did get locked into a specific, unalterable "look." Cape Dory Yachts of East Taunton, Massachusetts, is a case in point. Each Cape Dory design looked much like a larger version of an earlier one. Fans of the Cape Dory look were adamant that the company not change that look, making it tough to appeal to a broader market. "Possibly our attention to the marketing need for constant change is why Sabre is thriving today, and Cape Dory is no longer in production," Roger speculates.

The Sabre 34 was introduced in 1976 and was another smash hit. The 28 had a solid glass hull, but the 34's was cored with balsa, as all Sabres since then have been. Over the next 15 years, more than 400 were produced in Mark I and Mark II versions. Roger eventually included two options for the interior layout. There was the classic

The Sabre 34, at left, was introduced in 1976. The Sabre 38, at right, followed in 1981. These two, along with the Sabre 42, were rated highest in their size range in *Sailing World* magazine's Boat of the Year awards.

layout with a V-berth forward, head to port and hanging locker to starboard just aft of the forward berths, then port and starboard berths amidships, with a convertible settee, followed by a galley portside near the companionway, with a quarterberth opposite.

The other version had an aft-cabin arrangement, a common plan among many cruising and charter boats these days but fairly innovative for its time, at least in a boat of only 34 feet. That arrangement placed the head aft and the galley closer to amidships, with private cabins aft and forward. Thus, two couples could cruise in relative privacy. It was hugely popular.

"Even devotees of the 28 were asking for a little more room in a pocket cruiser, and Roger wanted to be sure they got it. Besides, it was becoming clear the market for the 28 would eventually run out, which it finally did in 1986.

Advertising paid off

When the 34 was introduced, Roger's relentless advertising also paid dividends. Most national sailing magazines began taking the little company in Maine seriously and liked what they saw. "The 34-footer strikes a balance between tradition and innovation, between the 'tried and true' and the 'oh wow,' " wrote *Sail* magazine. "Like her forerunner, she has the go-anywhere quality born of common-sense design and painstaking construction."

Other boat reviews struck a similar note. *Sailing World* magazine named the latest Sabre 34 model Boat of the Year in 1987. Praise like that may account for why the Sabre 34 eventually became the longest-running hull design in Sabre history. It also accounts for Sabre Yachts moving quickly into boatbuilding overdrive.

The Sabre 34 was followed by the introduction of the Sabre 30 in 1979. Even devotees of the 28 were asking for a little more room in a pocket cruiser, and Roger wanted to be sure they got it. Besides, it was becoming clear the market for the 28 would eventually run out, which it finally did in 1986. Roger wanted to be sure he had a boat to take its place, particularly for the part of the Sabre culture that couldn't afford a Sabre 34 but still wanted to be part of what was rapidly becoming a well-known and well-liked brand of boats. The Sabre 30 lasted until 1993 in three versions. In all, 244 hulls were produced.

By 1980, Sabre Yachts was in full stride. Although the nation as a whole was in an economic mess, with high inflation rates (10 percent), high interest rates (15 percent), and high unemployment (more than 6 percent), Sabre Yachts was expanding. Having expanded the production facility in the mid-1970s to 30,000 square feet, Roger undertook another huge expansion to accommodate his latest and biggest design, the Sabre 38. The design sported the reverse transom that was becoming a hallmark of Sabre sailboat hulls. Three versions of the Sabre 38 were built between 1981 and 1995, with more than 200 hulls completed.

First powerboat

By the late 1980s it was clear that a growing number of boat buyers were bypassing sailboats altogether. With gasoline prices stabilized for nearly a decade, the demand for powerboats was up, and Roger was ready with his first commercially produced powerboat. That 14-year-old in the hydroplane was getting his dream-come-true job. In 1989, the Sabreline 36, a fast trawler-like hull, was introduced. It was popular and well received by the boating press. But rough financial seas were ahead.

The Sabreline 36, along with all Sabre Yachts, was not immune to the double whammy that the federal government and world events soon slapped on the boating industry. Starting in early 1990, lawmakers in Washington passed a 10 percent luxury tax on American-made boats. In August of 1990, Iraq invaded Kuwait, prompting skyrocketing oil prices and leading to an American economy that remained badly stalled until well after the Persian Gulf War was won in early 1991. The economy faltered, and the entire American boatbuilding industry contracted radically with many companies simply going out of business.

Sabre Yachts also came close to losing the fight with the financial Grim Reaper. With boats piling up in inventory and much of the American banking system on shaky footing, a major lender suddenly got nervous and called for

Sabre years of production

***Sailboats*:**

Sabre 28 I – hulls 1 to 199 built 1970-75
Sabre 28 II – hulls 212 to 539 built 1976-82
Sabre 28 III – hulls 540 to 588 built 1983-86
Sabre 30 I – hulls 1 to 100 built 1979-82
Sabre 30 II – hulls 101 to 136 built 1983-85
Sabre 30 III – hulls 137 to 244 built 1986-93
Sabre 32 – hulls 1 to 87 built 1983-87
Sabre 34 I – hulls 1 to 255 built 1976-85
Sabre 34 II – hulls 256 to 430 built 1986-91
Sabre 36 – hulls 1 to 106 built 1985-90
Sabre 362 – hulls 107 to present; introduced 1993
Sabre 38 I – hulls 1 to 100 and 104 built 1981-87
Sabre 38 II – hulls 101 to 215 built 1988-1995
Sabre 402 – hulls 1 to present. Introduced 1996
Sabre 42 – hulls 1 to 62 built 1987-89
Sabre 425 – hulls 63 to 91 built 1990-1995
Sabre 426 – introduced September 2002
Sabre 452 – hulls 1 to present; introduced 1998

***Powerboats*:**

Sabreline 34 – hulls 1 to present; introduced 1991
Sabreline 36 – hulls 1 to present (no hull #13); introduced 1989
Sabreline 36 Express – hulls 51 to 106; introduced 1995
Sabreline 36 Express II – hulls 107 to present; introduced 1999
Sabreline 36 Sedan – October 2001 to present
Sabreline 42 – August 2000 to present
Sabreline 43 – hulls 1 to present; introduced 1995
Sabreline 47 – hulls 1 to present; introduced 1997

full payment of a big Sabre loan. "We wouldn't have had to close our doors if they had stuck with us," says Nancy Basselet, who was then and still is the company's chief financial officer.

In early 1992, with the loss of the bank support, the plant was temporarily shut down. However, several venture capital groups immediately came forward to see if they could help the company, including Sabre boatowner Ed Miller who heard of the company's plight. Ed was so taken with his Sabre sailboats over the years that he stepped up and in less than three weeks found funding to get the company rolling again. "It really was a tribute to the company and our customers that he came forward," Nancy says.

Still produced

Several weeks later the plant was back in full production, and the design for a new Sabre 362 was developed jointly by Roger and renowned yacht designer Jim Taylor. This new model was chosen as a Boat of the Year by *Sailing World* in 1993. Roger was clearly at the top of his game. Despite this and his many other successes however, he was forced to relinquish full ownership of the company and became a shareholder with the new investor group.

In 1993, amid tears and good wishes, Roger retired, leaving Sabre Yachts to a team of 150 employees, many of whom he had personally selected and hired during the previous 23 years. "He left us in wonderful shape," says Nancy Basselet. Roger had hired her as a secretary, but saw too much potential in her to leave her to answering phones and the like. Her story is one of many company legends repeated at Sabre.

Since Roger's departure, the company has been led largely by president and CEO Daniel Zilkha, whose management style is different from Roger's. With a background in running a half-dozen different types of businesses, Daniel, 60, has continued to build Sabre's growth through acquisition and expansion while maintaining Roger's original commitment to being "the Rolls Royce" of production yacht builders. This led to use of the patented SCRIMP method of resin infusion, which results in higher glass-to-resin ratios in hull and deck laminates.

In 1996, Daniel was instrumental in converting a recently acquired boatyard in Rockland, Maine, into North End Composites, which has become a notable industrial, commercial, and architectural composites construction company.

"In 1993, amid tears and good wishes, Roger retired, leaving Sabre Yachts to a team of 150 employees, many of whom he had personally selected and hired during the previous 23 years."

Despite its diversified role, North End maintains an active presence in the marine mold-making and the parts production business for Sabre as well as for other boatbuilders. According to Sabre's marketing manager, Bentley Collins, the decision was made five years ago, when North End was molding parts for the U.S. Navy's Aegis-class destroyer program, to separate North End from Sabre. Both companies share the same shareholders, who are mostly members of the Zilkha family.

New powerboat line

In June, North End Composites announced its own line of powerboats called Back Cove Yachts. Bentley Collins says the line is targeting the 29- to 34-foot, single-engine range, while Sabrelines will continue to be bigger. The balance between sail and power, Bentley says, has helped the company endure the vagaries of the economy.

In 2001, Daniel oversaw yet another expansion of Sabre's facility in South Casco, adding some 18,500 square feet of manufacturing plant for various new non-Hewson designs that are currently in production.

And this year, Jim Taylor, who has designed all Sabre sailboats since Roger's departure, was commissioned to design a new mid-size boat, the 386.

Today, Roger is engrossed in another consuming project, writing down what he has learned about managing companies and inspiring people. The book, to be published later this year, also will describe how a man who is the ultimate do-it-yourselfer and self-starter remains energized.

"I'm having a wonderful time doing this," Roger says enthusiastically as he walks among tables piled high with reference books he has bookmarked, annotated, and underlined within an inch of their lives. "This is a wonderful challenge."

Owner Resources

As the listing of Sabre models on Page 13 shows, there are lots of devoted owners of Sabre sailboats. So it's little surprise that there are also all sorts of Sabre owner associations out there. The following is a partial list:

Sabre Yachts Corp.
P.O. Box 134, S. Casco, ME 04077; phone 207-655-3831; fax 207-655-5050; <http://www.sabreyachts.com>.

Sabre Association
Roger Gaby, 2504 Wheeler Bluff Drive, Raleigh, NC 27606; 919-483-9035 and 919-233-5866; <rrg30299@glaxowellcome.com>

Sabre Email Discussion Group
<http://members.sailnet.com/email_lists/index.cfm>

Chesapeake Bay Sabre Association
Skip Hardy, 410-869-1711.

Sabre (Long Island Sound Sabre Association)
P.O. Box 134, Hawthorne Road, South Casco, ME 04077; 207-655-2396; <sabre@sabreyachts.com>

Northern New England Sabre Yacht Owners Association
B. Griffin, 5 Channel View Road, Cape Elizabeth, ME 04107.

Sabre 27 website(UK)
<http://www.sabre27.org.uk/>

Tartan Yachts

With a foundation in the 1940s, this company continues to produce fine yachts to this day

by Dan Spurr

The company we know today as Tartan Yachts has undergone numerous changes over the years, transforming itself through mergers, bankruptcies, and new owners into a still-vibrant builder that remains surprisingly true to its origins. Where most builders of larger sailboats are situated on the East and West Coasts, Tartan is the offspring of two small builders of one-designs in northern Ohio. Through thick and thin, the company has stayed in the Midwest on the shore of the Grand River, though circumstances have pushed it around the county a few times.

Douglass & McLeod

Ray McLeod Sr. was born in 1908 in Wickliffe, Ohio, a small town east of Cleveland on the shores of Lake Erie. At the age of 33, while working as a painting contractor, he succumbed to what one must presume was the call of the sea and bought a small company named the Grand River Boat Works. It was located in nearby Richmond, though the town's name was later changed to Grand River because there were two Richmonds in Ohio. (For whatever reasons, this didn't seem to present the same problem for the two Wickliffes in the state.) Apparently it wasn't a full-time income because Ray continued to manage his painting business. Nevertheless, he found time to build several 35- to 40-foot wooden boats for commercial fishing — back when the Great Lakes had a commercial fishing business. But his bread and butter was the usual marina fare of hauling and storing boats, maintenance, upgrades, and repair work.

At the same time, Gordon K. (Sandy) Douglass, formerly a portrait painter, was building small wooden boats at his shop in Vermilion, another small town on the lake, about 30 miles west of Cleveland. The boat models the Scotsman was building included the International 14, which he raced, and the 17-foot Thistle, introduced in 1946, which he had designed himself. But he wasn't having an easy time financially, in part because he lacked the space to increase production.

Ray McLeod and well-known Cleveland yachtsman C. Richard Newpher both belonged to the Mentor Harbor Yacht Club. Richard knew Sandy Douglass as well and that he was struggling. One day he suggested to Ray that he and Sandy consider joining forces. Ultimately, they did, forming Douglass & McLeod, Inc. In addition to the Thistle and International 14, they began building the Great Lakes 21 (now called the International 21 after a group of local sailors modified the design). Douglass & McLeod contracted U.S. Molded Shapes of Grand Rapids, Michigan, to build the hulls out of molded plywood. These were shipped to Grand River for completion. Sandy continued to race, and in 1951

The Tartan 27, above left, was the first fiberglass boat designed by Sparkman & Stephens. More than 700 were sold. Above, Ray McLeod Sr. (left) and Ray McLeod Jr., in 1961.

he won the Thistle national championship.

Ray's son, Ray Jr., says, "There was a great deal of interest in the Thistle from the beginning. The first one was built from stripped planking to keep the weight to a minimum and later was destroyed once the plug was finished and the first molded mahogany plywood hulls were built. No. 1 Thistle of the molded plywood construction is still active, but it wasn't actually among the first batch of plywood boats. That is because the number was reserved until there were a few boats built and sold to get the company going." (This was in dramatic contrast to the more common practice in later years of giving the first boat a much higher number, like 201, to make buyers believe that 200 had already been sold.)

Sandy and Ray both took to the road to try selling the boats, particularly the Thistle, demonstrating how easily it could be trailered behind the family automobile. The mahogany parts were prefabricated in Douglass & McLeod's woodworking shop, as were the Sitka spruce masts, booms, and spinnaker poles. The boats were assembled in a Quonset hut set up to handle the increased production.

In 1951, Sandy designed a second boat, the 20-foot Highlander, which he saw as a logical sequel to the Thistle. She was larger and more comfortable and had a deck. She was also more expensive but, the partners hoped, still affordable when compared to larger cabin boats.

By 1959 the partners employed 15 workmen and were producing about 125 boats annually, delivering them throughout the U.S. and to Brazil, Mexico, the Bahamas, and the Philippines.

Bill Seifert

Rod Stephens, on left, expert rigger and brother of designer Olin Stephens, and Charlie Britton, on right, head of Tartan Marine, discuss details of hull No. 1 of the Tartan 37, introduced in 1968.

Ray Jr. began working for his father from the git-go. He says, "My service to the company started with sweeping floors in 1941 and continues to date. I came on full-time in 1953 after a couple of years of college and service. In 1957 we purchased the minor interest of Gordon Douglass and continued onward." Sandy Douglass went on to design and build the popular 19-foot Flying Scot one-design racer.

Enter Charlie Britton

While not at the leading edge of the movement from wood to fiberglass, Douglass & McLeod saw the change coming and readied itself. "In 1960 and 1961," Ray Jr. says, "we were experimenting with the use of fiberglass and started another company known as Douglass & McLeod Plastic Corporation in a partnership with Charles Britton, which led us to our first larger auxiliary, the Sparkman & Stephens-designed Tartan 27."

Charlie Britton was born in Bratenahl, Ohio, and attended Trinity College in Hartford, Connecticut, graduating in 1955. Between 1956 and 1958 he served as an operations officer and navigator aboard a destroyer in the U.S. Navy. He was stationed in Japan and wrote many letters home to his parents who, according to former Tartan employee Bill Seifert, published 150 of the letters in book form.

Bill says the family was wealthy. This probably explains why Charlie was able to commission the building of a 42-foot Phil Rhodes-designed yawl to sail home to the States from Japan upon discharge. His plans went awry when he was instead discharged in San Diego. Determined to get his boat, he flew back a year later, in 1959. Bill says the shipyard had since gone out of business, and Charlie was forced to "steal" his partially completed boat. In any case, he and some friends sailed across the Indian and Atlantic oceans to New York, traveling 22,000 miles in 204 days, with stops at Okinawa,

Thistle

Highlander

Tartan 27

Manila, Zamboanga, Borneo, Bali, Christmas Island, Cocos Island, Mauritius, Angola, Ascension Island, and the West Indies.

Charlie was a first-rate sailor, winning Class D of the SORC (Southern Ocean Racing Conference) in 1968, Class B of the Bermuda Race in 1976, and Class C of the Super Mac.

The shift to auxiliaries

Douglass & McLeod's first auxiliary, as noted, was the Tartan 27. It was designed in 1960 by the prestigious New York City firm of Sparkman & Stephens and was their first design for fiberglass. Bill Shaw, who later became chief designer and chief operating officer of Pearson Yachts in Portsmouth, Rhode Island, worked for Sparkman & Stephens at the time and was responsible for the Tartan 27 project. Bill Seifert says the boat was originally supposed to be 32 feet long, but that Charlie Britton "shortened the boat on the loft floor to eliminate the overhangs." (Bill Shaw says he has no recollection of this.)

In any case, the handsome centerboarder was an instant hit. Available as a sloop or yawl, she had teak cockpit coamings, hatch trim, and handrails. Built of fiberglass woven roving and mat, the hull was ¾-inch thick at the keel, ⅝ inch at the turn of the bilge, and 5/16 inch at the sheer. Ray and Charlie thought they would build just a dozen, but by the time the production run ended, more than 700 had been built. Base price in 1975 was $11,750.

The Tartan 27 was followed in 1966 by the Black Watch, a 37-footer also

Black Watch

Tartan 34

Tartan 4100

available as a sloop (618 square feet) or yawl (683 square feet). She has a 25-foot 6-inch waterline with a 10-foot 6-inch beam and draws just 3 feet 10 inches with the centerboard up. Displacement is 15,700 pounds. The hull is fiberglass, but the deck and cabin are teak. In the 1970s Mimi and Ken Dyer circumnavigated in a Black Watch and wrote about their experiences in a series of articles for *Sail* magazine.

Long before the day of the in-house designer, Douglass & McLeod and others commissioned the best names in naval architecture they could afford. "There is always a certain risk to investing in an original boat design," Ray Jr. told his local newspaper in 1967. "We minimize this by hiring top-notch marine architects. Although we may have an idea of what we want, if they disagree, we always take their advice."

The Black Watch designed by Ted Hood would be the last time the company worked with a designer other than Sparkman & Stephens for many years. The Tartan 34 began a long string of Sparkman & Stephens designs. The waterline of the 34 is nearly as long as the Black Watch, at 25 feet 0 inches. She displaces 11,700 pounds, has a 10-foot 2-inch beam, and draws 8 feet 4 inches with the centerboard down. So all three auxiliaries from Douglass & McLeod were centerboarders, which besides being great for gunkholing, were popular during the era of the CCA (Cruising Club of America) rating rule. The yawl rig, which was offered on two of these three designs, was also popu-

Tartan 30

Tartan 31 Piper

Tartan 34

lar at the time. The Tartan 34 came along just as the IOR (International Offshore Rule) was gaining popularity.

Exit Douglass & McLeod

An unfortunate chain of events left the joint boatbuilding operation firmly in the hands of Charlie Britton.

"In January 1971," Ray McLeod Jr. says, "while displaying at the New York Boat Show (our 26th consecutive year), we had the misfortune of the Douglass & McLeod Plastic Corporation being totally destroyed by fire. The following year, Ray McLeod Sr. died of cancer."

At this juncture, Douglass & McLeod Plastic Corporation was sold to Charlie Britton, though Ray Jr. retained ownership of Douglass & McLeod, Inc., a separate company. Under this name he continued to build the Thistle (which at that time numbered more than 3,000), the Highlander, and a new Sparkman & Stephens design called the Douglass & McLeod 22, with a bubble or blister cabin, similar to those drawn by Bill Tripp in his 33-foot Medalist and many Columbia designs.

"With the start of the small boat decline," Ray Jr. says, "and after a 15-year battle with a local union, it was time for a major change. The repair business, winter storage, retail store, and my surveying business were enough to make a viable small operation. We also added a marina." The change was to cease building boats, though one detects a considerable degree of regret on Ray Jr.'s part. Indeed, during the decades following Douglass & McLeod's departure from boatbuilding, its letterhead still reads: "Originators of Thistle and Highlander Class Sail Boats and D&M Auxiliary."

Bill Seifert

A worker installs an engine in a Tartan Ten, around 1979. The Tartan Ten helped to popularize one-design keelboats.

"In 1951, Sandy designed a second boat, the 20-foot Highlander, which he saw as a logical sequel to the Thistle."

The next Tartan was the extremely successful 30, launched in July 1970. Second only to the Tartan 27 in terms of numbers built, it totaled 602 by the time production ended in 1979. By now, Douglass & McLeod Plastic Corporation also had a plant in Hamlet, North Carolina. Combined with the Grand River, Ohio, facility, the company was finishing a Tartan 27 every 3.5 days, two Tartan 30s a week, and one Black Watch every month.

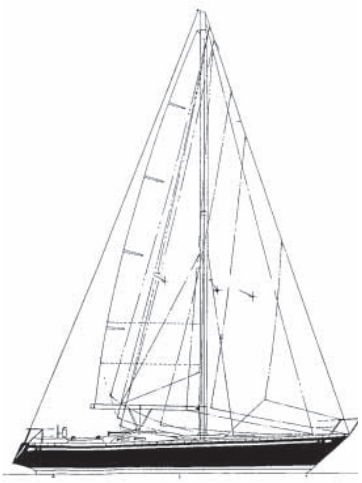
"To create boats of the same length and design in the old method, out of wood and using handwork," president Charlie Britton told an interviewer in 1970, "would make the cost prohibitive for many people. We'd be back to the old $1,000-per-foot formula. Thus, a 30-footer like our new Tartan 30 would run about $30,000 if made the old way, instead of the $17,700 we get for our boat. Fiberglass enables more people to enjoy auxiliary sailing boats for racing or just cruising, people who would otherwise have to limit their choice to a smaller boat."

About the same time as the Tartan 30, Charlie introduced the Tartan 26 and the next year the Tartan 41, 46, and 48. Charlie stretched the 41 by 3 feet and sold approximately seven or eight Tartan 44s. One, called *Twain*, he raced himself in the SORC. One of his loyal customers, James Dawson of Cleveland, testifies to Charlie's seriousness as a racer. "Charlie never carried much to eat or drink aboard his boats," James says, adding, "When asked why, he indicated 'it made the crew want to get there sooner.' "

By 1978, when it introduced the Tartan Ten, the company had been renamed Tartan Marine. The 33-foot Tartan Ten established several trends — the idea of an offshore one-design class and a metric name — both of which spread to other companies in

Tartan Ten

Tartan 37



Tartan 41

Tartan 3500

the years that followed and continue to this day. Base price of the Tartan Ten in 1979 was $21,500. By then 210 had been built. She was fast off the wind and capable of double-digit speeds. Compared to most other Tartans, she was lightly built, however, and a number of problems plagued owners, including the bending of the hollow rudderstock, hull flex, poor mast support, and the molded fiberglass interior pan coming adrift from the hull. Nevertheless, she was elected to the American Sailboat Hall of Fame.

Another very successful boat for the company, the Tartan 37, came along in 1976. Production lasted 12 years. She is a good all-around performer with the classic good looks of a Sparkman & Stephens design. During the 1970s, the company produced 10 different classic models (see sidebar on Page 15).

"By 1978, when it introduced the Tartan Ten, the company had been renamed Tartan Marine."

The next generation

In 1983 Charlie sold Tartan Marine to John Richards and Jim Briggs. These two introduced the Tartan 28, 31, 34-2, 37-2, 40, and 41-2. They then sold the company to an outfit called the Baltic Holding Corp., which changed the name to NavStar Marine. Despite healthy sales figures, however, the company ran up a huge debt, and in 1990 Polk Industries of Winter Haven, Florida, a holding company owned by Mike Monastra, bought Tartan. Dealerships were opened in Holland, Great Britain, and Japan. In 1993, the company reported that 25 percent of its business was in exports. Today, with Polk principal Bill Roth actively involved, it is called Fairport Yachts, builders of Tartan Yachts and C&C Yachts.

Designer Tim Jackett, who had

Stories about Charlie

Bill Seifert, author of *Offshore Sailing: 200 Essential Passagemaking Tips*, worked for Tartan Marine for many years. He was a member of the informal "Tartan Racing Team," headed, of course, by Charlie Britton. Here are several anecdotes, in Bill's own words, that paint a picture of Charlie.

Spinnaker takedown

On *Tandem*, Charlie's big boat I used to race on, the spinnaker afterguy led to a coffee grinder winch just aft of the main mast. This position gave the grinders and tailers a good view of the chute. This was the mid-1970s, and Kevlar rope had not been invented. Afterguys were 7 x 19 wire, the only material having low enough stretch for close reaching. Our spinnakers were 71 feet at the luff and 40 feet wide. On a St. Pete-Ft. Lauderdale race we were close reaching with a 2.2-ounce starcut to Rebecca Shoals one afternoon when a line squall closed with us. Our general battle plan for line squalls was to ride them for a few minutes to determine their duration before shortening canvas. (We did not have radar to check the intensity of squalls.)

This one turned out to be especially vicious, and *Tandem* took a major knockdown, putting the upper spreaders in the water. With the spinnaker sheet winch under water, we could not ease the sheet, and the strong spinnaker full of water was holding the boat down. I was close to the afterguy coffee grinder and happened to look at the mast, not up, but horizontally. The middle of the mast had what appeared to be a 4-foot bow. I waved to the crew in the cockpit to keep down and unwound the afterguy from the grinder. The 108-foot-long afterguy zinged through its blocks and spinnaker pole end. *Tandem* came upright rapidly. The flailing wire afterguy cut the chute into three pieces like a sword. After we took down the remains, Charlie questioned my actions. A sanitized version is: "Seif, why did you run the afterguy?"

My reply was: "Charlie, I was looking at the mast and thought it was about to bust. We have five spinnakers, but only one mast." Charlie huffed and told the crew to put any dry portions of the spinnaker in his bunk, as he wanted the world's most expensive bed sheet.

Engine education

Charlie was a superb sailor. I once watched him sail his boat into a very congested harbor with a 12-Meter-sized spinnaker up, drop it, and coast the 30-ton boat into her dock without turning on the engine. Oh, yes, he was alone!

Sails were Charlie's thing. One rainy Saturday, Charlie and I were onboard *Tandem*, which was brand new.

Charlie said, "OK, Seif, I suppose you ought to tell me what I need to know about the engine."

"Sure, Charlie," I answered, opening up the engine hatch so we could see the 4-108 Westerbeke diesel. "What do you want to know?"

"Let's start with where the spark plugs are," Charlie answered. I knew then this was going to be a long day.

Bagging it

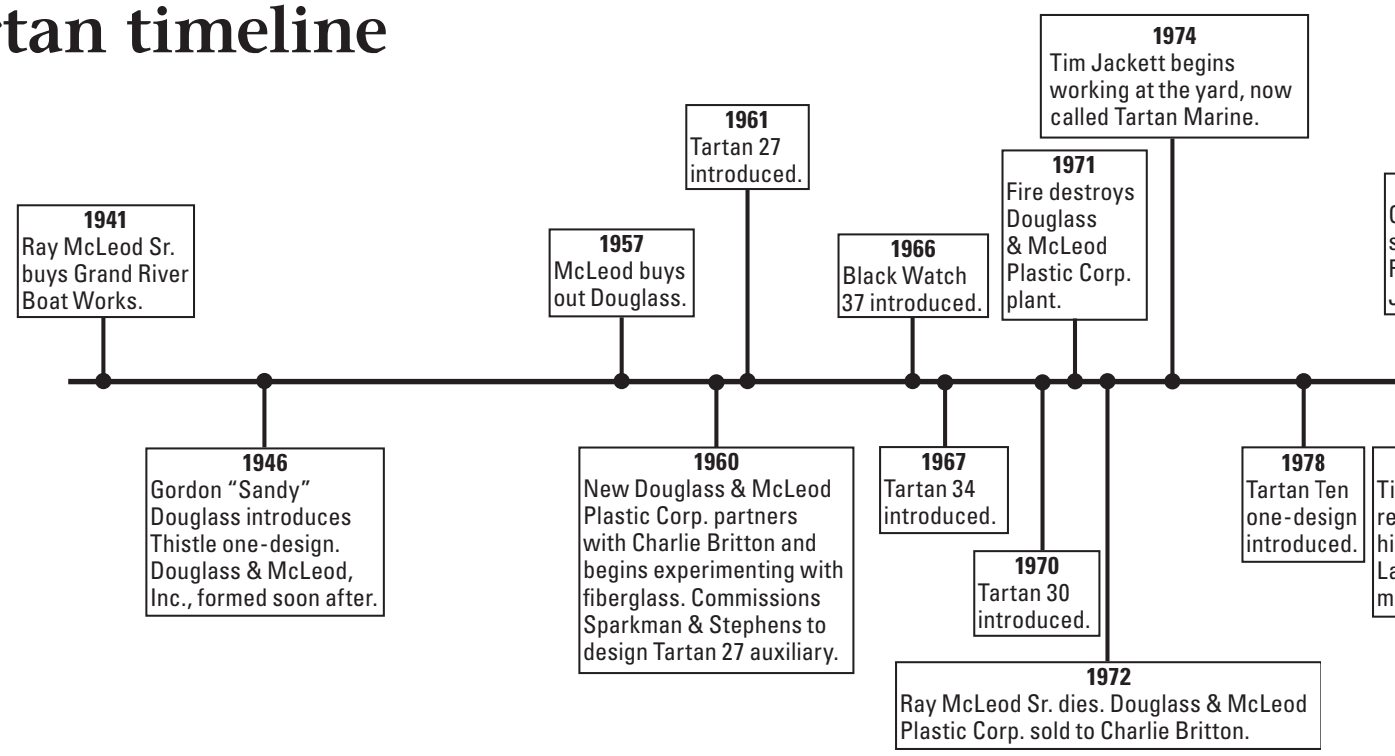
On the Tartan Racing Team's Tartan 44, we were very weight conscious. Dazey came out with the Seal-a-Meal baggers, and I bought one to be able to pre-cook food, then toss it in a closed aluminum pressure cooker filled with sea water to warm. My first cooking experiment was to make an omelet at home. Since the eggs were cooked from the outside in, the omelet was very good, and I found that with careful timing I could make them still a little runny in the middle. I told Charlie about the bagger and he liked the idea of more time on the rail and less time below cooking for my hind end.

Charlie came into my office a few days later and said, "Seif, I'm not so sure about your bagger. I tried it the other night, and I just made a mess."

"What did you do?" I asked.

"Well, I took a bread wrapper, dropped in a couple of eggs, then put it in boiling water. The bag melted and spoiled one of Linda's pans, and now she's mad at me, so I blamed it on you."

Tartan timeline



updated the 28 and 31 with the so-called Piper series, became vice-president and general manager in addition to his duties as chief designer. The Piper models were essentially sailaway versions of the earlier models, though other changes were made, too. In the case of the 31, the old Scheel keel was dropped in favor of Tim Jackett's Beaver Tail fin, and the interior layout was revised. The port pilot berth was eliminated in favor of cabinets and shelves. And the port quarter berth was expanded to a double with the nav station edged forward and angled to provide better berth access.

Tim is essentially a Tartan "lifer," having started out there in 1974 working summers while attending the Cleveland Institute of Art. "I thought I wanted to be a painter," he says, "but then I found myself drawing boats." He'd learned to sail on his parents' old wooden boat, which they kept at Mentor Lagoons on Lake Erie, and later a C&C Shark. Tim soon found himself racing with Charlie Britton and the rest of the so-called "Tartan Racing Team," but it was not to last. Tim says Charlie's interest "just sort of fizzled," owing in part to the demands of family.

In 1977 Tim set up his own small shop to build several small MORC (Midget Ocean Racing Club) boats but then was offered full-time employment at Tartan. His first project was the Tartan Ten, helping in-house designer Art Rand draw the deck, interior, and component parts. At that time, Sparkman & Stephens designed the hulls, rigs, and appendages, and Art Rand did the rest. When Art retired, Tim assumed that role.

After Charlie sold out to John Richards and Jim Briggs, he formed Britton Yachts, building a Doug Peterson design. Tim worked on the project with him, but only three boats were built. Fortunately, Tim never left Tartan.

By 1985 John Richards saw that Tim was ready to draw an entire boat. So beginning with the Tartan 31, all design work moved fully in-house.

Between 1991 and 2003, Tim also designed the 3500, 37-2, 3700, 3800, 4100, 4400 LS, and 4600 LS. While the bigger boats are essentially cruising boats, the smaller models retain sprightly performance reminiscent of their Sparkman & Stephens forebears. The old 1970s Tartan 30 was popular with club racers, earning the reputation for Tartan as a builder of dual-purpose boats. It's doubtful anyone would race a Tartan 4100 or 4600 in anything but a cruising boat rendezvous such as one of the transoceanic rallies like the ARC (Atlantic Rally for Cruisers) or Caribbean 1500, but the 3500 and 3700, with the same Beaver Tail fin as the 31 Piper, generous sailplans, spade rud-

Resources for Tartan Sailors

Tartan Yachts/Fairport Marine Corp.
888-330-3484
<http://www.tartanyachts.com>

Chesapeake Bay Tartan Sailing Club
<http://www.cbtsc.com/>

Lake Erie Tartan Sailors (LETS)
<http://lets.tartanowners.org>

Tartan Owners of New England (TONE)
<http://tone.tartanowners.org/home.htm>

Tartan Ten Class Association
<http://www.tten.com>

Tartan 27
<http://www.tartan27owners.com>

Tartan 3800 Owners Group
<http://www.tartan3800.com>

Tartan 30 Page
<http://hometown.aol.com/T30SAILOR/indexold.html>

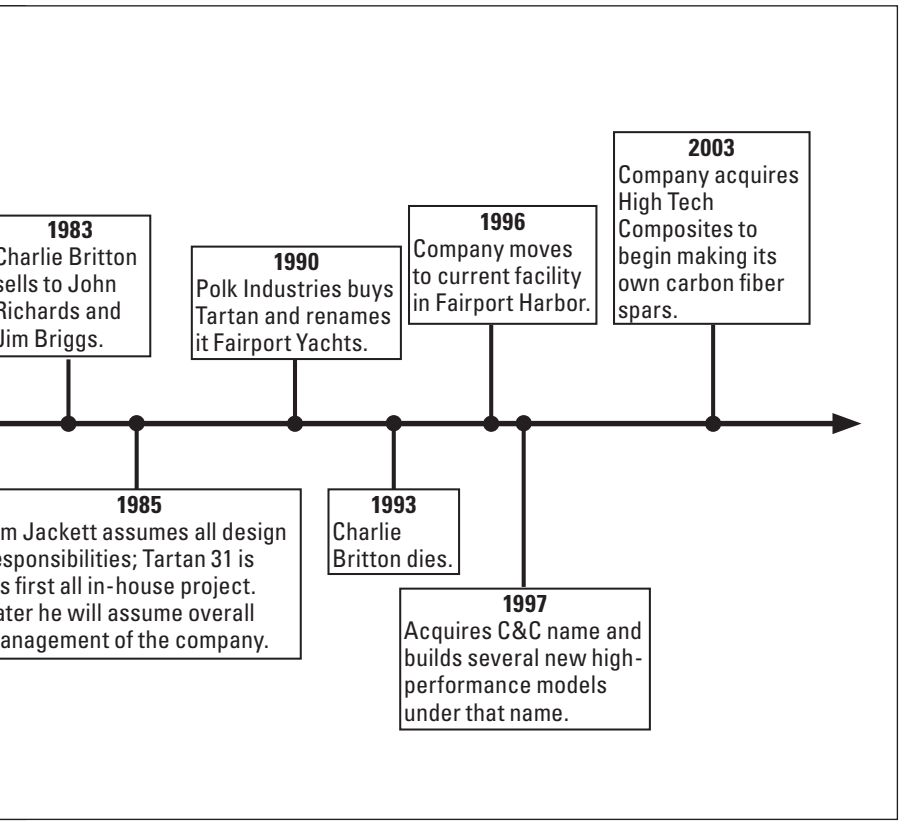
Tartan 34 Owners Association
<http://t34.tartanowners.org/>

Tartan 37 Sailing Association
<http://www.mindspring.com/~sailing_fool/index.html>

Tartan 40
<http://www.tartanowners.org/community.htm>

Tartan Email Discussion Group
<http://members.sailnet.com/resources/links/list/index-new.cfm?id=tartan>

The Tartan Owners Web Site
<http://www.tartanowners.org>



der, and moderate displacement, are successfully club-raced.

Tartan is one of but a few production sailboat builders left (Sabre is the other notable one) building mostly wooden interiors with bulkheads and furniture tabbed to the hull and deck (the others, like Morris Yachts and Hinckley, build semi-custom boats). Fiberglass pans are used judiciously and, where employed, they are fully tabbed to the hull. In certain applications, structural adhesives are used. For a few years, Tartan used vinylester resins to help minimize the risk of osmotic blistering. Now it uses SP Systems epoxy exclusively, which is stronger than polyester, does not release dangerous and costly-to-capture VOCs (volatile organic compounds), and helps block moisture intrusion as well. Hull-deck joints are still through-bolted, with 3M 5200 as a sealant. Balsa coring is used in the decks, but most hulls are solid fiberglass. Fabrics include unidirectional E glass, Kevlar, and carbon fiber. Gelcoats are NPG/isophthalic. The hulls are vacuum bagged and post cured, which means the ambient temperature is elevated to more than 100˚F for optimal curing of the resin.

In 1996 the company moved to its present facility in Fairport Harbor, Ohio, and in 1997 Tartan showed its health by acquiring the name and rights to C&C, the once famous Canadian line of racing sailboats. Tartan did not get any molds, however. Tim Jackett drew the lines to three new C&C models: the 32-foot C&C 99, 36-foot C&C Express 110, and the 40-foot C&C 121 (see "The History of C&C Yachts," *Good Old Boat*, September 2002). Hulls and decks are cored with Core-Cell foam. With fiberglass pan interiors, little wood, and a stronger emphasis on light weight — and hence performance — the C&C line is a nice counterpoint to the more cruiser-oriented Tartan designs.

Today Tartan Yachts employs about 100 persons, building something less than 100 boats a year. A dealer network covering both coasts was a critical component in the company's rebound. In 2003 the company acquired High Tech Composites, an Ohio-based manufacturer of carbon fiber masts, now renamed Novis. Beginning in 2004, all Tartans will come standard with carbon rigs.

Ray McLeod Jr. continued for many years to run his Douglass & McLeod yard and marina business in Grand River. Charlie Britton died of cancer in May 1993. He spent the last years of his life on a dairy farm in Ohio. He was active in charitable organizations around Cleveland. A man who truly loved to sail, one of his last projects was building a wooden Snipe. And these days Tim Jackett is spending less time designing and more time managing. He still draws the "big lines," but he has several designer/engineers to work out the details. Tartan is a survivor thanks to these three.

Some of the information in this article, as well as photos, first appeared in Dan Spurr's book, *Heart of Glass: Fiberglass Boats and the Men Who Made Them*, published by International Marine in 2000. A soft cover edition will be released in spring 2004. ***–Ed.***

Further reading

Heart of Glass: Fiberglass Boats and the Men Who Made Them, by Dan Spurr (2000, International Marine).
<http://www.goodoldboat.com/bookshelf.html>
or call 763-420-8923

Classic Tartan models

Model	Years	No. Built	Designer
26	1971-73	73	Tom Norton
27	1961-76	648	S&S
27-2	1976-79	64	S&S
28	1984-90	136	S&S
28 Piper	1990-94	[1]	S&S
30	1972-79	602	S&S
3000	1981-88	97	S&S
31	1987-91	146	Tim Jackett
3100	1991-96	[2]	Tim Jackett
Ten	1978-89	379	S&S
33	1979-84	215[3]	S&S
34C	1967-78	525	S&S
34-2	1984-89	110	S&S
Black Watch 37	1967-71	32[4]	Ted Hood
37C	1976-89	486	S&S
37-2	1988-93	60	Tim Jackett
38	1976-89	[5]	S&S
3800	1994-99	44	Tim Jackett
40	1984-89	72	S&S
TOCK[6]	1976-77	30	S&S
41/43/44	1972-76	84	S&S
41-2	1989-90	8	S&S
42	1980-84	34	S&S
46/48	1972-74	8	S&S

[1] Combined Tartan 28/Piper production run noted.
[2] Combined Tartan 31/3100 production run noted.
[3] Tartan 33R Masthead Racing Version — 14 produced.
[4] Black Watch model category includes both Black Watch (hulls 1-15) with stepped mahogany coach and D&M Classic 37 (hulls 16-32) with straight fiberglass coach.
[5] The 38 was simply a deep keel 37 racing by Charlie Britton.
[6] TOCK is shorthand for the little-known 40-foot Tartan Offshore Cruising Ketch.
S&S = Sparkman & Stephens.
Table courtesy of www.tartanowners.org website

Five satisfied boatbuilders: Henry Morton, Jarvis Gould, Wade Cornwell, Merle Starr, and Tom Green.

Yacht Constructors: Pioneers in glass

This small little-known company built one of the first fiberglass auxiliary sailboats

by Ed Lawrence

In 1956 five enterprising gents, members of the Rose City Yacht Club (RCYC) in Portland, Oregon, began combining concoctions of liquid chemical compounds and resins. By the time they were done mixing their brew and applying it to rolls of a recently developed woven fabric, they had produced not a witches' brew but one

Continued on Page 18

Chinook No. 3, *Tamara*, owned by Tom Green, on the Columbia River near Portland, Oregon, circa 1956.

Building the plug for the mold of the Chinook, 1955, above.

The finished plug.

Wade Cornwell, Henry Morton, and Jarvis Gould prepare to remove the two-piece mold from the first Chinook.

Second half off.

of the first fiberglass auxiliary sailboats. The sailing world hasn't been the same since.

That was 11 years before Mr. Robinson (Murray Hamilton) advised young Ben Braddock (Dustin Hoffman) in the movie, *The Graduate*, that he'd do well to find his future in plastics. After the Portlanders christened their first sloop, a 34-footer they named the Chinook class, they founded Yacht Constructors, one of the first manufacturers of fiberglass sailboats produced in series.

The development of polyester-fiberglass boats began during World War II. The first production boats — mostly dinghies and small runabouts — appeared right after the war, in 1946 and '47. With the Chinook, the Portlanders entered the market the same year as Californian Fred Coleman and the 40-foot Phil Rhodes-designed Bounty II.

Fifty years later, at age 89, Wade Cornwell, one of the five founders of Yacht Constructors, Inc., still occupies a desk in the company's offices. During the intervening years, marinas across the country have filled with sailboats made of fiberglass, the dominant boatbuilding material today. The obituaries of many of its progenitors, however, are numerous. Gone are Cal, O'Day, Ericson, and Pearson. Not so Yacht Constructors. Now under the ownership of Hans Geerling and operating as Cascade Yachts, the small shop still manufactures sailboats and a number of powerboats.

A brainstorm at the club

The formula the yacht club group followed to success was simple, Wade Cornwell says. "We started with a good design, a strong hull, and attention to detail."

Interestingly, the endeavor did not originate with a dream of starting a boatbuilding company. Its genesis was a gam session between 11 RCYC members during the club's annual spring cleaning. Each professed an interest in building his own boat. Their object was to cut in half the purchase price of a new boat and at the same time produce a lower-maintenance vessel. "A problem with wooden boats," Wade emphasizes, "is that they require lots of maintenance," especially in the rainy Pacific Northwest. When it came time to pay the piper, however, only five of the 11 men anted up.

These five came from vastly disparate backgrounds. Wade Cornwell was a purchasing agent at Union Carbide. Tom Green was an engineer and plate shop foreman at the Hyster Company. Merle Starr, Ph.D., was a physics professor at the University of Portland and an amateur astronomer. All three were past commodores of the Rose City Yacht Club.

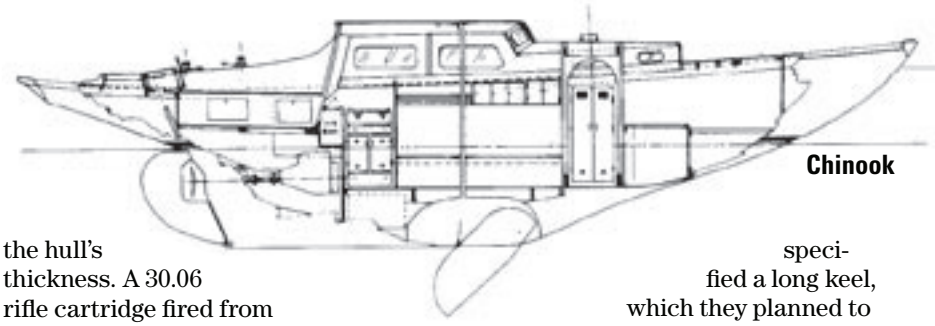
They were joined in the enterprise by Jarvis Gould, a physician and hospital administrator, and Henry Morton, an advertising executive. None had experience working with fiberglass, but Tom Green and Merle Starr, after talking with a truck manufacturer and a fishing boatbuilder who worked in the medium, were convinced that fiberglass was the material that should be used for their project.

"One thing they had to do was overcome skeptics of fiberglass who derided it as cheap plastic. 'Bottle boats!' they scoffed."

Tom Green, the floor boss and overseer of the construction effort, is described by Wade as "easy-going, because everything mechanical came easily to him. Merle and Tom were the primary drivers behind the effort to experiment with fiberglass." Merle he remembers as being "exacting, with a dry sense of humor, smart, and professorial." Wade says that he, Jarvis, and Henry "were gofers. We did whatever we were told."

One thing they had to do was overcome skeptics of fiberglass who derided it as cheap plastic. "Bottle boats!" they scoffed. Both to satisfy themselves and to learn, the group experimented with various resin-hardener-glass fiber combinations. A test strip of the final product, a long, thin piece of woven roving and cloth, is still prominently displayed near Wade's desk.

"We tested the laminate by firing a .38-caliber pistol into it from a distance of 10 feet," he says. "The slug only penetrated 50 percent of



Chinook

the hull's thickness. A 30.06 rifle cartridge fired from a distance of 10 feet produced a perfect hole, but the laminate didn't fracture." Tough enough, they concluded, and forged ahead.

Because the group was preparing to build for themselves, each member had a vested interest in producing a high-quality product. Each also was motivated by the desire to own a fast, comfortable, seaworthy boat — not by profitability. There was no interference from bureaucrats or a corporate infrastructure; they spent their own money, made their own decisions, and continued their professional careers, spending evenings, weekends, and holidays on construction. "We didn't spend much time at the club," Wade says.

	Cascade 27	Cascade 29	Chinook 34	Cascade 36	Cascade 42
LOA	27' ½"	29' 0"	34' 0"	36' 0"	41' 9"
LWL	21' 6"	24' 0"	23' 0"	29' 0"	34' 0"
Beam	8' 11"	8' 2"	9' 0"	10' 0"	11' 8"
Draft	4' 6"	4' 9"	3' 10"-6' 6"	5' 6"	6' 0"
Displ.	6,500 lb.	8,500 lb.	12,000 lb.	13,000 lb.	18,450 lb.
Ballast	2,275 lb.	2,375 lb.	4,500 lb.	4,455 lb.	6,180 lb.
Sail area	351 sq. ft.	405 sq. ft.	470 sq. ft.	590 sq. ft.	800 sq. ft.

The design

The five builders were clear about the characteristics of the boat they wanted. They were serious racers interested in increasing boat speed over their current boats. The easiest way to increase speed is to reduce displacement. Still, the boats had to stand up to the prevailing northwesterly winds on the Columbia River, where 25- to 35-knot breezes are common. Wind blowing upstream 80 miles from the ocean funnels at a place called The Gorge, the boardsailing capital of the U.S. And the boat had to be strong enough to handle crossing the Columbia Bar at Astoria, where the Coast Guard tests rescue boats because of the near-certainty that they will be rolled 360 degrees.

Because stiffness was imperative, they gave no thought to constructing a retractable keel, which might have been an easy choice considering the river's shallowness. Instead, they specified a long keel, which they planned to fill with cement and metal, and a centerboard.

The next challenge was finding a designer who could incorporate their requirements into a single design. Though eventually home to Bill Garden, Bob Perry, and Laurie Davidson, the northwest in 1954 was hardly a hotbed of yacht designers. Group members wrote letters to numerous yacht designers requesting assistance. The only architect to respond was Frederick Geiger of Philadelphia, Pennsylvania. One of his designs was the 34-foot Vigilant class sloop, a handsome yacht that enjoyed great popularity on Chesapeake Bay.

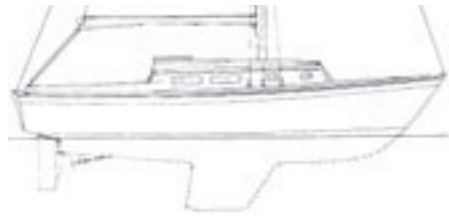
The group agreed on Frederick's design because it was traditional, sleek, and had a shallow draft. The keel/centerboard configuration gave a draft of 3 feet 10 inches with the board up and 6 feet 6 inches board down. The entire transaction took place between strangers who had never met.

Frederick had zero familiarity with fiberglass, but the task of converting a wooden boat design to fiberglass failed to daunt the group. By rounding some corners and tweaking the design until it fit their needs, Merle and Tom eventually produced construction drawings.

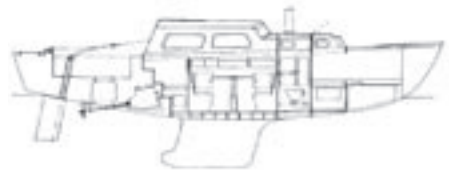
Work commences

In early 1955, the group drew up a contract for the sharing of expenses and labor. They drew straws to determine the order in which each member would receive his boat. (Jarvis Gould got the first one.) They next spent months working to construct a wooden male plug from which the fi-

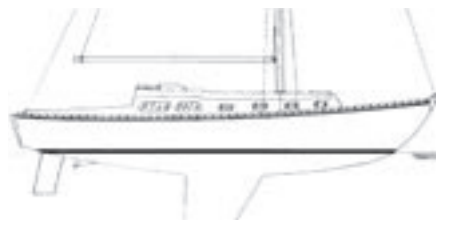
Chinook sailplan



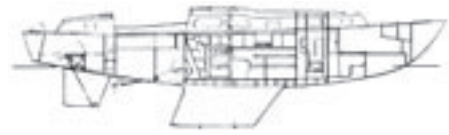
Cascade 27



Cascade 29



Cascade 36



Cascade 42

Cascade 42 HS

Towing Chinook No. 1 to launch.

A local newspaper reporter covers the first launch.

Tom Green oversees the launch of *Tag,* the first Chinook, owned by Jarvis Gould.

The first launch: *Tag* floats in Portland, Oregon, April 20, 1956.

berglass female mold would be taken. Constructing a plug is an exacting, time-consuming process, because any imperfections in the plug are transferred to the mold and on to the hull unless corrected.

The plug was completed in September, followed by the mold, and the group commenced laying up the first hull. Rather than using chopped strand mat, which is cheap and easy to apply but is not as strong as continuous fibers and takes a long time to build up adequate thickness, the group used woven roving for the bulk of the laminate. Two layers of fine cloth were used on the outside to minimize fairing.

Five professional men rolled resin from #10 paint cans and hand-squeegeed the excess, producing a 50-percent glass-to-resin content. That is surprisingly close to the 60- to 70-percent target of today's builders. They installed ballast, floors and engine, and the outline of an interior. Cabin sides were made of mahogany. There were fixed berths for four. Headroom was 6 feet 4 inches.

Hull No. 1 was successfully launched on April 20, 1956, at a cost of $4,500, less than half that of a comparable wooden vessel. They named the class Chinook after "the biggest, fastest, sleekest, and best-tasting salmon in the Columbia River system," Wade says.

The Chinook is a beauty. She has a gently sloping sheer, a long cockpit, generous overhangs, and a squarish, stepped cabintop that is very classy. The fractional rig has a single set of spreaders and jumper struts to keep the unsupported section in column. Sail area is 470 square feet with 327 feet in the mainsail and 143 feet in the small, club-footed jib.

Hull No. 2 followed that summer. At launching, her sturdiness was tested when she was dropped 15 feet into the water by a crane operator. No problem.

All five were sailing by 1957, and the Chinook quickly established a winning record on the racecourse, with Tom and Merle winning 12 of the first 15 races they entered.

"Five professional men rolled resin from #10 paint cans and hand-squeegeed the excess, producing a 50-percent glass-to-resin content."

Building for others

Once all five members had their boats, three expressed interest in starting a business. Henry and Jarvis, satisfied with the unencumbered ownership of their boats, abandoned the enterprise, leaving Merle, Tom, and Wade to continue.

A three-page article in *Yachting* magazine produced hundreds of inquiries. An order for hull No. 6 came before the end of l957. There was little risk for the principals. Wade, Tom, and Merle maintained full-time employment, so they weren't going to miss any mortgage payments if the company folded. They had their boats, and they were paid for.

Three years after launching hull No. 1, the business was incorporated as Yacht Constructors, and the first two employees were hired. Work proceeded on hull Nos. 7, 8, and 9. Interestingly, Tom and Merle continued in their careers until reaching retirement age. Wade eventually joined the company on a full-time basis as general manager only because Union Carbide was downsizing, and his name was on a list of employees designated for layoff.

At the dawn of fiberglass boatbuilding, many sailboat builders offered kit boats. Yacht Constructors was probably the first to do so.

"We thought the best way to go was to produce hulls and decks with several interior options for do-it-yourselfers," Wade says. A typical owner might buy the hull and deck and as many other components as he could afford — keel, rudder, bulkheads, tanks, and everything else that goes into a finished boat. Plans and raw materials like polyester resin and fiberglass were also available for purchase.

The result was a win-win situation. The shop avoided having to hire employees from the various disciplines (glass layup, woodworking, electrical, etc.), the buildup of costly inventory, and overhead. An owner eventually completed a sailboat capable of cruising in deep water and maybe saved

enough money to start a cruising kitty.

Yacht Constructors was perhaps somewhat unusual in the number of boats actually completed. We've all seen the bare hull sitting unmoved and unloved in an empty lot next to a construction shed, symbolic of a project that ended with an unfulfilled dream. That was not the case in Portland. "We've only had three or four boats that were not completed," Wade says proudly.

Prospective owners also took part in the evolution of the boats. "Five hundred people have built our boats, and they were all thinking," Wade says. For example, customers concerned with aesthetics asked that the chainplates be relocated inboard from the outside of the hull, and so they were. Chainplates were bonded to a

June 1958, Chinook No. 6, *Falcon*, the first boat produced for sale, sits in the yard at Yacht Constructors, ready for customer Donald Laird (pictured).

Y-shaped strap encapsulated in fiberglass. "We have never had a failure," Wade adds.

Weight of the boats was kept light despite the use of 3-inch mahogany floor timbers, mahogany bulkheads and rails, teak-and-holly cabin soles, fir subflooring, marine plywood for the deck, and a spruce mast and boom.

Adding to the model line

About this time fin keels started to replace traditional full keels. In Southern California, Bill Lapworth's Cal 40 was dominating racecourses with its fin keel and spade rudder.

Enter Bob Smith, a designer who apprenticed at the prestigious New York design firm of Sparkman & Stephens and who had participated in the design of the famous yacht *Dorade*.

Early Chinooks established a winning record on the racecourse.

Bob migrated to Portland and in 1961 was racing a stylish prototype for a 28-footer of his own design that caught Yacht Constructors' attention.

"It was a different style than the Chinook, less traditional and stiffer," Wade says. Bob was commissioned to draw lines for the Cascade 29 (see *Good Old Boat*, November 2002), which was introduced in 1961. In 1964, a bare hull sold for $1,775.

The company next commissioned Bob to draw designs for a center-cockpit 42 (1964), 36 (1967), and the Cascade 27 (1978). The 42 was offered in an updated aft-cockpit version called the 42 HS, as well as a 44 by adding on a stern extension. With the delivery in 1968 of Chinook No. 70 to an owner in Maryland, that model was discontinued. A 9-foot 6-inch Cascade Dinghy also was offered for a time. By the late 1960s, boats were being shipped to all points of the compass, including Venezuela and the Philippines. Tanzer Industries in Quebec, Canada, was licensed to produce 50 boats, as was a Japanese firm.

"National distribution was simple because railroads hadn't figured out how much money they were losing on shipping," Wade says. "We were shipping boats from coast to coast for $500, a charge that eventually increased to $10,000."

The 42's keel was cast iron while the 29's was welded steel plate, both problematic and inferior to lead, which is denser and corrosion-resistant. Eventually, the plywood decks were replaced with decks of molded fiberglass.

A variety of auxiliary engines were installed, including the Atomic 4 and Unimite 4 gasoline engines, and the small Volvo Penta MD 1 and larger Westerbeke 4-107 diesels.

Through it all, the company's employee population did not exceed one dozen, including the three hardworking principals.

"We had no desire to compete with the big guys," Wade says. "We were never tempted." Unlike a lot of other boatbuilding companies that succeeded right into bankruptcy, Yacht Constructors stayed small and endured.

Enter Cascade Yachts

At the ripe young age of 75, Wade, the sole survivor of the original group,

Tom Green working on Cascade 42 No. 1, built for Donald Laird. Donald bought the first production boats of both the Chinook and the Cascade 42.

sold the company to Hans Geerling, who renamed it Cascade Yachts, Inc. At the time, it was the oldest U.S. production boatbuilder under continuous ownership. That's really technical nitpicking though, since Wade still goes to the office every day and sits at his desk.

The company continues to operate in the same 7,200-square-foot building, and its yard is filled with boats under repair. A Cascade 29 is currently undergoing extensive renovation there by its owner.

Only minutes away by ground transport, but decades away in time, several Cascade sailboats, including Wade's own Cascade 27, occupy berths in Columbia River marinas.

Good old boats? You bet. A good old company? That, too.

Resources

Cascade Yachts, Inc.
7030 NE 42nd Ave.
Portland, OR 97218
503-287-5794
<http://www.cascadeyachts.com>

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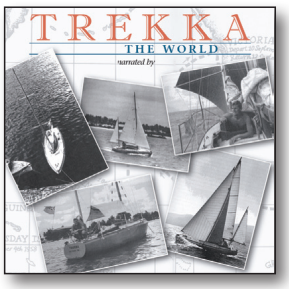

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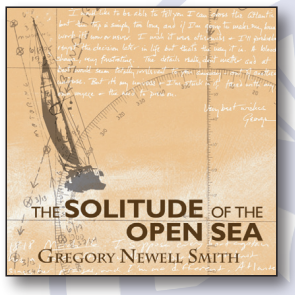
Trekka Round the World



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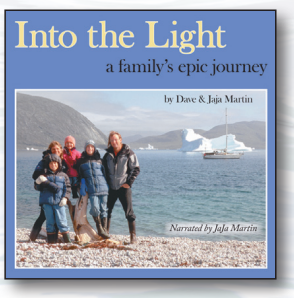

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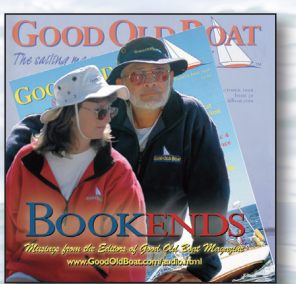

These musings about sailing and boat ownership from the editorial pages of *Good Old Boat* will entertain you whenever you miss being near your sailboat, as well as any time you're aboard or driving to the marina.

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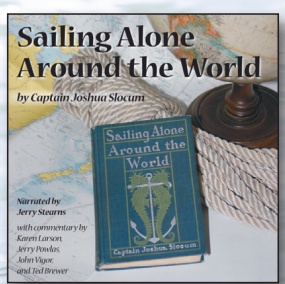

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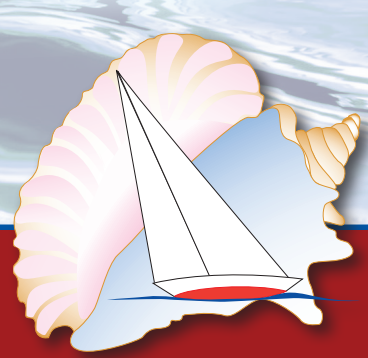

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Camper & Nicholsons

Since its inception in 1782, Camper & Nicholsons has occupied several sites. The current one, in Gosport, England, is the site of Francis Amos' original plot. It is shown here in the 1970s.

Photos courtesy of Camper & Nicholsons Yachting Ltd.

English boatbuilders boast a 220-year history of doing things right

by Philip Allum

One of the oldest and most enduring boatbuilders in the world is the English company Camper & Nicholsons. Its impact on sailing has been immeasurable, from the design and construction of folding canoes and dinghies for an afternoon's club racing to the mighty J Class yachts, from small offshore racers to elegant steam yachts and the largest cruising schooners. For more than 220 years, "Camper Nic," as it is affectionately called, has influenced boating in all its facets.

In terms of fiberglass sailboats, Camper & Nicholsons' heyday was the 1970s and 1980s, when it built more than 20 models of sloops and ketches, ranging from the Nicholson 27 and a 29-foot Half-Tonner to the C&N 70. First, and well-loved, was the Nicholson 32, introduced in 1963. Before telling her story, let's recount the history of this most famous of English yards.

The company traces its roots back to Francis Amos. Almost nothing is known about his early career beyond the fact that he came from London and arrived in Gosport, situated across the harbor from the Royal Naval Dockyard at Portsmouth, in 1782. There, he leased a small plot of land to set himself up as a boatbuilder. The beginnings were modest, probably confined to building and repairing small, open boats for local watermen and fishermen. The venture prospered and by 1821 Amos had expanded into the building of small trading ships. Amos had no children to succeed him, and in 1824 his great nephew, William Camper, took over the lease of the yard and began trading in his own name.

Yachting flourished

In the time of peace and commercial optimism that followed the end of the Napoleonic Wars and fueled by the fortunes being made from trade and the burgeoning Industrial Revolution, yachting began to flourish. Due in no small measure to his carefully nurtured contacts with members of the newly formed Royal Yacht Squadron, William Camper was able to add yacht-building to his activities. His first known yacht, *Breeze*, a cutter launched in 1836 for James Lyon, whom he had canvassed for patronage and who was to become a staunch supporter, won the King's Cup that year, furthering his reputation with the squadron. Buoyed by technical help from the Master Shipwright of Portsmouth Royal Dockyard and the close cooperation of the Gosport sailmaker, James Lapthorn, the demand for Camper's vessels blossomed.

"By the mid-1850s the Camper yard had produced a string of successful yachts, mostly schooners."

The J-class sloop *Endeavour II* (being launched, middle of photo) was campaigned for the America's Cup by Sir T. O. M. Sopwith. Built and launched in 1936 at Camper & Nicholsons, she was designed by Charles Nicholson.

By the mid-1850s the Camper yard had produced a string of successful yachts, mostly schooners. The *Nancy Dawson*, built in 1847, recorded one of the first circumnavigations by a yacht and was the first yacht to visit the Bering Strait. The Marquis of Dufferin made a widely publicized voyage to Iceland and Spitzbergen in *Foam*, and the *Wyvern* recorded a fast passage to Australia to join the Gold Rush.

In 1842, 14-year-old Ben Nicholson joined Camper as an apprentice. The young Nicholson, after his successful apprenticeship and further studies in naval architecture, became increasingly involved in the yard's design work and management.

Temporary decline

The outbreak of the Crimean War led to a temporary decline in yachting, and it was not until 1860 that Ben was able to demonstrate his true potential with the design and building of the innovative racing schooner, *Aline*. *Aline's* outstanding success led to demands for a string of similar vessels. These, together with a smattering of cutters and yawls, were to be the yard's main production for the next 20 years.

In 1863, William Camper retired, and Ben Nicholson — with the financial support of the Camper and Lapthorn families — took over the business and changed its name to Camper & Nicholson.

Underpinned by the success of the schooners, Ben launched into an ambitious program of expansion. By 1880 he had more than doubled the size of the yard — erecting sheds, joiner shops, and a sawmill — as well as expanded the laying-up and maintenance facilities. The arrival of his three sons in the firm occasioned a final company name change to Camper & Nicholsons.

New generation of Nicholsons

The emergence of Ben's second son, Charles, as a talented designer heralded a further upturn of fortunes for the company. Charles' design prowess took time to develop, but from 1887 onward he began to receive commissions for small racers. In 1892, the *Dacia's* 14 first-place finishes in 14 starts propelled him to prominence. Charles' burgeoning fame as a designer coupled with Camper & Nicholsons' reputation for quality eventually brought the wheel full circle; by the turn of the century large yachts were once again being built to in-house designs.

"…the new owner of a motor yacht, which had cost less than the quoted price to build, received along with his new yacht a check for the difference, handed over at the commissioning launch."

Further expansion

The early years of the 20th century saw further expansion with the acquisition of a yard in nearby Southampton and diversification into the production of a series of large steam yachts. Further innovation came in 1914 with the world's first large diesel-powered yacht, the *Pioneer*, which permitted a reduction in overall tonnage without reducing accommodation.

Capitalizing on this breakthrough, Camper & Nicholsons remained the world's leading builder of motor yachts right through to the outbreak of World War II. The largest of these, *Philante* at 1,629 tons, was built for Sir T. O. M. Sopwith, owner and campaigner of *Endeavour* and *Endeavour II* for the America's Cup. *Philante* later became the Norwegian royal yacht, *Norge*.

New thinking also continued on the sailing front with the introduction of a Marconi rig on *Istria* in 1912, Charles' first and resoundingly successful attempt to design a 15-Meter. However, of even greater long-term significance was the boat's lightweight, laminated-wood construction. This led to further developments and growing expertise in the use of lightweight materials that saw its fruition in the use of plywood in deck construction and in the building of high-speed boats and launches, minesweepers, and flying boats in both world wars. Among Camper & Nicholsons' lesser known, but vitally important, contributions to the war effort in the 1940s were the modified motor gunboats, used as blockade runners for the import of high-quality Swedish ball bearings.

Hard on the heels of *Istria's* triumph, Charles achieved a long-held ambition when he received the commission to design and build the next America's Cup challenger, *Shamrock IV*, for Sir Thomas Lipton. Although his ultimate goal of winning the America's Cup continued to elude him, he designed and built all the subsequent challengers up to 1939.

First Bermudan rig

Other innovations of this period included the first Bermudan rig on a large racing yacht and the three-masted staysail schooner rig on the giant 689-ton *TM Vira*, later renamed *Creole*. *Vira* was built for the famous American yachtsman Alexander Smith Cochran, who on his first visit to her took fright at the height of the masts and had 30 feet removed. At the conclusion of her first Mediterranean cruise, Cochran further ordered the removal of lead from the keel in

compensation for her cut-down rig. But too much was removed, and her performance suffered. Later she was restored to her original condition.

It is for the J-class yachts that Charles Nicholson is best remembered. He designed and built *Shamrock V*, *Velsheda*, *Endeavour*, and *Endeavour II*. Two of his earlier designs, *Astra* and *Candida*, were altered to conform as closely as possible to the racing rules. In addition, Camper & Nicholsons undertook the alterations and re-rigging of King George V's yacht, *Britannia*. It is quite a tribute to the standard of Camper & Nicholsons' building quality that, with the exception of *Endeavour II* and *Britannia* (which was not originally built by the company and which was scuttled after the king's death), all are still sailing.

This was an expansive era with larger-than-life characters and grand gestures. One commission illustrates this perfectly. At the end of a day's racing, dominated by a Fife-designed schooner, Charles was approached by a prospective, titled buyer.

"Nicholson!" the man exclaimed, pointing at the fast schooner. "I want a boat to beat that one. I want all white paint and red upholstery. Good day!" Charles' next glimpse of his client was on launch day.

It was also a period in which the courtesies were properly observed. In 1932, the new owner of a motor yacht, which had cost less than the quoted price to build, received along with his new yacht a check for the difference, handed over at the commissioning launch.

Art, not science

Charles' predilection for the grand manner probably also cost him the America's Cup. His conviction was that yacht design was an art, not a science. At the end of *Endeavour's* America's Cup challenge, defeated by management failure despite the agreed consensus that *Endeavour* was the faster boat, he initiated an exchange of plans with *Rainbow's* designer W. Starling Burgess. *Endeavour II*, the next challenger, was simply a larger development of the original *Endeavour*. *Ranger*, the defender, designed by Starling Burgess in collaboration with Olin Stephens, was the end result of extensive tank testing and analysis, not only of their own concepts but also of the original *Endeavour's* hull form. The result was, as the saying goes, "not pretty but highly effective," and *Endeavour II* was comprehensively beaten.

"Charles' predilection for the grand manner probably also cost him the America's Cup. His conviction was that yacht design was an art, not a science."

Despite the glamour associated with the big racers, cruisers, and motor yachts, smaller classes were not neglected, and a number of successful racers conforming to the 6-, 8-, and 12-Meter rules were commissioned and built. The trend away from big racing yachts, accelerated by the death of George V and the disappearance of *Britannia*, was also mirrored in the world of offshore racing, where smaller boats sailed by amateur crews were coming to the fore.

Charles was also successful in this field. One of his cruising yachts, the 20-ton yawl *Ilex*, built in 1899, took part in every Fastnet Race between 1925 and 1939, winning the 1926 race.

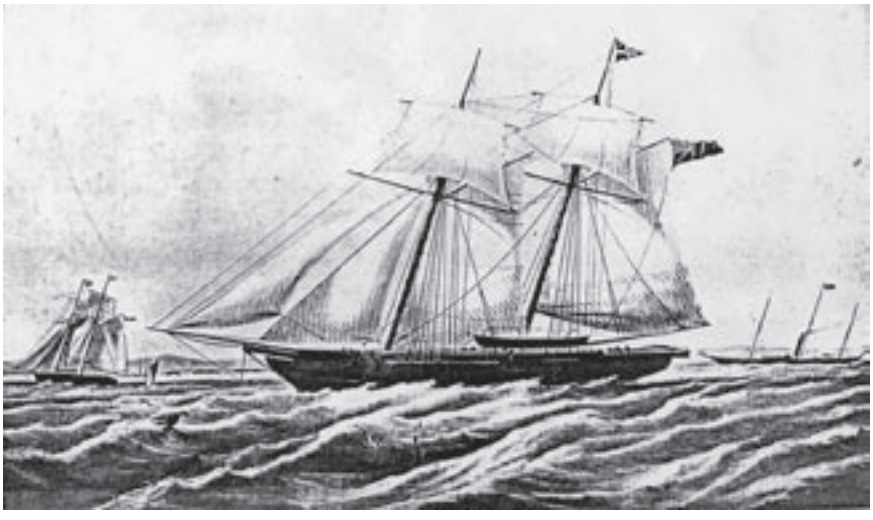
It was during this golden period that the third generation of Nicholsons started to make its mark in the company. Charles' son, John, began to help his father with his designs. In 1939 he sowed the seed for what was to become the next significant development, with the design and subsequent building of a "batch" of six 30-foot sloops. John remained under the shadow of his father, who never really retired and remained chairman until he died in 1954, aged 86. Not until then did John acknowledge that he had designed some of the yachts that had appeared under the Charles Nicholson design banner.

His cousin, Charles A. Nicholson (universally known as Young Charlie), who worked out of the company's Southampton premises, did not suffer from the same shadow and launched his successful design career with the offshore racer, *Yeoman*, in 1937. After the war, he went on to produce a series of successful designs.

Frantic time

World War II was a frantic time with both yards working flat out. Southampton was engaged in repair work, and Gosport — despite the destruction of nearly 80 percent of its capacity in air raids — continued with prototype development, building motor torpedo boats, motor gun boats, landing craft, and folding canoes for commando units.

Immediately after the war, a shortage of wood precluded a swift return to yacht building, and the yards relied on repair work and government contracts. Gradually, restrictions were eased and new orders started to



The *Nancy Dawson*, one of a number of schooners that helped establish the reputation of Camper & Nicholsons, was built in 1847. She was one of the first yachts to make a world circumnavigation.

trickle in. In spite of racing successes and the production of such high-profile boats as the Queen and Duke of Edinburgh's Dragon-class boat, *Bluebottle*, the company's situation was precarious, and it received a further blow when the government's demand for minesweepers and other small craft dried up in the late 1950s.

By this time, the fourth generation of Nicholsons was coming to prominence, with Young Charlie's son, Peter, assuming a leading role. Peter was well aware of the looming dangers to the company occasioned by the tailing off in demand for large motor yachts, lack of continuity in orders from the defense sector, and the declining market for one-off boats. He fully realized the need for a range of standard boats, foreseen by his uncle John in 1939, and he clearly understood the potential of the new wonder material, GRP (glass-reinforced plastic, or fiberglass). Camper & Nicholsons, however, was not equipped to handle GRP construction, so, in 1960, Peter turned to Halmatic Ltd. for assistance.

The fiberglass era

Halmatic, part of the Hunting Group, was an expert in the field of GRP hull construction and had already been approached by the American designer John Alden with a view to building hulls for the Alden 34, 36, and 38. Camper & Nicholsons' first project with Halmatic was the Nicholson 36, the hull being molded by Halmatic and finished in wood to a very high standard at the C&N Gosport yard. About 20 boats were built, and such is their popularity to this day that whenever one appears on the market it is quickly snapped up.

The Nicholson 36 was only a first step. Halmatic needed an improved and smoother workflow, and Peter was wedded to the concept of a 32-foot yacht, which he termed "The People's Boat," to be built entirely of GRP and needing only final touches at the Southampton yard. The boat had to meet three conditions: it should be around 32 feet overall with 24 feet on the waterline, it should be easy to build, and it must cost no more than £5,000 (around $14,000 U.S. at the time).

Thus was born the Nicholson 32. Her appearance was to prove a defining moment in the development and marketing of small sailing yachts at a time when the only other GRP production sailing yacht available was the Van de Stadt-designed Pionier (Dutch for pioneer) class, a concept that made no attempt to disguise or soften its "plastic" origins. Based on Peter's design concept and accommodation plan and his father's lines plan, he soon reached an agreement with Halmatic. Camper & Nicholsons would finalize the design details and market the finished boats. Halmatic would build the tooling, mold the hulls and decks, and complete them.

"The 32 would also prove to be a magnificent sea boat and fast enough for Peter to comment later that, although the boat was conceived as a cruiser, 'the trouble with Nic 32 owners is that they will insist on racing them!' "

Design first

The head compartment was designed as a one-piece molding — another design first — and the wooden interior, cockpit coamings, and deck trim were built to a high standard. The lead keel was encapsulated within the hull molding. There was good headroom, and the interior was well ventilated and insulated. Five berths in two cabins (including a pilot berth) and adequate locker space, together with a usable galley, provided good accommodation. Much thought went into the sailplan, deck, and cockpit layout, making the Nicholson 32 comfortable and easy to sail. The 32 would also prove to be a magnificent sea boat and fast enough for Peter to comment later that, although the boat was conceived as a cruiser, "the trouble with Nic 32 owners is that they will insist on racing them!"

To finish the new boats, Halmatic turned to another company within the Hunting Group, Field Aircraft Services, which specialized in fitting out the interiors of executive aircraft. Brochures and sales literature were prepared, another innovation.

The Nicholson 32 has a traditional hull form and quite heavy displacement, making it seakindly but hardly fast by modern standards.

Many modifications

The first boat, *Forerunner*, was launched in May 1963, followed by a pre-production run of another five boats with mahogany joinery. Over the next seven years, a total of 236 boats were built with many modifications, including the switch from mahogany to teak woodwork, changes to hatches and ports, and relocation of features such as fuel tanks, anchor stowage, and battery boxes. Finishing work was transferred to a new Halmatic factory.

The year 1972 saw a major restyling program with a 3-inch increase in freeboard and a totally new deck, cockpit, and superstructure, as well as completely redesigned accommodations. When stock production finally ceased in 1981, 369 boats had been built, most of them finished by Halmatic and Camper & Nicholsons, although some were bought as kits and finished by other yards. A set of molds was exported to Australia as well, and at least 10 boats (possibly as many as 20) were built there. In 1976, when Camper & Nicholsons introduced the Nicholson 31, Halmatic withdrew the selling rights to the Nicholson 32 and marketed the yacht themselves.

Although shipwreck, fire, and neglect have taken their toll (10 boats have been lost), 320 Nicholson 32s are known to be sailing, and an active owners' association has members in Europe, North and Central America, Australia, and Asia. The association has lost track of 39 boats, but it can be assumed that most of them are still in commission somewhere.

There were a few problems. Early boats had chainplates that passed through the joint between the hull and deck moldings, and remedial treatment was needed to eliminate the resultant leaks. Price increases in petroleum-based products in the wake of the 1966 Middle East crisis led to scantlings being reduced. This resulted in a few hulls having too much flexibility and, in hard conditions, damage to the furniture in the forward cabin. Minor design changes to the hull reinforcing solved the problem. When one takes into account the number of innovations involved in so many facets of the Nicholson 32's emergence, the history of this traditional-looking boat has been remarkable for the lack of serious problems.

Wherever people get together to discuss "the ideal cruiser," the Nicholson 32 is sure to be mentioned. For 40 years, the 32s have kept their crews safe on circumnavigations, Arctic explorations, transoceanic racing, and passage-making, as well as over the whole spectrum of smaller, unspectacular adventures that are the limit of what most of us care to face. Not bad for the first, real "People's Boat" of the fiberglass age and not a bad milestone on Camper & Nicholsons' 220-year journey through the history of yachting.

Design a year

Further production boat designs appeared at a rate of roughly one per year, ranging in size from the Nicholson 70 down to the 27. The size and opulence at any given time mirrored the roller-coaster nature of the British economy. Highlights were the Nicholson 35 with 228 built; the Nicholson 38, based on the Alden Mistral design, with 134 boats; and the Nicholson 33, with 120 boats built. In all, more than 1,400 production boats emerged during this period, along with one-offs and a stream of prestigious restorations.

In spite of the unblemished high standing of the Camper & Nicholsons name and a continuing run of successful yachts, the company was struggling. At the end of WW I, even with 1,700 employees, the management structure had been adequate for the control of the two yards. Subsidiary companies such as the Gosport Aircraft Company, which were not crucial to the core business and which brought no profit, were quickly axed and by the beginning of WW II, there was only one subsidiary, a chandlery in Southampton.

"Further production boat designs appeared at a rate of roughly one per year . . . The size and opulence . . . mirrored the roller-coaster nature of the British economy."

After the war, the picture had become much more complex. On the positive side, the defense contracts of the 1950s had spawned C&N Electrical Ltd., originally set up under the Gosport yard's foreman electrician, Roy Taylor, to fill a gap in the supply of control boxes for minesweepers. By the early 1970s, this had grown to employ 1,250 people in five factories and had spun off further developments such as Dialled Despatches, which manufactures pneumatic tube systems.

Separate company

Other successful acquisitions and startups were instigated, including the first marina, constructed on old Admiralty premises adjacent to the Gosport yard, which became a separate company, Camper & Nicholsons Marina Ltd. Set against such successes, the Gosport yard had come under intense pressure from the town to relinquish part of its premises for post-war redevelopment.

Through it all, Camper & Nicholsons Holdings Ltd. had remained a privately owned company and now found it impossible to raise sufficient investment capital to ensure its survival. In 1972, the company struck a deal with Crest Securities Ltd., a house-building company with ambitions to expand into the leisure industry. A new company, called Crest Nicholson, was formed. The timing was propitious and, initially, everything looked rosy: a successful London Boat Show, more than £2 million sold in exports, and much improved profit margins. C&N Electrical, which did not fit into the new mix, was sold for cash.

But prosperity was not to last. By the end of the following year, the country was crippled by strikes, subjected

The Nicholson 33, above, was launched in 1976. The Nicholson 43, at right, was introduced in 1969. On the used boat market, the 33, a more modern design than the 43, sells today in the low- to mid-$20,000s.

In 1979, Camper & Nicholsons' "B" shed had several models of production fiberglass sailboats under construction. From the foreground looking back is a Nicholson 33 hull, two 35s, a 32, and a 31. To the left is a deck for the 33 and behind it two decks for 35s.

to spiraling inflation, and beset by IRA terrorism. The whole British market for new boats was stopped dead in its tracks when the government raised the VAT (value-added tax) on yachts from 8 to 25 percent. Crest's shareholders panicked over the labor intensity of boatbuilding, and Gosport was under serious pressure to widen the client base with smaller, cheaper boats. A further setback occurred when a new bridge was built over the River Itchen, affecting access to the Southampton yard. In 1979, the yard was sold and the design facility closed.

Final ties broken

In 1981, a management buyout, financed initially by Tony Taylor, the then managing director of the yard, broke the final ties with the Nicholson family. He was given further financial and moral support by several of the yard's clients, including Nick Maris, and the company became Camper & Nicholsons Yachting Ltd. Production of stock boats at Gosport continued until 1989, and the yard continues to build motor- and sail-powered luxury yachts. The following year, Camper & Nicholsons Yachting Ltd. (but not Camper & Nicholsons Marina Ltd.) was bought by the shipbuilding organization Cammell Laird, and in 2001 they sold it to the Nautor Group, whose ultimate owner is the Italian industrialist Salvatore Ferragamo. Stock production will start again in Gosport in 2004 with a 42-foot motor yacht.

Brokerage business

From the very earliest days, laying up, repairs, and brokerage had been an integral part of the Camper & Nicholsons activities. Most Mediterranean-based yachts returned to Britain at the end of each season. However, after WW II, cheap living, the Mediterranean climate, and the chance to avoid paying British taxes provided a powerful incentive for British professional crews to persuade their owners to keep their yachts in the Med permanently. The resulting loss of business persuaded Young Charlie to send his second son, George, to the south of France to help a family friend run a brokerage business there and to persuade the errant yacht crews back into the fold.

Given the quality of life on the Côte d'Azur, compared to the austerity of post-war Britain, this plan was never likely to succeed, but by 1961 George was generating enough business to be able to persuade his father to buy the brokerage, which became Camper & Nicholsons International. Over the years, other offices were opened and a very successful business was built up, both on the brokerage side and with a stream of prestigious building commissions for the Southampton yard.

Unhappy George

George, however, was not happy with the impending merger with Crest, so shortly before details were finalized, he resigned to form a separate company, Solidmark, which he also built into a successful business with brokerage, consulting, and yacht management as its principal activities. Then in 1992, in a further turn of the wheel of fortune, Nick Maris, by now the controlling shareholder in Camper & Nicholsons Yachting, proposed a merger between Solidmark and Camper & Nicholsons International, which resulted in George resuming control of the company he had left some 12 years previously. He has now retired, and Camper & Nicholsons International SA is part of the French Rodriguez Group.

Camper & Nicholsons Marinas Ltd. continues under the ownership of Nick Maris, specializing in all aspects of marina and waterside real estate development.

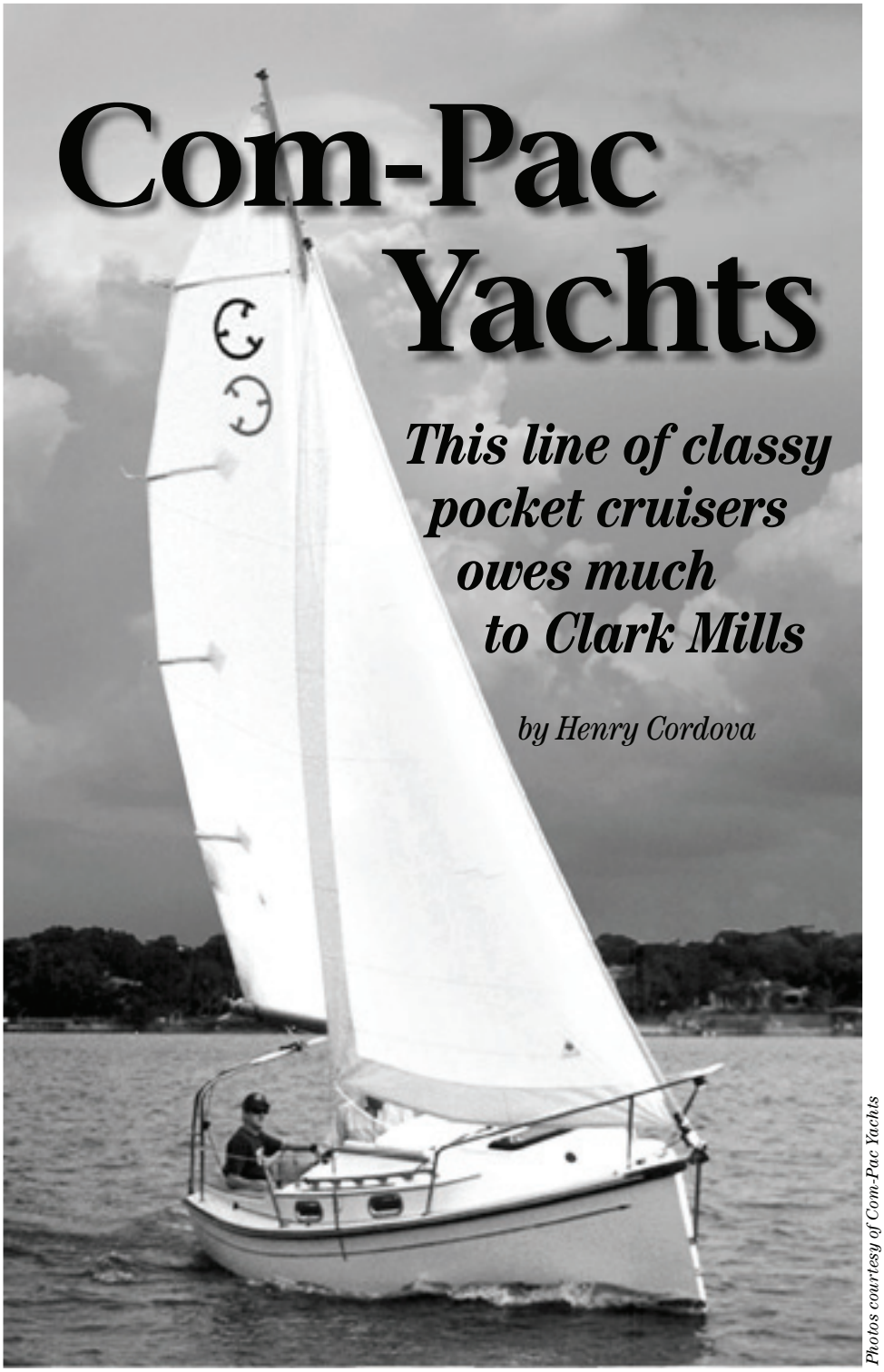
All three companies continue to uphold the name and, although no longer bound by formal ties, cooperate closely, each conscious of their responsibility to carry forward the unbroken tradition begun so many years ago when the young Francis Amos left his home on the banks of the Thames to seek his fortune.

A breakthrough boat in the early days of fiberglass, the Nicholson 32 was very popular in Europe and the United States. With a full keel and stout construction, the 32 is an able bluewater cruiser.

Com-Pac Yachts

This line of classy pocket cruisers owes much to Clark Mills

by Henry Cordova



Photos courtesy of Com-Pac Yachts

The 20-foot 10-inch Eclipse, launched last year, has an open transom, making scuppers unnecessary, as any water in the cockpit quickly drains aft.

My first encounter with a Com-Pac yacht was in the mid-1970s. Charlie, a school friend of mine in Florida, bought one of the first hulls sold by the Hutchins Company, a sweet little 16-foot sloop with salty lines and a saucy, turned-up nose. There was simply nothing like it in those days — a trailerable boat with a solid keel and shallow draft perfect for the sort of sailing we enjoyed and could afford.

My own boat, a centerboard, lug-rigged catboat, was a good sailer and perfect for gunkholing in the mangroves, but the Com-Pac sported a level of luxury the rest of us could only dream about. It had a cabin with just enough cover for one to get in out of the rain and spend a night anchored on the turtle grass or the mud flats, protected from the weather and saltwater marsh mosquitoes.

Charlie's exploits in the Com-Pac were legendary. He loved to tell the story of when he hove to in a squall, and a Coast Guard cutter, thinking the boat was abandoned, raced over, only to find the little white sloop perfectly balanced and giving ground sensibly, her jib backed, main reefed, and tiller lashed to leeward. Charlie was in the cabin calmly smoking his pipe.

When Charlie popped his head out of the hatch, the Coastie skipper knew he wasn't needed. He shrugged his shoulders and went back to fulfilling his primary mission: rescuing powerboats in trouble. Another time, during a winter blow, Charlie, who sailed without an outboard motor, was forced to anchor off a lee shore just outside breaking surf. The Com-Pac gave him a wild ride all night but survived intact… except that his brand-new Danforth had a fluke bent so badly it had to be replaced.

The word spread

Apparently a lot of other sailors have had similar experiences. Although they were not specifically designed for the Gulf Coast, word of Com-Pac's quality and seaworthiness quickly spread, and by the end of the 1970s more than 1,000 had been sold in Florida and beyond.

"…word of Com-Pac's quality and seaworthiness quickly spread, and by the end of the 1970s more than 1,000 had been sold in Florida and beyond."

It certainly did not hurt that the Com-Pac was designed by Clark Mills, who in the late 1940s designed the one-design Optimist pram dinghy, the world's most popular trainer for junior sailing programs. Other models followed: the Mills-designed Com-Pac 23 and, a few years later, the Bob Johnson-drawn Com-Pac 19. (*Note: We'll profile Bob Johnson, the founder and designer of Island Packet Yachts, in an upcoming issue.* ***–Ed.***) The line was distinguished by its traditional hull shapes, striking teak detailing, and round, metal-framed portlights set off against a gleaming white hull. Beamy, shoal-draft weekenders with high-lift NASA airfoil keels, these boats were not built for high speed or extreme windward performance, but

they were safe, sturdy, and beautifully finished. The Com-Pac 16 sold in 1974 for $2,988, or about the price of a (then) new compact car.

Company origins

The Hutchins Company was founded in 1957 by W. L. "Hutch" Hutchins, Sr., an inventor and entrepreneur who provided parts and accessories for the automotive industry and the aftermarket trade. In the early 1970s his interest in sailing led to the development of the Com-Pac 16, an attempt, he said, "to build a small but highly efficient sailboat that would appeal to people who didn't want to invest too heavily in a boat, yet one they could easily trailer behind a compact car."

It is said that the overall concept for the Com-Pac 16, as presented to designer Clark Mills, was to build a boat that, when dismantled, would fit nicely into a standard shipping crate. This final specification was never achieved but the original idea certainly was.

The first few years for the fledgling boatyard were filled with all the melodrama of any new business. Working for almost three years from Clark Mills' shed in Dunedin, Florida, the production bugs were worked out of the Com-Pac 16 by the elder Hutchins and Buck Thomas, a key employee in the company's early days in both the construction and marketing operations, as well as builder of the Southern 21. They were soon joined by Hutch's sons Gerry and Richard. Gerry had experience in the boatbuilding trade, having worked at Gulfstar Yachts, while Richard had run the metal stamping part of the family business.

Hutchins remains a family operation; Richard's son is now in charge of the steel fabrication facility at the Hutchins yard. As sales of the 16-footer took off, it didn't take long before the firm moved to a larger facility in nearby Clearwater.

Com-Pac 16

Still the same

The Hutchins Company is still essentially the same business today, 30 years and 5,000 hulls later. It's run by brothers Gerry, the president, and Richard. Their father, Hutch, remained active in the firm until his death a few years ago. The firm is no longer involved in the automotive market and has devoted itself entirely to building sailboats.

Richard says the secret to their success has been to build a good boat with passion, keep the company small and efficient, and not to compete with boat designs already capably delivered by other manufacturers. That also means not competing with their own boats on the used market. The philosophy works. Declining sales of the Com-Pac 16 finally led to discontinuation of that model in 2003, after 3,000 had been sold. The popular Com-Pac 19 met the same fate after a run of more than 600, but only after the tooling was damaged and it became prohibitively expensive to continue production. The Com-Pac 23 is still going strong after a history,of 644 hulls.

In 1985, Hutchins jumped into the potentially lucrative coastal cruiser

The Com-Pac 16, above, launched the boating part of the Hutchins Company, which had been founded in 1957 as an aftermarket supplier of automotive parts and accessories. The Com-Pac 16, designed by Clark Mills, was launched in 1974. Sailboats eventually replaced the automotive business entirely. Richard and Gerry Hutchins, at right, sons of founder W. L. Hutchins, run the company these days.

Above left on facing page, the Com-Pac 23, a Clark Mills design launched in 1979, and the 27, a Bob Johnson design launched in 1985, are still in production. The Com-Pac 16, to left above, and 19, on facing page below, are no longer in production, although 3,000 of the 16-footers and 624 of the 19-footers were built before their runs ended.

market with the Com-Pac 27, also a Bob Johnson design. With its 9-foot 6-inch beam and more than 3 tons displacement, the Com-Pac 27 was not a trailerable vessel but it was still an evolutionary outgrowth of the proven Hutchins philosophy — a roomy, shoal-draft sloop built more with convenience and quality in mind than racing performance. Its lines and overall appearance also shared the traditional looks and spirit that characterized the other Com-Pac yachts.

Flagship introduced

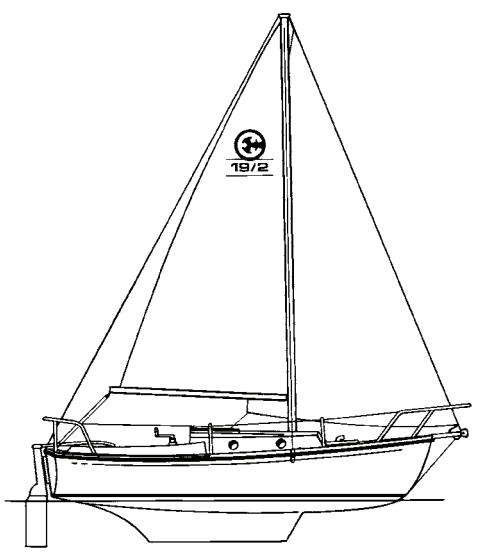
Eight years later, Hutchins had introduced the flagship of the fleet, the Com-Pac 35, an open-water cruiser designed to meet the criteria set out by designer Charley Morgan: "shoal-draft, stable, seakindly, and fast enough to give good results under Performance Handicap Racing Fleet (PHRF) rules." It sports a high-tech Henry Scheel keel to provide decent performance yet keep draft to a modest 4 feet. Richard Hutchins makes no claims for the Com-Pac 35's ocean-crossing abilities; he likes to say that "the boat might make it, but you won't." It's not due to any lack of seaworthiness, but long-distance voyaging is not what it is designed for, lacking among other things the tankage for bluewater passages.

"Richard says the secret to their success has been to build a good boat with passion, keep the company small and efficient, and not to compete with boat designs already capably delivered by other manufacturers."

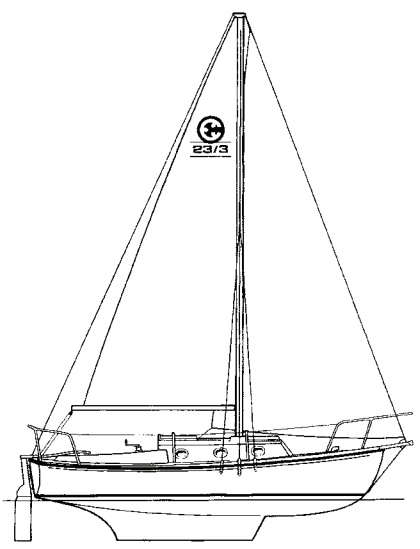
Not wanting to neglect their traditional trailersailer market, the Hutchins introduced a transitional model in 1995 to fill the gap between the 23 and 27 — the Com-Pac 25. The design was based on the Watkins 25, Hutchins having purchased the tooling from this short-lived Florida builder. Two short-production-run boats, the Com-Pac 14 and the Com-Pac 33, were produced during this period; the former retired after attracting little customer enthusiasm. The latter was a preliminary version of the Com-Pac 35. Meanwhile, the established models were evolving with modifications and improvements. In addition, Hutchins offers an impressive catalog of options and accessories for a production operation. According to Gerry Hutchins, the company does its best to "customize our boats, particularly the Com-Pac 23 and larger, to fulfill the customer's needs."

Boat hulls everywhere

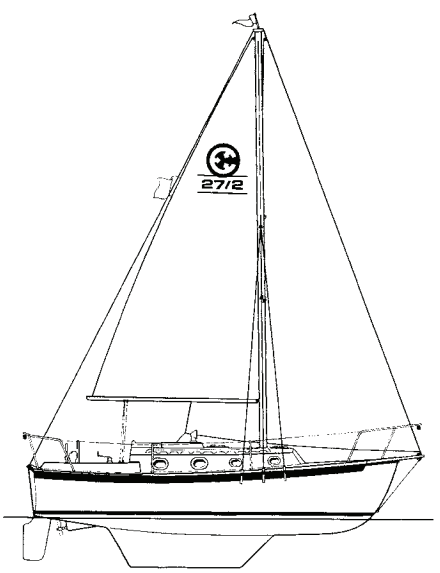
The Hutchins plant is located in a light industrial park and consists of several large, well-ventilated metal buildings, cluttered with tools, materials, and



Com-Pac 19



Com-Pac 23



Com-Pac 27

A worker at the Hutchins yard puts finishing touches on an Eclipse, at left. The company subcontracts the construction of the hulls, liners, and decks. The final assembly and all finishing work, such as deck fittings and cabinetwork, is done at the Hutchins facility in Clearwater, Florida, shown above.

parts. Boat hulls are everywhere in various states of assembly and finish, from roughly shaped shells and decks still bristling with glass cloth to gleaming finished yachts on shiny new trailers, wrapped in plastic, and ready for shipment.

The challenge for many boatbuilders is to achieve the balance between quality and economy that produces good value. Hutchins has adopted a construction philosophy that seeks to reach this balance by using only quality polyester resins and knitted fiberglass fabrics.

Hutchins production

The following table summarizes production runs for all Hutchins yachts, by years and hull number.

Boat	Production run	Number of hulls
Com-Pac 14	1988-1989	31
Com-Pac 16	1974-2003	3,000
Picnic Cat	1998-present	201
Sun Cat	2000-present	199
Com-Pac 19	1982-2002	624
Horizon Cat	2002-present	55
Eclipse	2004-present	22
Com-Pac 23	1979-present	644
Com-Pac 25	1995-present	44
Com-Pac 27	1985-present	181
Com-Pac 33	1990-1993	10
Com-Pac 35	1993-present	22

It also makes sense to subcontract the construction of hulls, liners, and decks to other firms. The parts are then shipped back to Hutchins' Clearwater facility for assembly. The subcontractors are Custom Fiberglass Products of Clearwater, and JMJ Fiberglass of Pinellas Park, both in Florida.

The Dwyer Aluminum Mast Company, of North Branford, Connecticut, provides the mast and rigging for the Com-Pac 23 and the new catboat models (described shortly). U.S. Spars, of Gainesville, Florida, rigs the new Eclipse model. The masts and booms for the Com-Pac 25, 27, and 35 are fabricated by Charleston Spar, of Charlotte, North Carolina. All Com-Pac yachts have deck-stepped masts with the exception of the Com-Pac 35, which has a keel-stepped mast.

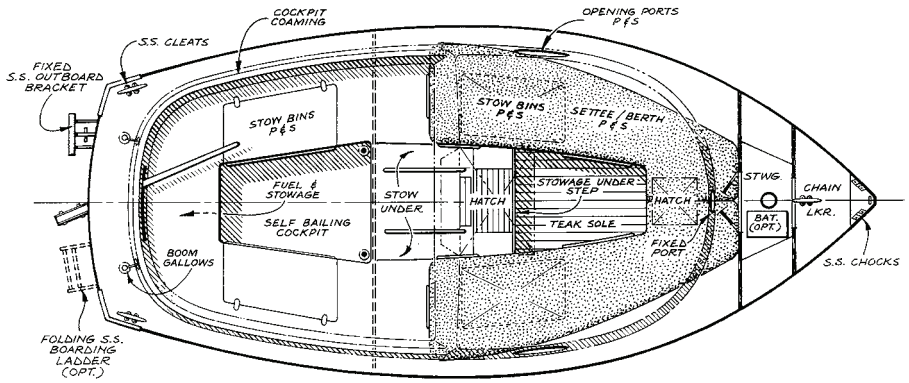
"As the 20th century drew to a close, the Hutchins Company found itself in a remarkable position. Richard says the boats were being sold 'as fast as we could pop them out.' Almost all its designs still in production were unqualified commercial successes."

No adhesives are used to fasten interior furnishings such as cabinets and berths to the hulls. In the Com-Pac 35, an interior pan, or liner, is glassed to the hull, and the furnishings are then glassed to both hull and liner, contributing to the boat's overall strength and rigidity. In the Com-Pac 25 and 27, a fiberglass pan incorporates all furnishings, including cabinetry, lockers, and shelves. On the Horizon, Eclipse, and Com-Pac 23, the interior is a single, prefabricated unit of plywood incorporating all the finished wood interior pieces; the entire assembly is lowered in and fiberglassed to the hull. The Picnic Cat has a simple fiberglass interior.

High-class construction

Positive-action seacocks, not gate valves, are used on all through-hulls in all models. Hulls and decks are joined together with marine adhesive sealant and mechanical fasteners, and in the 27- and 35-foot models the hull-deck joint is fiberglassed as well. There are no high-tech laminates or other space-age exotics here, just good-quality conventional boatbuilding materials.

All Com-Pac keelboats are ballasted; the Com-Pac 25, 27, and 35 use lead ingots encased in concrete. The Com-Pac 23 carries concrete ballast only. The Eclipse and the new centerboard catboats (with the exception of the Picnic Cat) also carry supplementary concrete ballast.



In addition to the final assembly and finishing of the boats, Hutchins does all of the stainless-steel deck fittings and cabinetwork. Fully equipped woodworking and steel fabrication facilities are located on site, as are the administrative offices.

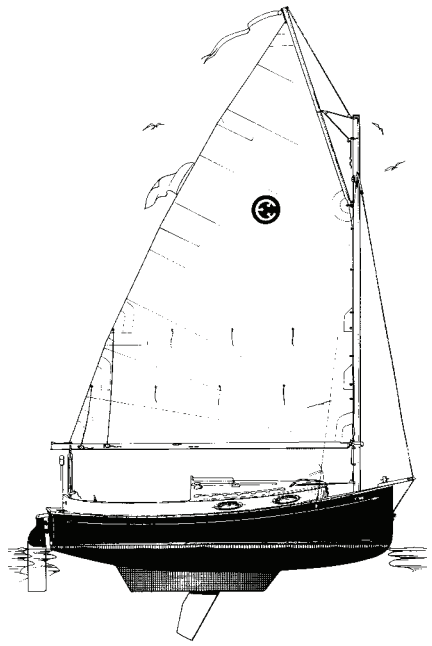
New catboat line

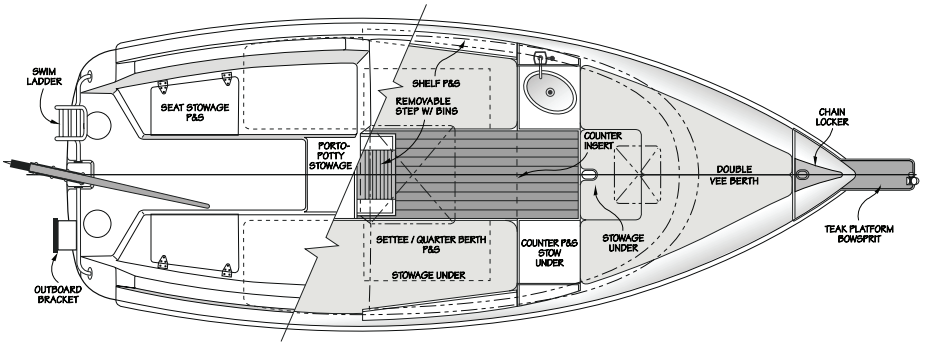
As the 20th century drew to a close, the Hutchins Company found itself in a remarkable position. Richard says the boats were being sold "as fast as we could pop them out." Almost all its designs still in production were unqualified commercial successes. In an industry dominated by buyouts and corporate takeovers, with respected names bought and sold like worn-out plugs and molds, the firm was thriving, profitable, and still firmly in family hands. Choosing not to rest on its laurels, Hutchins embarked on a bold program of innovation: the introduction of an ambitious new line of trailerable sailboats.

First, in 1998, came the Picnic Cat, a Clark Mills-designed 14-foot daysailer featuring several departures from the company's earlier models: it is an open boat, with a centerboard and catboat rig. The Picnic Cat also carries a Hutchins innovation — the Mastendr Quick Rig Sailing System, which allows the mast, boom, gaff, sail, and all standing rigging to fold down around a hinged pin arrangement onto a boom gallows, allowing fast singlehanded launching and recovery. The potential weak point of the small boat — the centerboard trunk — was eliminated by fabricating a heavy-duty stainless-steel centerboard frame bolted into a box, which is fiberglassed to the hull. This box is also stainless steel, so the boat requires no additional ballast. In the other cats, the box is fiberglass and is molded as an integral part of the hull.

The centerboard assemblies for each model are fabricated by Hutchins and produced to close tolerances. The centerboard pivot is not through the hull; instead, the board pivots relative to the frame. The board is controlled by means of a lanyard rove through a

The 17-foot 4-inch Sun Cat, shown above, and 20-foot Horizon Cat, shown below, were introduced in 2000 and 2002, respectively. Together with the 14-foot Picnic Cat, this trio of shoal-draft sailboats has great appeal among catboat lovers.





The Eclipse, above, was the long-awaited replacement for the discontinued Com-Pac 16 and 19. Introduced in 2004, this is the company's first new masthead sloop model to be introduced in years.

tube that leads aft to the cockpit. In spite of the lack of cabin and Com-Pac-style portlights, the Picnic Cat is unmistakably Com-Pac in appearance and quality.

Enter the Sun Cat

In 2000, Clark Mills was again called on, this time to design the Sun Cat, based on the same overall concept as the Picnic Cat but with the addition of a cabin. (There is also an open, cabinless variant — the Sun Cat Daysailer — with enough seating to accommodate eight adults in an enormous cockpit.) At 17 feet 4 inches, the Sun Cat is somewhat reminiscent of the Com-Pac 16 except for the rigging innovations and centerboard technology introduced in the Picnic Cat.

Down below, the Sun Cat boasts a finish and a standard equipment list that put it into another league altogether: bilge pump, teak-and-holly sole, two 6-foot 6-inch berths, a chain locker, and a forward hatch. The yacht's overall look and feel above the waterline owe a lot to the 19th-century Cape Cod cat, but the centerboard and aluminum kick-up spade rudder bring her right into the new millennium. Below, the Sun Cat is a very big boat for its size, beautifully finished and with a list of options for every budget. It is a serious mini-yacht.

The third entry in the "New Breed of Cat Boat" came when Hutchins purchased the molds for the Herreshoff America, designed by Halsey Herreshoff and originally built during the 1970s by Nowak and Williams of Bristol, Rhode Island. The Hutchins brothers kept the classic shape but worked their usual magic below the waterline with some help from Bruce Bingham (designer of the 20-foot Flicka built by Pacific Seacraft). They also made some rig modifications that incorporate the Mastendr technology, sail-reefing points, and a modest bowsprit.

The trio completed

The result of all this, the Horizon Cat, completes the Com-Pac trio of shallow-draft, traditional catboats. Hull No. 1 hit the water in 2002. More than just a Sun Cat on steroids, the Horizon Cat is 20 feet overall, has a beam of 8 feet 4 inches, and draws 2 feet 2 inches with the board up (5 feet with it down). This is a remarkable boat.

The latest Com-Pac, introduced last year, is the long-awaited replacement for the discontinued Com-Pac 16 and 19. The 20-foot-10-inch Eclipse is Hutchins' first new sloop in years, utilizing both the centerboard and Mastendr rig pioneered in the catboats. It is being offered at an introductory price of about $23,000, or about the price of a new medium-sized car.

Richard Hutchins says that all existing models will remain in production for the foreseeable future. Interestingly, he says that the introduction of the new line of catboats has seemed to rekindle customer interest in the company's older designs. As for the future, does the Hutchins Company have anything new and exciting in the works? When I asked Gerry and Richard about this, they only smiled and replied, "Wait and see."

Vital Statistics

For purposes of comparison, here are details of current production models:

Trailerable Boats

	Picnic Cat	Sun Cat	Horizon Cat	Eclipse	Com-Pac 23
LOA	14' 0"	17' 4"	20' 0"	20' 10"	23' 11"
Beam	6' 6"	7' 3"	8' 4"	7' 4"	7' 10"
Displacement	500 lb	1,500 lb	2,500 lb	2,200 lb	3,000 lb
Draft (board up)	6"	1' 2"	2' 2"	1' 6"	2' 3"
(board down)	3' 2"	4' 6"	5' 0"	5' 2"	n/a
Sail area	109 sq ft	150 sq ft	205 sq ft	200 sq ft	250 sq ft
Base price	$8,995	$15,745	$27,995	$22,995	$27,500

Cruising Boats

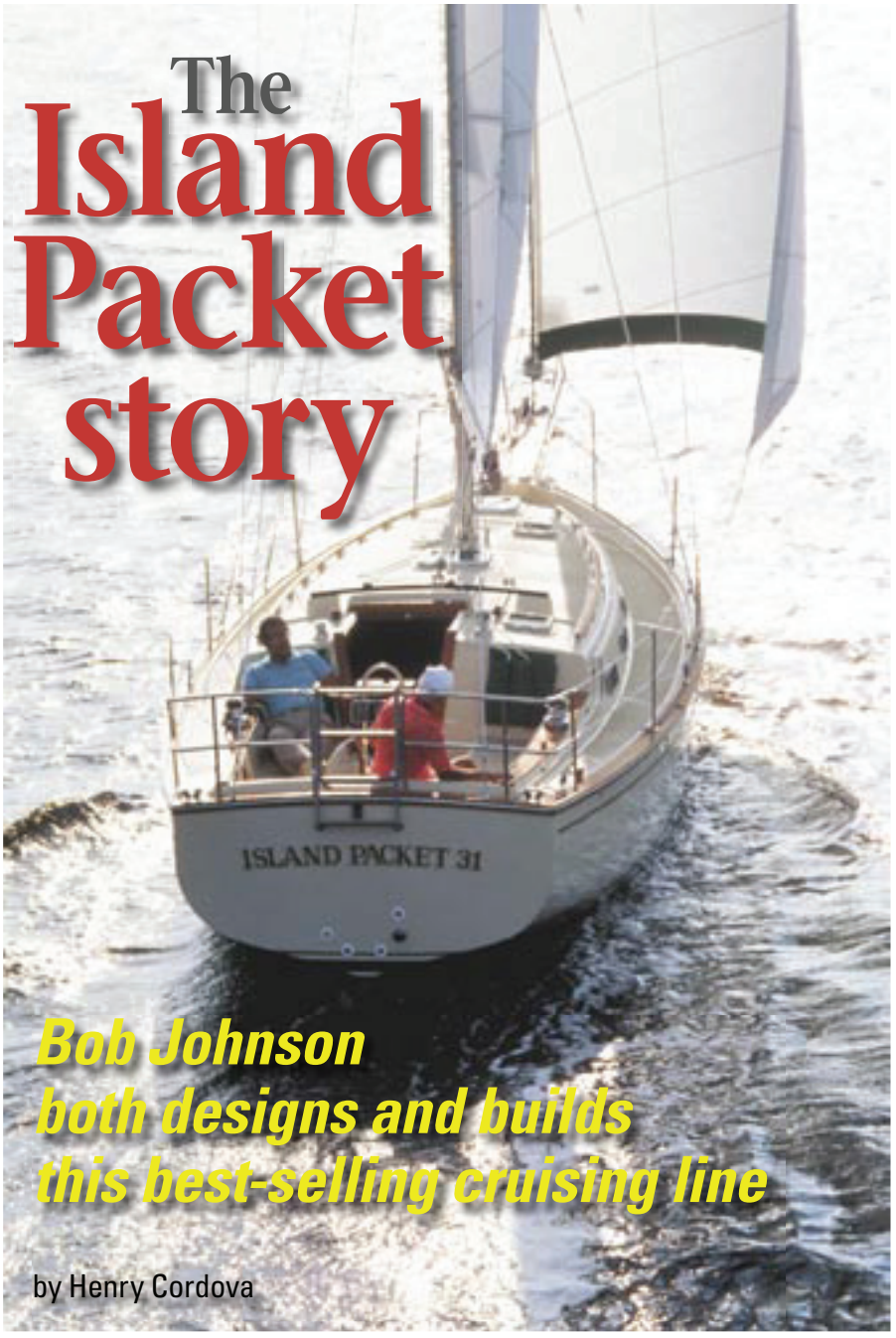
	Com-Pac 25	Com-Pac 27	Com-Pac 35
LOA	28' 2"	29' 7"	36' 9"
Beam	8' 6"	9' 6"	11' 10"
Displacement	4,800 lb	6,500 lb	12,500 lb
Draft	2' 6"	3' 6"	4' 0"
Sail area	308 sq ft	380 sq ft	579 sq ft
Base price	$46,995	$85,495	$158,000

Resources

Updated pricing information, specifications, and optional and standard equipment listings for the Com-Pac line should be obtained directly from the manufacturer.

Com-Pac Yachts
Hutchins Company, Inc.
1195 Kapp Drive
Clearwater, FL 33765
727-443-4408; fax 727-443-1088
<http://www.Com-PacYachts.com>

The Island Packet story



PHOTOS COURTESY OF ISLAND PACKET YACHTS

Bob Johnson both designs and builds this best-selling cruising line

by Henry Cordova

Robert K. Johnson, N.A., founder of Island Packet Yachts in Largo, Florida, has been committed to the shipwright's craft all of his life, despite growing up in inland Connecticut. A naval architect trained at the Massachusetts Institute of Technology (MIT), Bob designs all the boats he builds, winning numerous awards such as *Cruising World's* Boat of the Year. His designs are notable as production, full-keel cruising boats that are built in the United States, perhaps all the rest having gone to fin keels. But Bob takes exception to that label, insisting that his "Full Foil Keel" is very different from traditional full keels and is more like a long fin.

His unique approach to yacht design is the culmination of a lifetime in boats. "I've had the bug ever since I was a boy," he says. "I did my ninth-grade 'My Career' report on naval architecture and marine engineering and wrote letters to Chris-Craft and other companies to find out about careers in the field. It's been in my genes since I was born. I subscribed to *Yachting* magazine when I was eight. My dad had a small powerboat in Connecticut that we rebuilt in the garage, but I always wanted to get into sailing. I wanted a pram, but we lived 50 miles inland in Connecticut, and it just wasn't going to happen."

In 1957, when Bob was in ninth grade, the family moved to Florida, buying a house on a canal in North Palm Beach. Bob bought plans from *Rudder* magazine for a 12-foot catboat. It had hard chines and a V-bottom. He says it wasn't a simple boat to build. His father was a machinist and expert woodworker, who made his own machine tools. Bob says his father was a big help, but it was still very much his own project. "I lofted it on the living room floor and built it in the carport," he says. "I altered the rig, installed a folding mast, and even changed the shape of the hull while I was building it. Before the rig was finished, my brother and I tested the hull by sailing it downwind with a beach umbrella for a sail. I'd never sailed before in my life. I built the boat first and figured I'd learn how to sail once I did."

Nuts-and-bolts guy

After earning a bachelor's degree in mechanical engineering from the University of Florida, Bob attended graduate school at MIT, earning a master's degree in naval architecture and marine engineering. He thought he would major in physics but decided it was too theoretical. "I'm a nuts-and-bolts, hands-on kind of guy," he says, "so I stayed in engineering." His formal education gave him a firm foundation in what he calls "the scientific method."

He explains, "MIT didn't dwell much on the subtleties of sailboat design, but you're completely prepared to apply the information you do learn to sailing boats or high-speed powerboats. That's naval engineering, not architecture. The architecture is the art aspect of it. The shape of a hull can't be fully quantified. Computer programming can help because you can do an awful lot of modeling very quickly and mathematical models can help you evaluate hull change. But ultimately you have to go out into the real world and try it. I graduated in 1967 . . . 38 years ago, and there have been a lot of new ideas since then, or elaborations of older ideas, like hydrofoils, surface-piercing vessels, and many others."

After college, Bob moved to California to work for McDonnell-Douglas in Culver City. His work was on anti-ballistic missiles, for which he devised a process to show loads on critical components using finite element analysis. During his two years at McDonnell-Douglas, he did not forsake sailing. Bob also liked surfing and ended up leaving McDonnell-Douglas to work for the Wave Corporation, which made surfboards at the time. Some of his achievements were to

design and patent an adjustable fin system for surfboards and to develop molded surfboards using aerospace materials. This led to meeting Hoyle Schweitzer, who popularized sailboards and registered the name Windsurfer.

Harder still

"He was able to get past the idea that if surfing is hard, if you put a sail on the board it's harder still," Bob laughs. "But he had the vision to see that some people would learn how, and he opened up a new market. Hoyle wanted us to make his boards, but we couldn't see any future in it. Shame on me, and laudits to Hoyle for having that insight!"

Bob's job at Wave Corporation lasted five years. "Our final boards were very good but very expensive," he says, "and the market wasn't really there. The company went public. Karl Pope, an electrical engineer and surfer, was president, and I give him a lot of credit. He's still making

> **"Before the rig was finished, my brother and I tested the hull by sailing it downwind with a beach umbrella for a sail."**

surfboards, and we still correspond, but I wanted to go back into boating and to my family back East."

In 1974, Bob went to work for Ted Irwin, head of Irwin Yachts in Clearwater, Florida. His first assignment was to modify the existing hulls of the Irwin 30 and 33, as well as the rigs, keels, and rudders. Though Bob was not a keen racer, Ted was, and Bob got involved in developing some International Offshore Rule (IOR) designs for the Southern Ocean Racing Conference (SORC). "I worked on modifying an Irwin One-Ton racer inspired by *Terrorist* — not a name anyone would pick today," he recalls. "*Terrorist* was a beautifully built aluminum boat that came from California and was fitted with twin bilge boards and internal ballast. She was a

The Island Packet 31, on facing page, was the "do-or-die boat," according to Bob Johnson, who says he bet everything on it financially and emotionally in 1983. It turned out all right in the end, since 262 were built (more than any other Island Packet design) before production was ceased in 1989. Earlier designs were the Island Packet 26, at top, and the 27, center, introduced in 1980 and 1984, respectively. The Island Packet 35, at bottom, with interior view, at left, was introduced in 1988.

very fast boat. Ted was very creative. He loved boats, and I loved working with him. There was another designer at Irwin at the time, Walt Scott, and we all became good friends. Ted's motto could have been, 'If it won't break, it's too heavy.' I like to make models, so we sent one to Stevens Institute of Technology in New Jersey for tank testing. This eventually became *Voodoo* (an evolution of *Pantera*) with hard chines and triple boards; if two are good, then three are better. It had a jibing daggerboard and asymmetrical bilge boards. It didn't dominate the circuit, but it had its moments."

Irwin offshoot

"Endeavour Yachts was an offshoot of Irwin," says Bob, "run by some of Ted's prior employees. It was just beginning in 1975, and they bought the old abandoned Irwin 32 molds to get started. The two firms were sort of joined at the knee, Endeavour buying materials from Irwin and so on until Endeavour finally became a competitor to Irwin."

After two years, Bob left Irwin on good terms and went to Endeavour so he could design boats with his name on them and run the plant. He designed the Endeavour 43. Then came the 40, which evolved into the 42, both of which were of "Miami Vice" TV fame. "It was a real home run for the company," Bob says.

"A lot of people seem to think I designed Endeavour's 32 and 37 (which preceded the 40), but I didn't. A fellow named Dennis Robbins evolved them," he adds. Bob still yearned to be on his own, designing his own boats, so in 1999 he left Endeavour to hang out his own shingle. By now he had a family and two babies. Most of his early commissions were small jobs — rigs, new keels, and an interior and deck for Watkins Yachts. Bigger jobs were two complete boats for Com-Pac — the 19 and (a few years later) the 27. He also did some work for CSY (Caribbean Sailing Yachts).

"They were charterers," Bob says, "not experienced builders. I helped them out with some manufacturing consulting because they were having trouble. They couldn't sell enough boats or make money. Basically, I told them they weren't going to make it; they just weren't very analytical about running a business." Boatbuilding can be a tough business, as another of Bob's friends found out. "George Hahn at Prairie

Karsten Johnson, Bob's son, poses by a deck mold, top left. Decks and other components are moved about the plant on welded steel dollies, top right. The integral bow pulpit is wrapped in cardboard to protect it from being damaged. A completed Island Packet 445 deck is being lowered onto the hull, guided by the assembly crew, second and third from top. Several Island Packet 445s are near completion in the assembly area, at bottom.

> **"The origins of Bob's own company can be traced to a New Haven sharpie he designed in 1976 for his own use, the Lightfoot 21."**

Boat Works was one of my old surfboard dealers and promoters at Wave," Bob recounts. "He was a delightful guy who started off with one of his own designs, the Prairie 32. Prairie was a model of how a boat company should be set up, but he still couldn't make it go. He had a beautiful plant, molds, and great new designs by Jack Hargrave, but he couldn't operate profitably."

Lightfoot 21

The origins of Bob's own company can be traced to a New Haven sharpie he designed in 1976 for his own use, the Lightfoot 21. A few magazines wrote it up, drawing attention to it. At first he sold plans for homebuilders working in plywood, but a demand for a fiberglass version prompted him to make a set of molds and manufacture it himself. "I made the first molds in my carport, probably to the great distress of the neighbors," he says. "Then I rented a garage and called it Traditional Watercraft, working with a lot of fellows in town who were looking to moonlight a few hours a week. I marketed the boat and priced it with a dealer in mind, but no dealer wanted it because it was too unusual." Still, he sold 18 and was on his way as a production builder.

Next came an opportunity to buy molds for a 26-footer from Bombay Yachts, which was being liquidated. It was founded by two men who left Irwin: Ross James, production manager, and Chris Petty, sales manager. They built the 31-foot Bombay Clipper designed by Walt Scott, then bought a Canadian mold and converted a 44-footer. Their last boat before they went out of business was the 26-foot Bombay Express. They built 16 or 17 of those, and some were sold as unfinished boats because they were winding down. They didn't go bankrupt but they sold out to an investor who passed away, and the business was liquidated.

"I realized an opportunity was before me," Bob says. "The Express was a boat I related to, a centerboarder with a barn door rudder. It looked like a Cape Cod Catboat with 5-foot 9-inch headroom. I bought the molds in 1979, and it became the parent boat for the Island Packet line, the Island Packet 26, introduced in 1980. At the time I was still operating out of my house. Two friends, Pete Pastor and Bob Folks, who owned a company called Marine Innovators building the Sandpiper 32 and the Beachcomber 25, were contracted to start production."

Introducing Island Packet

"But they also were a tooling company and had made the plugs and molds for the Bombay Express," he adds. "I redesigned the interior and rig, left the rudder as is, put in a different centerboard, and introduced it as the Island Packet. I incorporated formally as Traditional Watercraft, Inc., in the fall of 1979. We built 16 boats over a year and a half. We were able to estimate the pricing fairly well and sold the boats with classified ads in magazines. We sold the first three sight unseen, staged payments, owners never seeing them until they were delivered to their doorsteps." Despite his considerable experience, Bob still wasn't exactly a household name, and selling the boats took some work. "I developed a very thorough brochure with beautiful illustrations by my brother," he says, "and talked to customers a lot on the phone. I knew the boat backward and forward, so I could answer their questions. I guess they were comfortable with who I was although they had no reason to be. God love 'em, I couldn't have gotten started without them and their confidence in me. Their payments financed the construction."

Dick Watts of Massachusetts bought the first boat, which Bob built under contract with Marine Innovators. But a year later, when that company's Beachcomber 25 took off, they couldn't produce enough of them and were unable to accommodate Bob's project on top of theirs. "I was selling more and more," Bob says, "so I realized it was time to take the big step."

He rented a 4,000-square-foot building, hired five people, and started building. The parts were subcontracted — glass work to one company, the wooden parts to another. Bob's crew did the assembly. After hull #30 Bob came out with the Mark II, which had more headroom and the first Full Foil Keel (the original 26 was a centerboard and drew 2 feet 4 inches with an outboard rudder). The Island Packet Mark II (not the 26 Mark II yet) was introduced at the Miami Boat Show in February 1982. She was bought and named *Bubbles*. Bob says she's still going strong, having won the Miami-Key Largo Race late last year.

Not your father's boat!

COURTESY OF ISLAND PACKET YACHTS

Earlier this year Karsten Johnson, marketing manager with Island Packet Yachts and son of Bob Johnson, introduced a boat that occupies space at the opposite end of the sailboat continuum from the Island Packet line of cruisers. Called the BigFish, this lateen-rigged daysailer has cockpit room for two adults and promises to bring couples and families a whole lot of fun on the water. The BigFish is being built on a separate line at Island Packet's Largo, Florida, plant.

Bob Johnson suggests that a cruiser and a peppy daysailer make a good combination. In fact, no matter what sort of small sailboat people have when moving up to a cruising sailboat, Bob advises, "Don't sell your small boat." In keeping with this philosophy, in his marketing materials, Karsten writes, "While the BigFish may not be the largest boat you'll ever own, it's likely to be your favorite!"

For more on the BigFish, visit Karsten's site at <http://www.bigfishyachts.com> or call 727-451-2248.

Bob Johnson in his office.

Name recognition

The new Island Packet 31 was developed in the spring of 1983 and introduced that fall at Annapolis. Bob was going to call the 31 the Bermuda Packet "…or something similar, the company name being Traditional Watercraft," he says, "but we went with the name Island Packet 31 because of the name recognition we had achieved. Retroactively, the first two boats became the 26 and 26 Mark II in the fall of '83. In '84 we released the 27, which was actually a Mark III 26. The 27 wound up with 6-foot 1-inch headroom by increasing the freeboard."

He adds, "The 31 was the do-or-die boat. I bet everything on it, financially and emotionally. It was a completely new boat from the ground up, not a modification of an earlier design. We sold a lot of 31s right off the bat. It had an aft cabin with a fold-away door and an articulating chart table. It was a good boat that was both roomy and a good sailer." When the 31 was replaced by the Island Packet 32 seven years after its introduction, 262 hulls had been produced, more than any other Island Packet design. As a result of its popularity with customers, Bob was able to purchase two acres of land in Largo, Florida, and build his own shop.

> "The 31 was the do-or-die boat. I bet everything on it. It was a completely new boat from the ground up…"

Within two years, tooling began for a new Island Packet 38 and a 20,000-square-foot addition was added to the building. By the time the firm celebrated its 10th anniversary in 1989, another model had been introduced, the Island Packet 35, and another 21,000-square-foot facility had been built on an additional eight acres of land across the street. Island Packet was unquestionably in business. Many of these earlier models were offered with a full keel or with a shoal-draft centerboard option. Since the average production run is roughly five years, there are quite a few discontinued models. Today, Island Packet builds four models: the 370, 420, 445, and 485. With the exception of a 40-foot high-performance motoryacht, the Packet Craft Express, Island Packet Yachts currently produces only cruising sailboats. Between 1992 and 1997, the company also launched 41 Packet Cat 35s, luxury sailing catamarans.

Design and construction

The Island Packet Yachts construction facility is located in Largo, Florida, and consists of several large buildings totaling over 100,000 square feet on both sides of a street in an industrial park. It is clean, well organized, and neatly kept. The yachts are highly engineered. Part of the design process is the extensive use of mock-ups to ensure everything fits and clears and that there will be no surprises during construction — or later when access may be required for maintenance. Each boat is also uniform in concept, not highly varied for different options. However, dealers are encouraged to meet owners' wishes for special custom touches and accommodations, such as mounting pads for generators or pre-wiring electrical systems for possible later additions. Interior liners have numerous access ports that provide additional storage and offer access for checking and maintaining bonds, which would otherwise be inaccessible. Voids and corners, even those not visible to the eye, are carefully finished; there are no sharp edges or points to surprise one when groping around in the dark in confined spaces. An extensive quality control process is in place that includes a quality assurance log for each boat where key items are checked off during construction by line personnel.

Island Packet boats are constructed in a conventional manner. Each boat is made up of four major fiberglass components: the hull, deck, and the two liners, or pans, that fit inside the hull and deck and which together form the interior of the yacht. Each of these four components begins as detailed drawings for constructing the male plugs out of wood. The plugs must be perfectly fair because they are used to create the female fiberglass molds that are then employed to mass-produce the actual hull, deck, and liners. The tooling department is a year ahead of everyone else in the plant; they are often working on models that won't be released for years.

Low-pressure gelcoat

The construction cycle begins when each of the molds is waxed and sprayed by hand with gelcoat at low pressure, allowing the operator to control the thickness to an optimum 25 mils. Next, the molds are rolled out on casters to the lamination area and layers of glass and resin are laid in place. The lamination method is straightforward and done by hand. Each layer is done separately, one layer a day. The

The classic models

Model	First built	Last built	Number
IP26	1980	1982	29
IP26 Mk II	1982	1984	46
IP27	1984	1992	243
IP29	1991	1997	64
IP320	1998	2002	n/a
IP31	1983	1989	262
IP32	1990	1996	12
IP350	1997	2004	n/a
IP35	1988	1993	178
IP37	1994	1998	60
IP380	1998	2004	169
IP38	1986	1993	188
IP40	1993	2000	137
IP44	1991	1995	35
IP45	1995	1999	44
PC35	1992	1997	41

first layer — called the skin coat — is conventional fiberglass mat with randomly oriented fibers. The hull and deck use one layer of mat and multiple layers of triaxial knitted cloth. This material, which Bob says is one of the strongest fiberglass cloth products available, is twice as strong and puncture-resistant as the alternative, woven roving. Conventional cloth has fiber bundles woven at 90 degrees, while triaxial cloth is oriented in three directions and then sewn together with glass threads. The weave is very dense; getting resin into the glass in the proper proportions and then removing the excess requires the use of squeegees in addition to the usual hand rolling.

As a full-keel design, the hull molding includes the keel. The keel cavity is filled with lead ingots for ballast. (Smaller boats like the 370 use iron and concrete.) These are packed in resin to bond them to the inside of the keel void and are stabilized in place with mortar. Three additional layers of triaxial glass are then placed over the concrete to strengthen the spine of the boat and to provide a double bottom.

Both hull and deck are then bonded to their respective liners. In the former, the liner is lowered in and glassed into place at predetermined points that are made fully accessible by storage-access holes strategically cut into the liner molding. Unlike the majority of boats today, the deck is cored with a proprietary mix of resin and microballoons Island Packet calls Polycore. It is formulated in-house and applied in a ½-inch- to ¾-inch-thick layer like the frosting in an Oreo cookie. It is an extremely strong and durable composite that is impervious to rot, delamination, and water intrusion. The deck and deck liner are fitted and then bonded together. Polycore is stiff, strong, and ideal for decking but is not used on the hull surfaces because it lacks the puncture resistance of a solid triaxial glass laminate.

Three chainplates joined

In the hull, tanks for water, fuel, and waste are installed just above the keel. Then plumbing and through-hull fittings are put in place. The three chainplates per side are joined by a welded T-bar and interlock with molded hull flanges. They are then glassed in place with a fan of glass fibers designed to help dissipate strains from the rigging across the entire hull. The hardwood cabin sole is then bonded to the liner. While the interior is being built, the deck is assembled in tandem: ports, hatches, cleats, winches, travelers, blocks, and other deck hardware are added at this time.

After completion of the hull and deck sub-assemblies, the two are custom fitted and joined to the interior bulkheads. The deck is bolted to the hull with ¼-inch stainless steel bolts every 6 inches and sealed with a special waterproof gasket and a liberal application of 3M 5200 urethane sealant. On deck, toerails are still formed on a jig and bent and glued by hand.

A visitor to the Island Packet facility gets the impression that this is a very modern, highly automated, assembly line operation. The staff bustles about with an air of motivation and precision. People seem busy and absorbed in what they are doing. Unlike the controlled chaos of most boatyards, the Island Packet facility strikes visitors as being a very smooth and disciplined operation. Total construction time for an Island Packet yacht varies by the model, from 2½ months for a 370 to a month longer for the 485. After the boat is shipped, the dealer installs spars, sails, rigging, lifelines, electronics, autopilot, air conditioning, and refrigeration. (Some 2005 models include electronics and refrigerator/freezer systems.)

Roomy and comfortable

All four of the current models are serious bluewater boats designed to be easy to sail, roomy, and comfortable. Design features common to all include cutter rigs with twin backstays, a patented Hoyt Jib Boom on the staysail that makes the jib self-tending and self-vanging, roller furling on all sails, and the Full Foil Keel with a protected prop and separated rudder driven by rack-and-pinion steering. All models have a swim platform aft. All have at least two staterooms, at least one head/shower, a navigation station, and, of course, a saloon and galley. The 370 starts off at $259,950; the 485, fully equipped, sells at more than twice as much.

Bob and his marketing staff are quick to emphasize that Island Packets are built, first and foremost, as cruisers. "First in Cruising" is the company's motto and "America's Cruising Yacht Leader" is the tagline appearing on its literature. Safety, comfort, seakindliness, and stability are given priority over performance. Although every Island Packet is designed to be completely suitable for a daysail on the bay, as well as being a transoceanic machine, no claims are made for it as a racer or even a racer/cruiser.

On the other hand, speed should not be ignored, and it is a quality that can be of considerable value in a cruising boat. The less time one spends on a passage the less time there is for something to go wrong. As it turns out, Island Packet Yachts have been able to more than hold their own offshore against boats that are considered more competitive, taking class honors in events such as the Caribbean 1500 and the Marion-Bermuda Race.

Bob Johnson may very well be the only naval architect who owns the yard that builds his designs. He has been honored with the *Sail* magazine Industry Leadership Award and serves as a director of several marine industry associations. His boats have won numerous honors from many quarters, including five Boat of the Year, four Customer Satisfaction, and two Best Value Awards. Since the creation of the new European Union certification standards, all his sailing yachts have been CE-certified "Category A, For Ocean Use." Island Packet was the first U.S. builder to pursue this certification.

After 25 years of not only surviving, but also flourishing, in what is often a volatile industry, Robert Johnson has a lot to be proud of.

Resources

Island Packet Yachts
1979 Wild Acres Road
Largo, FL 33771
727-535-6431
info@ipy.com
<http://www.ipy.com>

IP Home Port
Devoted to Island Packet owners and owner wannabes
<http://www.iphomeport.com>

More online . . . Author Henry Cordova transcribed his entire interview with Bob Johnson. For those who wish they could spend a couple of hours chatting with the founder of Island Packet, go to <http://www.goodoldboat.com/IPinterview.html>.

Pacific Seacraft's evolution

This respected company continues to move with the times

by Dan Spurr

KAREN LARSON

As any marketing whiz will tell you, brand recognition is key to sales. And among sailboat builders, Pacific Seacraft has it in spades. Cape Dory had it, too, thanks to the lean, flat-sheer, traditional CCA designs of Carl Alberg. With Pacific Seacraft, it's the nicely proportioned profiles of designer W. I. B. (Bill) Crealock: round bronze portlights and, more notably, the canoe sterns of the Pacific Seacraft 34, 37, and 44.

But not all Pacific Seacrafts had canoe sterns. What they *did* have in common was a certain freshness, traditional yet not clunky. Lean and spirited, each model looked ready to cruise the South Pacific. And many have.

Pacific Seacraft was founded by two Southern California boat enthusiasts following separate stars. Mike Howarth, now 55, grew up in Anaheim. Academic subjects didn't interest him, but he took a strong liking to wood- and metal-shop classes. He says he always liked working with his hands and won a woodworking competition in high school.

Following graduation, his first job was at a boatbuilding company. "I didn't want to get into mass production," he says. Assigned to the wood shop, he was paid $2 an hour to make parts for a 43-foot, twin-engined, fiberglass motor cruiser. His skills, both technical and interpersonal, led to his being promoted to foreman.

After a few years, Mike moved on to Islander Yachts in Costa Mesa, the epicenter of West Coast fiberglass boatbuilding in the 1960s and '70s. His job there was to build the tooling — male plugs and female molds. It is in the molds that the major components such as the hull, deck, and liners are laminated. He apprenticed under a master patternmaker, Marty Novak, and the experience was etched deeply in him. To this day, Mike believes fiberglass molded parts are preferable to wooden ones.

Rose in rank

When it came time to move again, Mike went to an outfit called Pacific Trawler, where he installed engines and electrical systems, did some carpentry, and rose in rank once again.

It was at Pacific Trawler that Mike met his future partner, Henry Mohrschladt, who was six years his senior. Though employed at Pacific Trawler as an engineer, Henry's background was in economics. After graduating from the University of California/Irvine, he applied to graduate programs and was going to accept a fellowship and research assistantship at the University of Pennsylvania's Wharton School of Business.

But the lure of boats was a stronger call. Just why, he can't say. His father never owned a boat, though in an effort to assuage his son's surging interest, he did buy Henry a radio-controlled model boat — this for the kid who in his spare time went to the library to read yachting magazines.

Boats won the career tug of war, and in 1971 Henry went to work for Westsail, a young company owned by Lynn and Snyder Vick, who were building double-ended cruising sailboats. Not particularly well qualified for anything in boatbuilding, Henry was assigned practically everything, from polishing and waxing molds and grinding fiberglass to laying up laminate in the molds. But he was hardly your ordinary glass guy.

Henry's intelligence and organizational skills prompted him to begin documenting all shop practices to create a record of what was done and how. And he could draw, thanks to some drafting experience during high school. Recognizing Henry as a self-starter, Snyder made him the company "engineer." After a year and a half, Henry left for a job as project engineer with Columbia Yachts, then perhaps the largest builder of fiberglass sail-

The Dana 24, facing page and at right, built between 1986 and 1999, is a handsome pocket cruiser. The forestay is secured to the end of the bowsprit, which increases area of the foretriangle to give the sail plan more power to move the boat's 8,000-pound displacement.

boats in the world. Their model line ran from the Columbia 22 to the flush-deck bubble-top Columbia 50 and 57, many designed by the late Bill Tripp. (For more on Columbia Yachts, see *Good Old Boat*, May 2002.)

Those heady days

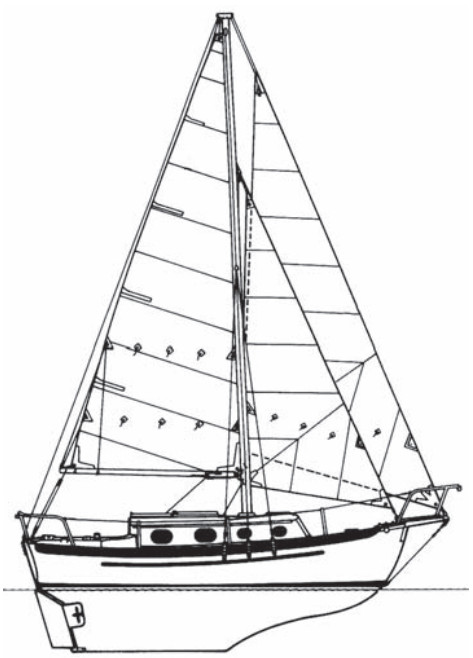
Moving on, Henry next went to work at Pacific Trawler, meeting Mike Howarth for the first time. That was in the mid-1970s. In those heady days of Flower Power and Earth Day celebrations of environmental consciousness, not to mention the OPEC oil embargo, a lot of young people dreamed of sailing over the horizon in their own small, fossil fuel-free cruising sailboats.

While Henry was the engineer at Pacific Trawler, as well as the purchasing and sales guy, he liked to draw boats and was always thinking about boats he'd like to build and own himself. So he already had a small, double-ended, pilot-type boat design completed when Mike approached him one day and said, "I'd like to 'tool me up' a little boat. You design boats, don't you?"

Henry replied, "I have something designed. Would you like to see it?"

The two talked about the project at some length, and Mike eventually built the 25-footer in his garage. He tooled it alone, building the hull and deck molds in his back yard. But he didn't want the boat for himself. It was to be the boat with which he'd launch his own company. And now he had Henry as his partner. "This was when people dreamed about cruising to the ends of the earth," Mike says. "Cruising sailboats were really big."

Their plan was to exhibit the boat at the 1975 Newport Boat Show and, as is so often the case with startup operations, it was a race against time. They were still working on the boat at the dock when the show opened. The show manager had to tell them to get their band saw off the dock. Their funds were exhausted, yet the boat had no



cushions. Henry was forced to sell his car. Fortunately, the boat sold. Full of confidence, Mike and Henry quit their jobs, formed a company, and began building the second hull of what came to be known as the Pacific Seacraft 25 (shown on Page 57).

Newport workboats

Other stout little cruising boats followed, notably the Flicka. *Small Craft Advisor* tells the story: "While in the Navy in the fifties, [Bruce] Bingham stumbled onto a couple of these [Newport workboats] derelict on a riverbank near North Kingstown, Rhode Island. Fascinated by their design, he made sketches and took some rough measurements. He learned that these

Vital statistics

Dana 24

LOA	27'3"
LWL	21'5"
Beam	8'7"
Draft	3'10"
Displacement	8,000 pounds
Ballast	3,200 pounds
Sail area	358 square feet

Pacific Seacraft 25

LOA	25'0"
LWL	21'0"
Beam	8'0"
Draft	3'4"
Displacement	5,700 pounds
Ballast	1,750 pounds
Sail area	236 square feet

Pacific Seacraft 31

LOA	31'10"
LWL	24'2"
Beam	9'10"
Draft	4'0"/4'11"
Displacement	11,000 pounds
Ballast	4,700 pounds
Sail area	485 square feet

Crealock 34

LOA	34'1"
LWL	26'2"
Beam	10'0"
Draft	4'1"/4'11"
Displacement	13,200 pounds
Ballast	4,800 pounds
Sail area	534 square feet

Crealock 37

LOA	36'11"
LWL	27'9"
Beam	10'10"
Draft	4'5" Scheel/5'6" Std.
Displacement	16,000 pounds
Ballast	6,200 pounds
Sail area	619 square feet

Pilothouse 32/Voyagemaker

LOA	32'2"
LWL	24'3"
Beam	9'10"
Draft	4'1"/5'0"
Displacement	12,600 pounds
Ballast	4,700 lb./5,200 pounds
Sail area	483 square feet (sloop)

Pacific Seacraft 377 (new)

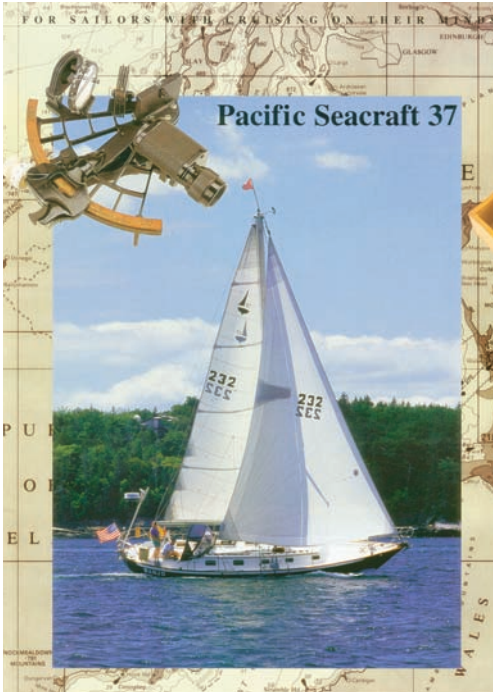
LOA	37'7"
LWL	30'1"
Beam	11'6"
Draft	5'3"
Displacement	21,200 pounds
Ballast	(TBD)
Sail area	(TBD)

Pilothouse 40

LOA	42'2"
LWL	31'3"
Beam	12'5"
Draft	5'2"/6'1"
Displacement	24,500 pounds
Ballast	8,600 pounds
Sail area	834 square feet

Crealock 44

LOA	44'1"
LWL	33'7"
Beam	12'8"
Draft	5'3"/6'3"
Displacement	27,500 pounds
Ballast	11,000 pounds
Sail area	971 square feet



rugged craft were sailed year-round by fishermen in the harsh conditions off the Rhode Island coast. In the early 1970s, Bingham opened his own design office. By 1972 he was offering plans for a stout, plumb-bowed 20-footer called the Flicka (shown on Page 56), based on the Newport boats."

At first he sold Flicka plans, eventually numbering more than 400 sets. They were built in a variety of materials: ferroconcrete, wood, and fiberglass; and with a variety of rigs: masthead sloop, cutter, yawl, schooner, and Chinese lug, most of them with a gaff rig. Like the Westsail 32 of that era, it was a "cult boat."

Building a boat yourself is a big undertaking and some plans, of course, resulted in no boat at all. Anxious for a boat of his own, as well as a production fiberglass version, Bruce Bingham built a plug but had to sell it.

An outfit called Nor'star Marine in Santa Barbara, California, picked it up and built the hulls for a few years. Westerly Marine of Costa Mesa finished some of the hulls under contract to Nor'star. The venture ended in 1977, and a year later Pacific Seacraft purchased the molds and resumed production.

After hull number 434, the run ended in 1998. One reason for discontinuing production was the cost of the boat, which had increased from around $45,000 in 1989 to nearly $100,000. A company spokesman explained that the boat wasn't particularly efficient to build because it was so small only one person at a time could work on it.

In came Crealock

Henry designed the next two boats, the Mariah 31 (1979) and Orion 27 (1980, shown on facing page) before bringing in Bill Crealock to do the Crealock 34 (1984), Dana 24 (1985), and Crealock 31 (1987). (For more on Bill Crealock, refer to *Good Old Boat*, July 2003.)

Henry's magazine ads often depicted their boats in a beautiful tropical anchorage, like Bora Bora, making buyers feel like they, too, could cruise the South Pacific on one of these heavy-duty little Pacific Seacraft boats. And many did, crossing oceans in safety.

The Pacific Seacraft 37 (at left), the first Crealock-designed boat in the model line, originally was built by Cruising Consultants of Newport Beach, California, as a kit or partially completed. A total of just 16 were sold between 1978 and 1979. Pacific Seacraft bought the molds and rights in 1980, offering it with sloop, cutter, and yawl rigs.

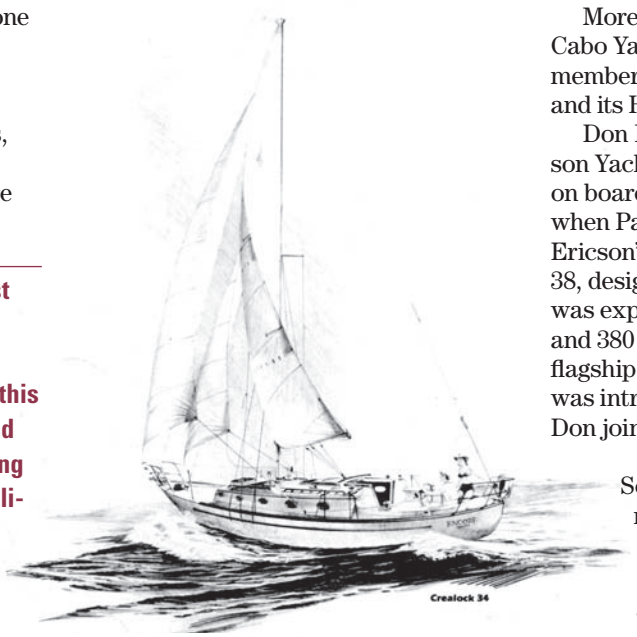
In 1988, *Fortune* magazine named Pacific Seacraft one of the top 100 U.S.-made products, a distinction again conferred in 2000. The first time this occurred, the company attracted a lot of attention around the world, even outside the marine industry. As a result, later in 1988 Mike and Henry sold the company to Singmarine, a Singapore-based shipping company owned by the Keppel Group.

They signed a no-compete contract, promising not to build sailboats for five years. "We retired for about a month," Henry laughs. Not two to sit around on their hands, Henry and Mike started a new company, Cabo Yachts, building sportfishing boats in the high desert west of Los Angeles.

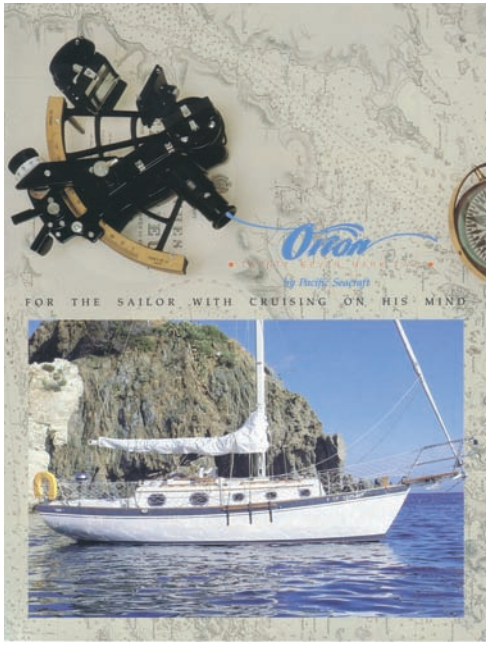
More recently, Mike and Henry's Cabo Yachts was sold and now is a member of the Brunswick Boat Group and its Hatteras Collection.

Don Kohlmann, co-founder of Ericson Yachts with his brother Gene, came on board as sales manager in 1991, when Pacific Seacraft bought some of Ericson's molds, the Ericson 34 and 38, designed by Bruce King. That line was expanded to the Ericson 333, 350, and 380 before being discontinued. The flagship of the fleet, the Crealock 44, was introduced in 1990, a year before Don joined the firm.

Singmarine sold Pacific Seacraft to a Southern California businessman in September 1998, and Don became president. His brother, Gene, joined the firm in a consulting



The Pacific Seacraft 37 was the first boat the company built that was designed by Bill Crealock, though Mike and Henry didn't commission this particular design. Between 1978 and 1979 a small company called Cruising Consultants, in Newport Beach, California, built 16 of them, some for owner completion, before selling the molds to Pacific Seacraft.



role. According to Don, Gene was "the operations guy." Both left in 2005.

Distinctive boats

The Crealock-designed boats are distinctive in several ways. Most obvious is the canoe stern, whose advantage is alleged to be the parting of following seas, thus preventing the cockpit from being pooped. While a broad, beamy transom can get pushed around by overtaking waves that also break at the propitious moment, it seems doubtful that a canoe stern offers any real advantage over, say, a modest CCA-type counter transom. A disadvantage is that there is no afterdeck to stand or sit on or to lash gear to. It's convenient to be able to walk around a cockpit without having to step down into it.

The underbodies of Crealock's boats are classic cruising fin keels with separate skeg-mounted rudders. The skegs add some directional stability and offer some protection to the rudder. Many designers would drop the skeg on boats bigger than the Pacific Seacraft 44 because, as size increases, so do loads on the helm, and the best way to offset those loads is to balance the rudder. This means that the leading edge must be forward of the pivot point or rudderstock, and that is only possible with a so-called spade-type rudder.

Like Carl Alberg, Bill Crealock is not a sucker for the marketing guys who demand great beam to enhance interior volume. Bill knows that boats with moderate beam and freeboard are more comfortable, handle better, and enjoy higher stability ratings. The 40, for example, has a limit of positive stability of 141 degrees; 120 is considered by many as the threshold for safe offshore passagemaking.

Company founders Mike Howarth and Henry Mohrschladt added to their line as they grew. Henry designed the first few models, including the Orion 27, which enjoyed a 12-year production run.

These days, Pacific Seacrafts are built in an old soft-drink factory in Fullerton, California, (having moved from Santa Ana) and enjoy a reputation for above-average quality. The hulls are molded in one piece.

Gone by the board

As with many builders, 24-ounce woven roving, the industry standard for decades to quickly bulk up the laminate, has gone by the board at Pacific Seacraft. Since 1993 the company has used biaxial stitched reinforcements, a savings of 500 pounds in the 37. Skin coats are vinylester resin, which has been proved in independent laboratory tests to resist blistering better than other resins. The remainder of the Pacific Seacraft laminate is polyester.

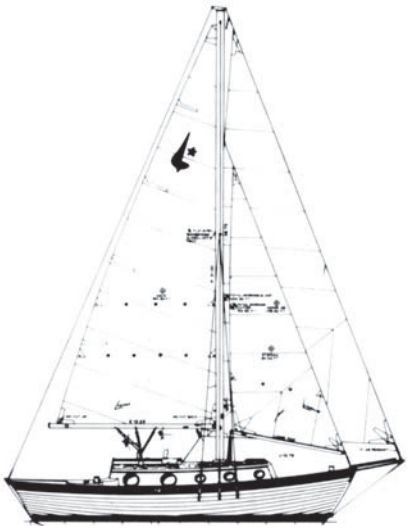
The smaller boats, up to the 37, have solid glass hulls. The 40 and 44 are balsa cored, the 40 in the topsides only and in the 44 to within 2 feet of the centerline. There's so much glass on the centerline itself that there's nothing to be gained in the way of stiffness by adding coring in that area. Plus, in the event of a grounding and puncture, cored hulls are much more difficult to repair. These are, after all, world cruising boats.

Balsa and plywood have been used to core the decks; the latter is heavier and doesn't need to be removed where hardware is through-bolted, as does balsa, but if it gets saturated with water, it's a mess. Rudders are mostly hung on steel-reinforced skegs, and have generous webbing welded to the rudder stock.

Ballast now is external lead castings, except for the Dana 24, which has a full keel and cutaway forefoot. Among the fin-keelers, the company reports that most buyers opt for the shoal-draft Scheel keel. Named after designer Henry Scheel who developed it, this keel has a bulb at the bottom to concentrate weight as low as possible, but is cupped to generate lift. Think of it as a forerunner of the wing keel, not as efficient but less vulnerable to damage. The company says the Scheel and standard keels provide the same righting moment, so while the shoal option may give up a few degrees of pointing ability, it doesn't give up stability.

Approximate production dates

Model	Years
Pacific Seacraft 25	1976-1981
Flicka	1979-1999
Mariah 31	1977-1983
Orion 27	1979-1991
Pacific Seacraft 37	1980-present
Pacific Seacraft 34	1985-present
Dana 24	1986-1999 2001-present
Pacific Seacraft 31	1987-1999 2002-present
Pacific Seacraft 44	1990-present
Pilothouse 32/Voyager 32	1993-1999
Pacific Seacraft 40	1995-present
Pacific Seacraft 40 PH	1996-present
Pacific Seacraft 377	2006-present
Ericson 333	1996-1999
Ericson 350	1991-1999
Ericson 380	1991-1999



Interior liners

True to Mike Howarth's early training and approach to boatbuilding, Pacific Seacraft still uses a lot of interior liners or pans in its boats. These have advantages and disadvantages. First, the downside: fiberglass liners are poor acoustic and thermal insulators when compared to wood; access to all parts of the hull (requirement of any boat, especially an offshore one) may be difficult if the pan hasn't been carefully designed; bonding of complicated liners to the hull and/or deck may be difficult; and, perhaps most importantly, liners severely limit customization of the interior later.

The legendary Flicka, designed by Bruce Bingham, astonishes first-time visitors with the amount of interior space found in this 20-footer. Production was discontinued, not from lack of customer interest, but because the cost to build it was as much as larger boats.

On the positive side, properly executed liners can stiffen the hull (though not necessarily any better than glass-over-foam longitudinals in a plywood-interior boat), do not rot or delaminate, and, most importantly, save the builder money. Once the cost of the tooling is amortized, there is great savings, thanks to reduced man-hours.

Pacific Seacraft finishes all fiberglass surfaces so there are no rough or fibrous surfaces behind the liners or elsewhere. A copper bonding strip is laminated into the hull for use as a single-sideband (SSB) radio ground.

The hull-to-deck joint is through-bolted, as it should be, and incorporates a nice bulwark for safer footing on deck. In recent years, Pacific Seacraft has followed the industry trend of removing exterior wood; gone are the teak toerails, in favor of metal.

Shrouds are bolted outboard through the topsides. This can make walking the sidedecks easier and eliminates the pesky through-deck fittings, which often leak. On the other hand, this widens the staying base. That means the rig is more secure, but you can't sheet in headsails as tightly as you might wish, so you give up some windward ability.

Better engine access

Other features include rack-and-pinion steering on many boats, rather than the usual cable-quadrant system. Cockpit soles are removable for better engine access. Interior teak joinerwork is acceptable but not as nicely finished as some similarly priced boats.

Pacific Seacraft has joined numerous other sailboat builders in offering powerboats to its customers. It builds and markets the 38T Twin Engine Fast Trawler and 38T Coastal Voyager.

The Pacific Seacraft 25 pre-dates the founding of the company. Mike Howarth and Henry Mohrschladt built the prototype in their spare time while still working at their jobs at Pacific Trawler. They exhibited the boat at the 1975 Newport Beach Boat Show, where its sale encouraged them to build another and form a company.

And, scheduled for release this summer, is the newly designed Pacific Seacraft 377, which will be resin-infused with all vinylester resin. Infusion captures more volatile organic compounds (VOCs) in the laminate, making the workplace safer, and helps achieve a more consistent glass-to-resin ratio. Vinylester resin also has better secondary bonding properties, which are important when glassing in engine beds and tabbing bulkheads.

Pacific Seacraft enjoys strong brand recognition today, as it has for many years. The company has earned this by building some of the most admired boats afloat.

Resources

Pacific Seacraft
1301 E. Orangethorpe Avenue
Fullerton, CA 92031
714-879-1610; Fax: 714-879-5454
<http://www.pacificseacraft.com>

The Clark Boat Company

Capitalizing on the 1970's trailersailer boom

by Mike Robinson

For nearly 25 years the Clark Boat Company built a line of small- to medium-sized racer/cruisers that introduced a lot of people, on both coasts, to sailing. The model line was named San Juan, after the islands north of Seattle. For Bob and Coral Clark, it was a family business, actively involving their three sons.

Designed in 1969 by Don Clark and introduced at the 1970 Seattle Boat Show, the San Juan 21 was one of the early trailersailers that quickly grew in popularity, owing to its mobility and the low cost of ownership.

The beginning

Coral Clark wrote a book titled *Learning to Sail — The Hard Way*, in which she tells how she and Bob got started, in Ohio, circa 1939. "We had been married a short time when Bob . . . announced he had bought a sailboat . . . Being from North Dakota, [I] said, 'What's that?' . . . We put her in the water at the Toledo Yacht Club and proceeded to learn how to sail. In those days you didn't go buy a book about it — there were none!"

After the Japanese attack on Pearl Harbor, Bob joined the Marines. While he was gone, Coral put a new canvas deck on their little boat and sold it, since she couldn't justify paying $2.50 a month for storage. When Bob returned home he soon began building a Lightning in their basement.

"She was beautiful," Coral wrote, " . . . mahagony planked, solid oak keelson . . . 685 brass screws, all plugged . . . and weighed 1,200 pounds; she was supposed to weigh 700!"

In 1960, the Clarks moved to Kent, Washington, to start a fiberglass boatbuilding business. While Coral worked as a nurse supervisor, Bob set about building the Clark Boat Company into a viable business. Their three sons — Don, Dave, and Dennis — attended school but helped out when they could. The first boat with the "Manufactured by Clark Boat Company" label was a Lightning, one of the first built of fiberglass. They also built OK dinghies, 505s, and Stars. Two Clark-built Stars took first and second places in the 1970 World Championships.

All the Clarks were involved in one-design racing. The success of their sons, mainly Dennis, would influence the design of the San Juan 21 in ways that clearly separated it from the competition. Dennis would later become a champion in four classes, including the International 14 and Thistle. He started the Clark Sails Loft in 1971. Don had a degree in engineering with additional training in naval architecture. He was very involved in the design of a number of their boats. Dave had a degree in management and entered the sales and marketing side of the business.

The C-Lark

The Clark's version of the International 14 was called the C-Lark 14, an open 295-pound daysailer. More than 1,000 were built. With a 5-foot 8-inch beam and 133 square feet of sail area, the C-Lark promised excitement somewhat stabilized by a swinging centerboard drawing 4 feet 9 inches. In its day, there probably were not many faster dinghies. Nevertheless, the boat has a roomy cockpit that will accommodate up to four on a leisurely daysail.

The Clarks used common manufacturing methods of the time: gelcoat applied to a hull mold, followed by a hand-laid laminate. The San Juan hulls, therefore, are quite solid when compared to boats manufactured entirely with a chopper gun. Less critical components, like the interior liner or pan, however, were sprayed in a mold using a less-expensive chopper gun. The decks were typically of end-grain balsa core sandwich construction, which was and remains the industry standard.

San Juan 21 is born

The young company's first model with interior accommodations was a trailer-sailer — the San Juan 21 (see review in March 2003). In addition to above-average construction, Don Clark gave it some unusual features: a fiberglass-skinned, foil-shaped keel and rudder, a real rarity at the time. In addition, the swing keel retracts completely into the hull, allowing for the ultimate in easy trailering and shallow-water launching. The third unusual feature is a gasketed keel trunk to minimize turbulence from the keel slot when the keel is in the down position.

The Clarks were confident they had a winner, but they needed to hustle to make the Seattle Boat Show in the winter of 1970. The first San Juan 21 was barely ready in time, but it was a hit, with seven orders. The San Juan 21 Mk I was designed for the Northwest, where rainy day sailing is a common occurrence and ventilation down below is nice but not essential. Hence, the first boats have no forward hatch. This contributed to a strong foredeck but little air circulation below for sleeping. Some later first-generation boats had a large, round, screw-in deck plate added for ventilation. The 1973 redesign of the Mk I deck added a forward hatch and softened the line of the cockpit coamings.

The boat's broad entry made it pound in a chop, but there was a reason for it. If the cross section were narrower, when crew went forward to tend the jib or set an anchor, the bow would sink or, worse, the boat might tend to roll. The SJ 21's broad entry eliminated that problem.

The 21 was easy to trailer and launch. Thanks to its narrow 7-foot beam and completely retracting keel, it rides low on the trailer (between the wheels, not above) and can be launched in 2 feet of water.

> **"Overall, 2,600 San Juan 21s were sold, a success by almost any measure."**

The 21 was a great success. The Clarks organized the first San Juan 21 Championships in 1971, and by 1972 the company had produced 400, with another 250 projected for the following year. Overall, 2,600 San Juan 21s were sold, a success by almost any measure.

The Eastern U.S.

The Clarks, Don in particular, saw new markets east of the Mississippi River and began a push toward a larger East Coast presence. They responded by searching for a site for an East Coast factory. By late 1970, it was evident that the Clark sons could manage the western operation (Don was now president and chief engineer), so Bob and Coral moved to New Bern, North Carolina, to assist with the management of the new factory.

In 1972, Bob and Coral helped form the Blackbeard Sailing Club, which remains a hotbed of San Juan racing. In 1973, they sponsored the first in-the-water boat show the eastern North Carolina area had ever seen.

Resources

<http://www.sanjuan28.org>
A great site for information on all types of Clark and San Juan sailboats.

<http://www.sanjuan28.org/othersys.htm>
A good place to begin looking for other San Juan sites.

San Juan 24

Riding the success of the SJ 21, the Clarks embarked on a larger boat, a true keelboat — the San Juan 24, designed by Canadian Bruce Kirby. Most noted for his design of the Laser, Bruce was brought in to develop a boat that would be competitive in the IOR quarter-ton class. Bruce was well known to the Clarks; they'd been building his Mk IV International 14 for a few years. The San Juan 24 has typical IOR features, like the pinched-in stern and tiny transom. For cruising and trailering, Don restricted draft to 4 feet and beam to 8 feet.

Bruce recalls the SJ 24 as "…one of my favorite wee yachts, and still my most successful design, except for the Laser. Looking back after 30 years…I feel that Don's decisions might have been right, as the boat became remarkably popular and, in fact the restrictions might not have hurt performance very much. More beam would have helped with stability by getting the crew farther outboard, and later quarter-tonnners were much wider."

The San Juan 24 was the first keelboat Bruce had designed. In doing his research, he polled friends in the sailing community, particularly George Cuthbertson of C&C Yachts. George helped Bruce understand some of the terminology in the IOR. Bruce confessed to being nervous about the boat's performance, saying later, "I was particularly happy when Don Clark phoned me after the first sail in the boat to say that it had all gone very well. I asked him what the wake looked like, and he said, 'What wake?'"

As hull number 1,000 rolled off the line in 1978, the boat's IOR days were heading to a close, but its one-design future was and remains bright. The San Juan 24's legacy also is assured: it is the most popular quarter-tonner ever.

Changes to the 21

A radical redesign of the SJ 21's deck led to the Mk II in late 1974. This occurred around number 1,000. The hull remained unchanged, but the deck was transformed to allow for more interior space. The cabin sides were now flush with the sides of the hull, the cabin came 18 inches farther aft, and the foredeck was one continuous line from the mast to the bow.

All things come at a price, and the cockpit was reduced. Both the Mk I and II were built concurrently until the last Mk I was produced in 1977. New molds were made from time to time, to preserve quality.

San Juan 30 and 26

In 1975, Bruce Kirby again teamed up with the Clarks to develop the San Juan 30 half-tonner. This big San Juan was designed to build on the success of the SJ 21 in one-design and PHRF racing and the SJ 24 in IOR racing. Bruce did a lot of work on the project, but the Clarks believed it might not be wise to spend the money on the bigger boat and put the project on hold. Bruce, however, had grown fond of the design and had one built by the Gougeon Brothers as their first major monohull project. The boat was the 30-foot *Accolade*, cold molded in cedar and finished with varnished topsides. In addition to being beautiful, she was fast, winning a lot of races.

Bruce recounts, "We won class and overall in the Riverside-Stratford Shoal Race by 22 minutes corrected time in a large mixed fleet." *Accolade* also won class in the 230-mile Vineyard Race by

San Juan 21*
Designer: Don Clark
LOA: 20 feet 6 inches
LWL: 17 feet 6 inches
Beam: 7 feet 0 inches
Draft: 4 feet 0 inches
Displacement: 1,250 pounds
Ballast: 400 pounds
Sail area: 190 square feet
Displ./LWL ratio: 104
SA/Displ. ratio: 26
PHRF rating: 252
*Mk II shown

San Juan 23
Designer: Don Clark
LOA: 23 feet 6 inches
LWL: 20 feet 4 inches
Beam: 8 feet 0 inches
Draft: 1 feet 11 inches board up
Draft: 4 feet 9 inches board down
Displacement: 2,700 pounds
Ballast: 960 pounds
Sail area: 234 square feet
Displ./LWL ratio: 144
SA/Displ. ratio: 19.3
PHRF rating: 252

San Juan 24
Designer: Bruce Kirby
LOA: 24 feet 2 inches
LWL: 19 feet 0 inches
Beam: 8 feet 0 inches
Draft: 4 feet 0 inches
Displacement: 3,300 pounds
Ballast: 1,600 pounds
Sail area: 241 square feet
Displ./LWL ratio: 215
SA/Displ. ratio: 17
PHRF rating: 216

San Juan 7.7
Designer: Don Clark
LOA: 25 feet 9 inches
LWL: 20 feet 0 inches
Beam: 9 feet 6 inches
Draft: 4 feet 0 inches
Shoal Draft: 3 feet 3 inches
Displacement: 3,200 pounds
Ballast: 1,100 pounds
Sail area: 304 square feet
Displ./LWL ratio: 179
SA/Displ. ratio: 22
PHRF rating: 198-201

36 minutes and beat all of the boats in three of the five classes above them.

These racing successes sold the Clarks on the design. They bought the mold over which *Accolade* had been built, added ⅝ inch to it (the thickness of *Accolade's* skin) and made the plug for the San Juan 30. They offered two interiors, one just like *Accolade's* with upper and lower quarter berths and only a head forward of the mast. The cruising version has a traditional layout.

The Don Clark-designed San Juan 26 also debuted in 1975. This was a keel/centerboard boat for the large trailerable cruiser market. It had a deep keel option, though few were made. With its shallow draft and easy launch capability, it was targeted for East Coast sailors. For racing, the San Juan 26 has a PHRF rating of 246, which is not much faster than the 21, and certainly behind her little sister, the SJ 24, at around 216 in the larger fleets.

The 26 has standing headroom and a head compartment. As the advertised weight was 4,400 pounds, one needed more than a small car to trailer it. The SJ 26 did not fit the raceboat culture of Clark, however, and was deemed by some as not attractive. In 1979, the more race-friendly San Juan 7.7 replaced it.

San Juan 23 and 28

The San Juan 23, one of 1977's new entries, was a scaled-down SJ 26, with a large cabin and smaller cockpit than many of its contemporaries. The 23 was listed at 2,700 pounds with 960 of that in the keel/centerboard, though like many Clark boats, it came in heavier than intended. It was advertised with more than 5 feet 8 inches of headroom and accommodations for five.

With a PHRF of 240, it was at least as fast as the SJ 26 and much easier to trailer. The 23 also came in a fixed keel/tall mast version, although the vast majority built had the keel/centerboard/short mast combination. This boat showed its Clark racing heritage by offering some items not usually found on cruising boats of that era: mid-boom sheeting, traveler, and racing blocks. It is a solidly built boat, featuring a through-bolted hull-to-deck joint incorporating an inward-turning hull flange on which the deck rests.

The 23 was similar to the SJ 24 in styling and in rig — both are masthead sloops able to set large genoas. The 23 doesn't sail well under main alone and likes to be kept on its feet to sail swiftly. That said, it can be quite competitive in PHRF. The SJ 23 sold well; close to 700 were built.

"The San Juan 24's legacy also is assured: it is the most popular quarter-tonner ever."

On the heels of the SJ 23 was the San Juan 28 and, later, the San Juan 29, designed by Don Clark. More than 300 San Juan 28s were built after its introduction in 1978. It became one of the most popular boats in the Clark line. The difference between the SJ 28 and 29 is really nothing more than the builder. The 28 was built by the Clark Boat Company; the 29 (an SJ 28 with a few cosmetic changes) was built by the company that succeeded it, San Juan

San Juan 26
Designer: Don Clark
LOA: 25 feet 11 inches
LWL: 21 feet 8 inches
Beam: 8 feet 0 inches
Draft: 2 feet 3 inches board up
Draft: 5 feet 0 inches board down
Displacement: 4,400 pounds
Ballast: 2,000 pounds
Sail area: 252 square feet
Displ./LWL ratio: 193
SA/Displ. ratio: 15
PHRF rating: 246

San Juan 28 & 29
Designer: Don Clark
LOA: 28 feet 8 inches (SJ 28)
LOA: 28 feet 10 inches (SJ 29)
LWL: 22 feet 4 inches
Beam: 10 feet 0 inches
Draft: 4 feet 6 inches
Displacement: 6,200 pounds
Ballast: 3,100 pounds
Sail area: 385 square feet
Displ./LWL ratio: 250
SA/Displ. ratio: 18
PHRF rating: 191

San Juan 30
Designer: Bruce Kirby
LOA: 30 feet 0 inches
LWL: 23 feet 8 inches
Beam: 10 feet 0 inches
Draft: 5 feet 4 inches
Displacement: 7,200 pounds
Ballast: 3,550 pounds
Sail area: 402 square feet
Displ./LWL ratio: 245
SA/Displ. ratio: 17
PHRF rating: 168

San Juan 34
Designer: Hein Driehuyzen
LOA: 33 feet 10 inches
LWL: 27 feet 11 inches
Beam: 10 feet 11 inches
Draft: 5 feet 11 inches
Displacement: 10,500 pounds
Ballast: 4,800 pounds
Sail area: 548 square feet
Displ./LWL ratio: 217
SA/Displ. ratio: 18
PHRF rating: 132

Manufacturing. There is a rumor that the 28 was simply a downsized version of the San Juan 30, but this is not true.

The San Juan 30 is a Bruce Kirby design and, while there is a family resemblance, the SJ 28 is a different boat. A quick look at the underbody of the hull confirms that. A year after its introduction, the SJ 28 finished second at *Yachting's* One-of-a-Kind-Regatta in Annapolis, Maryland, finishing behind a San Juan 24.

A shortcoming the SJ 28 shares with the SJ 21 Mk II, as well as the 23, 24, and 26 is the potential for rot in the wooden bulkhead in the cabin to which the chainplates are attached. The early Clark boats had no cap over the slot in the deck through which the chainplates pass, relying entirely on caulk to prevent water from migrating to the bulkhead. Later boats had caps fitted.

"More than 300 San Juan 28s were built after its introduction in 1978. It became one of the most popular boats in the Clark line."

San Juan 7.7

The San Juan 7.7 was introduced in 1979. With the IOR rule no longer a factor, and the San Juan 26 not performing as hoped, Don Clark decided to fix the shortcomings that the IOR rule had imposed on the popular SJ 24. Its narrow beam, a requirement for trailering, had significant limitations. Downwind performance had always been an issue, due to its narrow aft sections. The bar for Don Clark's new design had been set very high. He had to design something faster than the famous SJ 24, and something that would challenge the hot newcomer from the East — the J/24. The result was a whole new raceboat in the mid 20-foot range, the San Juan 7.7. The Clarks still believed in the concept of the racer/cruiser, so the SJ 7.7 had significantly better accommodations than a J/24.

In the days before extensive computer testing, exact ballast amount and placement was often a designer's best guess until sea trials could be completed. The SJ 7.7 displaced 3,200 pounds with a 9-foot 6-inch beam. It came only with a fixed keel and was a bit underballasted at the outset. The thought was that light weight improved speed and that adding ballast was easy with a wide beam boat by just putting more crew on the rail.

As a result, the SJ 7.7, as initially designed, was simply overpowered. The fix was a shoe fitted to the bottom of the keel, adding 4½ inches to its 4-foot draft and 125 pounds to its displacement. The boat is listed as 1,000 pounds lighter than the 26 it replaced and the performance improvement was nothing short of incredible. The improvement over the performance of the SJ 24 was not so dramatic, however the downwind stability was distinctly better.

Though not meant to be an ocean racer, an SJ 7.7 won a leg of the Conch Republic Cup race in May 2002. The race series, from Key West to Cuba, pitted American and Cuban boats during a lull in the hostilities between the countries. The SJ 7.7 carried on the "wedge deck" styling that was popular from the mid-1970s on, something of a San Juan family trademark. It gave a sleek look to the boat but limited headroom forward. Around 200 SJ 7.7s were built.

Into the 1980s

The racing future for Clark boats continued to look promising. The 1977 San Juan 21 Eastern Nationals in Columbia, South Carolina, drew an amazing 58 boats. The 1980 and 1981 events in Columbia and Charlotte drew even more: 70 and 63 boats respectively. And by 1978, Clark Sails was the largest sail loft in the Pacific Northwest.

San Juan 34 and 33

In 1980, the company introduced its largest sailboat yet, the San Juan 34. The hull is foam-cored. Standing rigging is rod. Draft is 6 feet. Many owners have described the 34 as bulletproof and very fast. The 34 generally rates 130 PHRF. Many of the 34s were configured as racers with pipe berths, but others were cruising class with more finished interiors. The layout is classic with a very long forward V-berth. The head is a little cramped for showering.

The SJ 34 began life as the Crown 34, manufactured by several Pacific Northwest companies. The original design was by Hein Driehuyzen, who worked as the manager of Calgan Marine in North Vancouver, British Columbia. It was designed in 1974 to the IOR rule with a large foretriangle, tall mast, and narrow transom. Hull #3 was launched in August of 1975 as *Moody Too* and is still owned and actively raced by the original owners. The molds were sold to GlassFab of Monroe, Washington, which built the boat as the Sun Yacht 1030. The molds were later sold to the

Clark Boat Company. Don Clark mildly redesigned the boat, removing the skeg, modifying the galley, and adding mid-boom sheeting. Around 50 San Juan 34s were sold between 1980 and 1988. All three versions of this design are active in the Pacific Northwest PRHF racing scene.

The last Clark boat, the San Juan 33, is a bit of a mystery boat; it was produced by Clark for only two years — 1981 and 1982. Designed by Dave Pedrick, the San Juan 33 displaces just 6,000 pounds. It is a fast racer with a PHRF of 129 to 141 in fleets in Tennessee, Arizona, Florida, and Lake Champlain. The San Juan 33S is also known as an Eagle 33.

Boom and the bust

The sailboat market that had boomed in the 1970s was quickly fading as the 1980s progressed. The Clarks sold their company in the spring of 1984 to San Juan Manufacturing, which made boats for a few years. The bankruptcy of this group led the boat molds and rights to be split between two groups, one on the West Coast and one on the East Coast.

The eastern group used the molds to make a few boats in the Tanzer factory in Edenton, North Carolina. Both of these groups continued to make boats until 1988. Boats made in mid-1984 and after would be post-Clark. Many of the post-Clark boats had minor cosmetic changes to keep up with the changing styles.

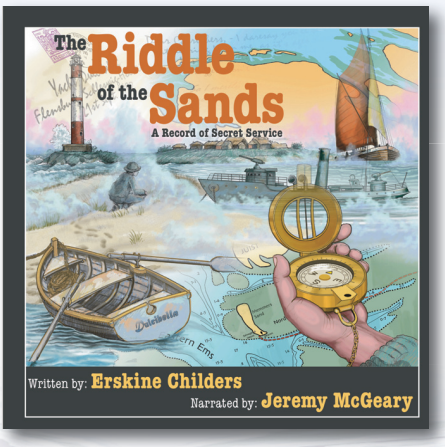
Bob and Coral Clark continued to live and support San Juan sailing in North Carolina until their deaths. They sailed a San Juan 34 named *Big Juan* for many years in eastern North Carolina. Don runs a bicycle shop in Ventura Beach, California, and Dennis owns a cabinetmaking shop in Gig Harbor, Washington. Dennis still sails actively, most often in the Laser Class.

Mike Robinson loves sailboats so much his wife Nan has asked him to put a cap on the number of boats the family can own. Mike holds a 50 GT Masters license and is an active racer of a San Juan 21 and a Sunfish. He enjoys cruising North Carolina's Outer banks.

San Juan 33

Designer: David Pedrick
LOA: 33 feet 0 inches
LWL: 27 feet 9 inches
Beam: 7 feet 11 inches
Draft: 5 feet 11 inches
Displacement: 6,000 pounds
Sail area: 464 square feet
Displ./LWL ratio: 125
SA/Displ. ratio: 22.5
PHRF rating: 129-141

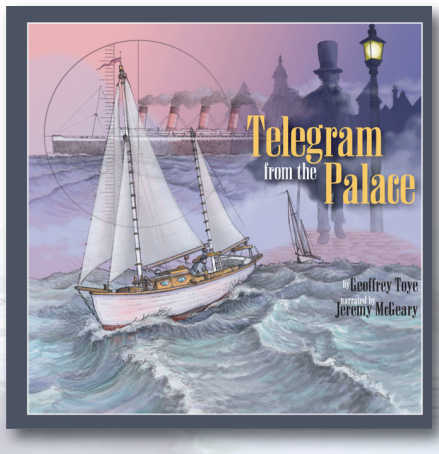
Thrills, Chills, and Suspense at Sea!



The Riddle of the Sands

by Erskine Childers

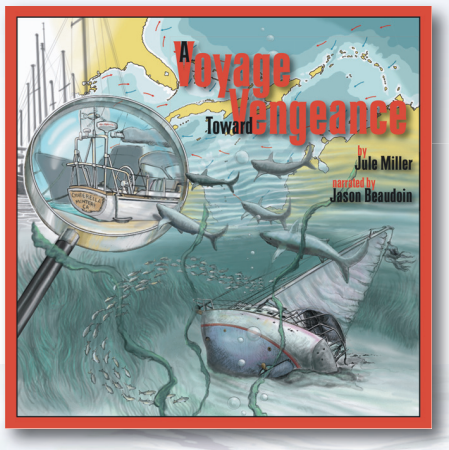
While sailing in the Baltic Sea, two men uncover a secret German plot to invade England. The Riddle of the Sands (written in 1903) was heralded as the first true spy novel, written by Childers to encourage the British government to bolster their presence in the North Sea. This story features equally thrilling scenes of espionage and adventures at sea. A real classic brought to life by the talented voice of Jeremy McGeary.



Telegram from the Palace

by Geoffrey Toye

Jack the Ripper in the 1880s. The sinking of the *Lusitania* during World War I. The British Royal family. Modern- day lovers enmeshed in life-threatening events they can't control and don't understand. You won't be sure until the very end who the good guys are and what motivates the heroes and villains. An adrenaline-filled thriller by Geoffrey Toye.



A Voyage Toward Vengeance

by Jule Miller

Missing persons, murder, sunken vessels, unlikely comrades, and a couple of real sociopaths will frighten and entertain the adult listener of this nautical fiction by Jule Miller. There are plenty of realistic sailing scenes and good nautical detail but not enough to prevent the non-sailor from appreciating the tale. Readers will find it difficult to sleep at night. For adults only.

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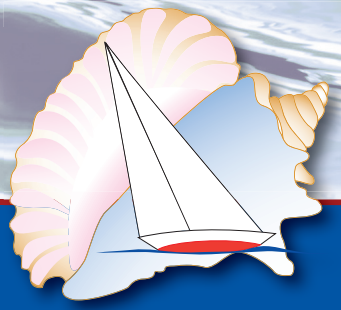

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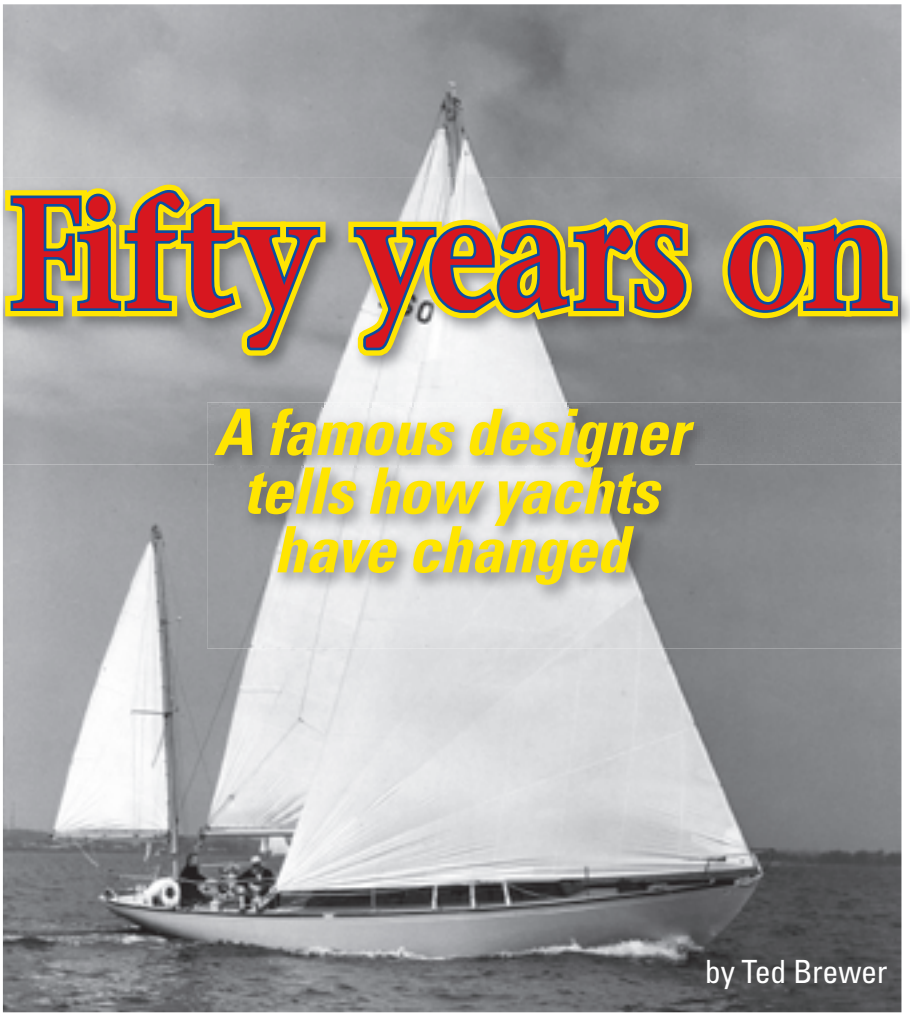


COURTESY OF SPARKMAN & STEPHENS

Fifty years on

A famous designer tells how yachts have changed

by Ted Brewer

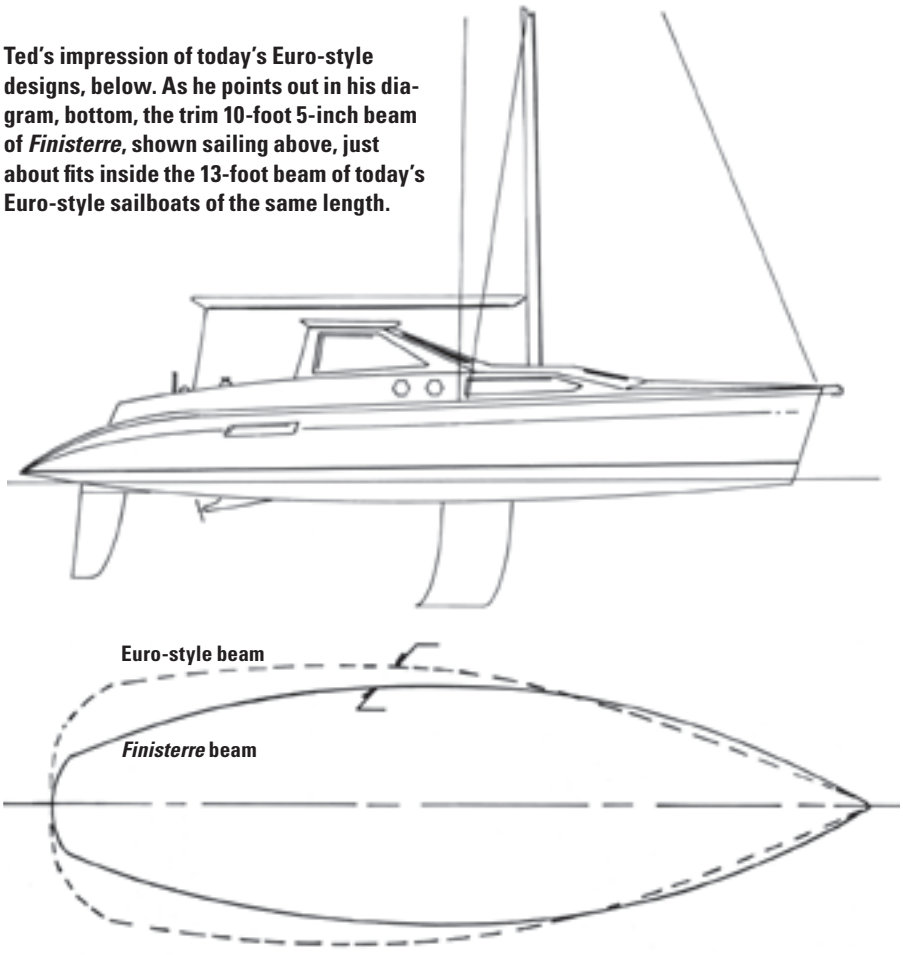
GOOD OLD BOAT 1998-2008

In honor of *Good Old Boat's* 10th anniversary, I thought it would be interesting to look back over the changes in small-boat design in the 50-some years that have passed since I was discharged from military service in May 1957. That's when I got into the boating business, beginning as a yacht broker at George Cuthbertson's Canadian Northern Company, later to become famous as C&C Yachts.

My father served with the Canadian Navy so I learned to sail on 27-foot navy whalers and 14-foot dinghies when I was a teenager, but I knew literally nothing about the sailing yachts of the late 1950s and I was keen to learn. Thanks to George and his partner, Peter Davidson, I found a berth aboard *Vision*, a 48-foot Eight Meter sloop, sailing out of Toronto's Royal Canadian Yacht Club. There was an active fleet of Eights in Toronto, with races twice weekly plus weekend regattas at various ports around Lake Ontario. It was a great start to my career, as it gave me the opportunity to see and race against all types of yachts, from 25-foot Folkboats and 27-foot Tumlarens to large 50- to 60-foot cruiser/racers.

At the time, George Cuthbertson was designing a new 54-foot keel/centerboard (keel/cb) yawl; construction had already started at Cliff Richardson's yard in Meaford, Ontario. The keel/cb type was popular in those days, as the Cruising Club of America (CCA) handicap rule favored long overhangs, short waterlines, husky displacement, shoal draft, good beam, and yawl rigs. Olin Stephen's 1954 design of *Finisterre*, the keel/cb yawl (pictured on this page), combined these features, with a length overall of 38 feet 6 inches on only a 27-foot 6-inch waterline, 11-foot 3-inch beam, a board-up draft of only 3 feet 11 inches, and, at 18,640 pounds of displacement, a very husky 400 D/L ratio. In the late '50s and early '60s, *Finisterre* was winning major coastal and offshore races, including several Bermuda Races, and cleaning up the competition. As a result, other designers started drawing up their own ver-

Ted's impression of today's Euro-style designs, below. As he points out in his diagram, bottom, the trim 10-foot 5-inch beam of *Finisterre*, shown sailing above, just about fits inside the 13-foot beam of today's Euro-style sailboats of the same length.



sions of the type, producing keel/cb cruiser/racers ranging from Bill Shaw's exquisite little 24-foot yawl, *Trina*, to George's handsome 54-foot *Inishfree*.

Of course, there were plenty of CCA-type deep-keel yachts sailing and racing as well, many of them built in the 1930s, along with many newer ones designed and built post-war from the boards of Olin Stephens, Bill Luders, Phil Rhodes, Ray Hunt, John Alden, Laurent Giles, and other talented designers in North America and abroad. Fiberglass construction was in its infancy in the late 1950s, so these boats were custom-built, usually of wood, and designed primarily as cruising yachts with racing potential as a plus, but only if they were successful at bringing home the silver.

No large facilities

Even the smaller yachts were custom-built, as there were no large production facilities turning out great numbers of boats and, for that matter, no demand for great numbers of boats either. Bill Luders was building the 26-foot Luders 16s of hot-molded wood construction, but the quantity turned out was very small by modern standards. The 25-foot Folkboats that we imported, used, from Denmark were built by the score in Scandinavia, but each shapely lapstrake hull was individually built to order in small boatyards.

I sold several Folkboats while working for George and greatly envied their lucky owners. The boats cost about $2,500 delivered to Toronto but, compared to a modern 25-footer, they were very stark indeed. There was no engine and only sitting headroom in the cabin. The primitive galley had no running water, sink, or icebox. The stove, if there was one, was usually a single-burner kerosene Primus that would flare like a volcano when fired up.

The cabin featured only two settee berths with an exposed toilet or a bucket up forward. A few of the boats had two children's berths in the forepeak. But these models were the exception, as you can only put so much into 19 feet of waterline. The cockpit was deep and comfortable but not self-bailing and that, in itself, would frighten off many of today's sailors. Yet the Folkboats raced in all weather, won their share of heavy-weather events, and sailed all over the Great Lakes and coastal waters with their happy crews. Indeed, several modified Folkboats sailed and raced across the Atlantic.

Larger yachts were not much better off in their accommodations. It was generally considered that no boat less than 30 feet in length overall could have standing headroom. Even 30- to 40-footers (and larger) lacked pressure water systems. Galley sinks were supplied by hand pump. The boats had no water heater, no electric refrigeration, and little decent lighting, as you could only do so much with the puny 6-volt batteries that were the standard in those days. Indeed, kerosene navigation and anchor lights were quite common; otherwise, you could run down the weak little car battery overnight and awaken to find that you owned a true 100-percent sailboat.

Hand-crank starting

The gasoline engines of that era were low-compression types, and many small engines had the luxury of a hand crank to start them when the battery died, as it so often did. Diesel engines were unheard of except in larger yachts and, even then, of low power by today's standards. As I recall, the heavy-displacement, 54-foot *Inishfree* had only a four-cylinder Mercedes diesel of about 40 horsepower. She managed quite well with it, but many owners of 40-footers would consider that to be inadequate power today.

The necessity for custom building in wood kept the price of a new yacht on the high side and the numbers built relatively small. Yachting definitely was a gentleman's sport, a wealthy gentleman's sport by today's standards. Then, in the late 1950s, things began to change, with the introduction of fiberglass-reinforced plastic (FRP) construction. The U.S. Navy experimented quite successfully with FRP personnel boats in the late 1940s, but the first large FRP yachts were not pro-

***Protégé*, Brenda and Gary Everingham's Pearson Triton (reviewed in the May 2000 issue); a Cal 40 named *Wings*, owned by several couples in Seattle (reviewed January 2002); and Ted Brewer's Cape North 43 design, based on his all-time favorite one-off, *Black Velvet II*.**

ED LAWRENCE

Gordon Dunn's Douglas 31, *Fling,* and Greg and Jill Delezynski's Nor'Sea 27, *Guenevere* (featured in the November 2002 issue).

duced until 1956, when Fred Coleman introduced the handsome Phil Rhodes-designed Bounty II, a keel sloop [*no centerboard –**Eds.***].

Other large production yachts soon followed and, in 1957, Bill Tripp designed a keel/cb yawl that was first produced by a Dutch yard as the Vitesse class. Later the molds were shipped to the U.S. and built as the Block Island 40. Bill followed this up in 1959 with the Bermuda 40, another successful CCA keel/cb yawl, for the Henry R. Hinckley Company, which until then had been building wooden yachts.

The Carl Alberg-designed 22-foot 6-inch Sea Sprite, introduced in 1958, was primarily a daysailer with weekend aspirations. The big surprise at the 1959 New York Boat Show was another Alberg design, the first true production small cruising yacht, the Pearson Triton. With her standing headroom and an introductory price of $9,700, the little Triton was such a success that Pearson built 750 of them before production stopped in 1966.

With the Triton's success, Carl Alberg became one of the major cruising yacht designers of the 1960s, specializing in full-keel sloops with long ends, narrow beam, good draft, husky displacement, a high ballast ratio, and a flattish sheerline. Alberg designs were popular and built by Pearson, Whitby, Cape Dory, Ryder, and others for many years. The last Alberg 30 rolled out of the Whitby plant in 1987, some 25 years after the launch of the first one!

In 1963, the beginning of the end came for the CCA full-keel and keel/cb cruiser/racers, when the first of the Bill Lapworth-designed Cal 40s was built by Jensen Marine in California. The next winter a Cal 40 won the prestigious Southern Ocean Racing Conference (SORC), but the real clincher came in 1966 when *Thunderbird* won the Bermuda Race and five of her Cal 40 sister ships finished in the top 20 in the fleet. Bill Lapworth's breakthrough design combined light displacement (D/L ratio 248), a long 30-foot 4-inch waterline, generous 11-foot beam, and a sail area/displacement ratio of 18 with a fin keel and spade rudder to reduce wetted surface. On top of that, Lapworth set the chainplates inboard to reduce the sheeting angle and also gave the hull flat bilges to enable the boat to get up and surf in favorable conditions, helping her win the Transpac Races in 1965, 1966, and 1967.

"It was generally considered that no boat less than 30 feet in length overall could have standing headroom."

Keel discussions

For the next few years there was considerable discussion about the merits of fin-hull designs, and many designers stuck to full-keel types, particularly for cruising yachts. Indeed, my first production design after leaving Luders in 1967 was a full-keel cruiser, the Douglas 31, a standard CCA-type hull with the long ends and other general features of that rating rule. Other designers were experimenting with fin hulls, particularly if the boats were cruiser/racers, and the fins grew increasing smaller fore-and-aft as time passed. *Practical Sailor* summed it up by noting that the Cal 40's fin was small compared to a full-keel hull of its day but, when compared to a contemporary fin, it hardly justified the name. Such is progress.

In lateral shape, designers experimented with rakishly raked fins and fins that looked as if they had been modeled after a shark. They certainly appeared to be fast, but over the years the fin's leading edge has become less raked and the trailing edge almost vertical. Still, many boats were very CCA-ish in the late 1960s, with long ends, short waterlines, and husky displacement . . . even if they did sport a fin. Despite the Cal 40's success, it appeared that few designers took Lapworth's other innovations seriously for racing under the CCA rule or, across the pond, under the Royal Ocean Racing Club rule.

This began to change in 1969 when the International Offshore Rule (IOR) was developed. This rule measured displacement not, as the CCA had, by designer's certification or, later, by actually weighing the boat, but rather by measurements taken from the hull. Naturally, it did not take designers very many years to figure out how to beat the rule with distorted bulges and even chines in the hull to increase the

"displacement factor." Ends became very pinched to exploit the rule, and the boats came out with V-shaped transoms and diamond-shaped deck plans. The rule eventually produced unseaworthy yachts in the quest for low ratings. This resulted in many boats being abandoned and lost — and 15 sailors died — in the 1979 Fastnet Race when the fleet was hit by an unusual freak storm.

Sensible, seaworthy designs

Even before this tragedy, cruising yachtsmen had grown away from the extreme IOR boats, and many fine, seaworthy fin-keel and full-keel yachts were developed to meet a demand for a sensible and seaworthy auxiliary cruiser with good performance. In any case, I was never keen on the IOR rule and was not interested in producing such freak boats. My own favorite design is a custom one-off cruiser, *Black Velvet II*. She was a 43-foot fin-hull, skeg-rudder cutter with a 35-foot 4-inch waterline and a D/L ratio of 251 that I designed in 1971. *BV II*, as I call her, was later put into production in Hong Kong as the Cape North 43, and the latter won a few notable ocean races. Still, the true *raison d'être* for the design was to provide her Montreal owner with a weatherly yacht to tackle the annoying headwinds of Lake Champlain, while being capable of voyages to Bermuda, the Caribbean, or even transatlantic when time permitted.

Many other designers also created fine non-IOR cruising yachts, both full-keel and fin-hull but, in 1974, Bob Perry's Valiant 40 fired the cruising sailor's imagination. The Valiant is a fin-hull, skeg-rudder cutter, 39 feet 11 inches overall on a 34-foot waterline with a D/L ratio of 256. Its double-ended hull with a full deckline and a Scandinavian-shaped stern was apparently based on the marketing success of the very, very full-keel Westsail 32. Bob felt that a truly well-performing double-ender would attract sailors, and he was right. The Valiant 40 was a great success from the start but, when one sailed by Francis Stokes in the 1980 OSTAR singlehanded transatlantic race won its class and was the first American monohull to finish, the boat became legend.

By this time the serious ocean-racing sailor and the cruising/racing sailor were parting ways. The IOR rule gave way to the International Measurement System (IMS), but it has also created problems. The Royal Ocean Racing Club finally came out with its own rule that was approved for international competition in 2004. Now different areas of the world sail under different rules, and racing appears to be fragmented. I have not followed handicap rule development in the last few years as it simply does not interest me anymore. When racing yachts started to sport advertising slogans and well-paid professional crews, I quit paying ocean racing any attention whatsoever.

"Euro-design in boats is all the rage … such radical streamlining seems unnecessary on a vehicle that will rarely travel faster than a man can run."

Plenty of amateurs

Of course, there have always been, and always will be, thousands of true amateur sailors, who enjoy taking part in club racing and overnight events in boats that are fast cruisers or vintage

A pair of Valiant 40s: Scott and Jennifer Brigham's *Pendragon* and Bob Morris' *Apogee*.

racers but are not necessarily the ultimate in new rule-beating racing design with the latest equipment. Fortunately for these folks, the popular Performance Handicap Racing Fleet (PHRF) rule allows them to compete fairly with a wide variety of boats.

There are also many sailors who never race and who swear by the steadiness of full-keel designs, such as Bruce Bingham's little Flicka, Lyle Hess' Nor'Sea designs, the chunky and able Island Packets, the very husky Hans Christians, and similar craft of even older vintage. However, the mainstream design of cruising yachts has changed significantly over the years, as owners demand more accommodations, greater amenities, and improved performance. Fin hulls with spade or skeg rudders are widely accepted for inshore and bluewater cruising, while the boats have grown in waterline length and beam and, at the same time, lost heaviness. The great majority of designers and builders turn out able, good-performing cruisers, but some contemporary yachts are so beamy and of such light displacement that I would hesitate to take them very far offshore, regardless of their size. That includes some craft as large as 60 feet.

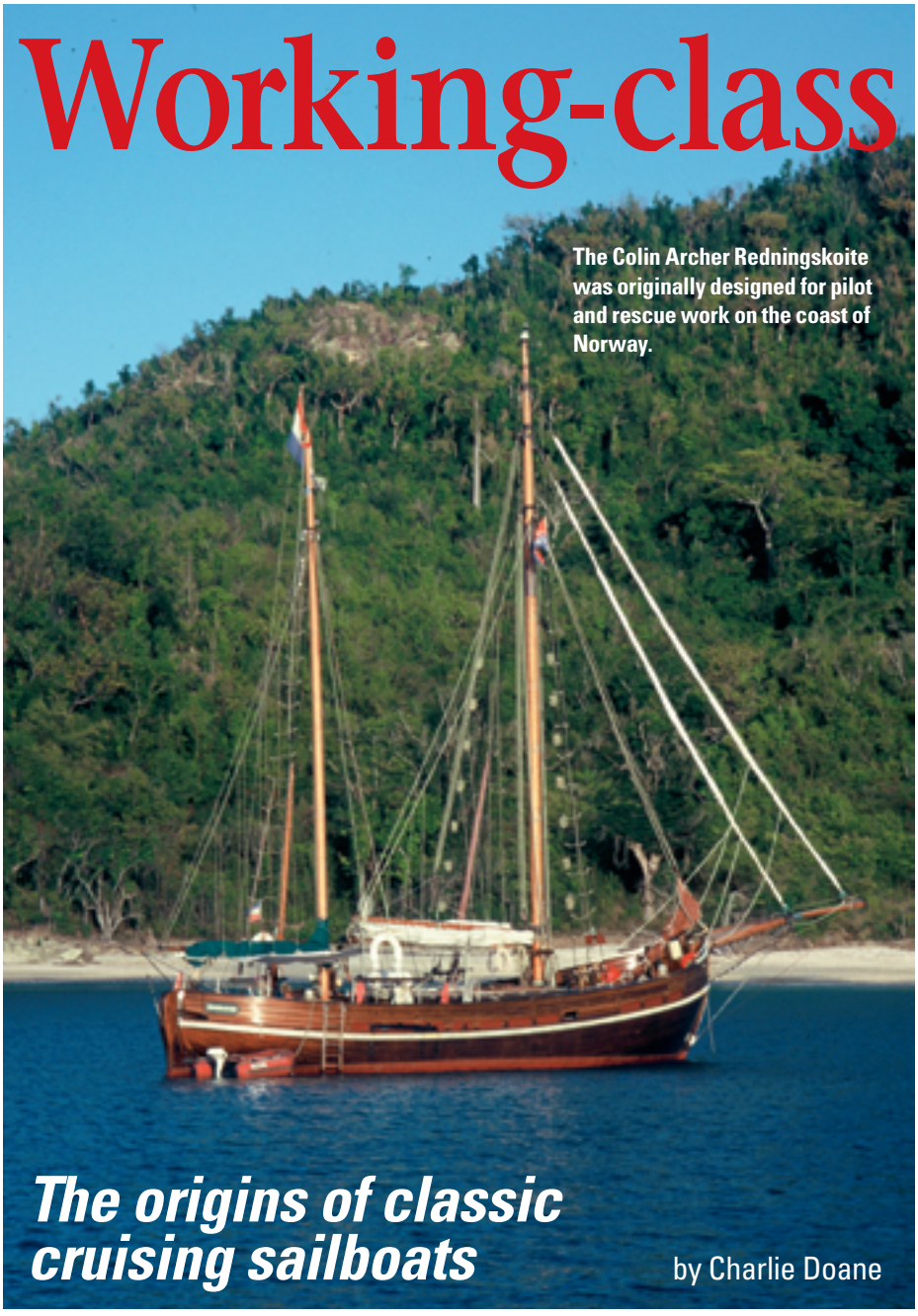
In addition, imports from Europe in the last two decades have given many newer sailors a very different idea of what a boat should look like compared to the yachts of 30 years ago. Today, Euro-design in boats is all the rage, featuring a flat sheer, high freeboard, reverse transom (preferably with sugar scoop), super-wide stern, super-light displacement, and deep, narrow fin. The trunk cabin is streamlined like a Buck Rogers rocketship but, to me, such radical streamlining seems unnecessary on a vehicle that will rarely travel faster than a man can run.

Such boats would have L. Francis Herreshoff rolling in his grave and, frankly, they do nothing for me either. That is to be expected after the years I've spent admiring and studying the work of so many of the truly great yacht designers both in North America and Europe. Indeed, I still long for the days of the old CCA rule and the handsome and able yachts that were produced: a little short on accommodations and all modern conveniences, perhaps, but long on beauty and seakindliness.

Fortunately, there are designers alive today — men like Bill Crealock, Mark Ellis, German Frers, Rod Johnstone, Chuck Paine, Bob Perry, and others — who can still draw a sweet sheerline, balanced ends, and a generally handsome, well-performing, cruising-yacht design, no matter whether it is of traditional or contemporary styling or of wood, fiberglass, or metal construction. Fortunately, too, there are still owners who appreciate such fine, well-thought-out, and beautiful yachts and the craftsmen who can build them.

Ted Brewer is a contributing editor with Good Old Boat *and one of North America's best-known yacht designers. He also is the man who designed scores of good old boats . . . the ones still sailing after all these years.*

Working-class heroes



The Colin Archer Redningskoite was originally designed for pilot and rescue work on the coast of Norway.

The origins of classic cruising sailboats

by Charlie Doane

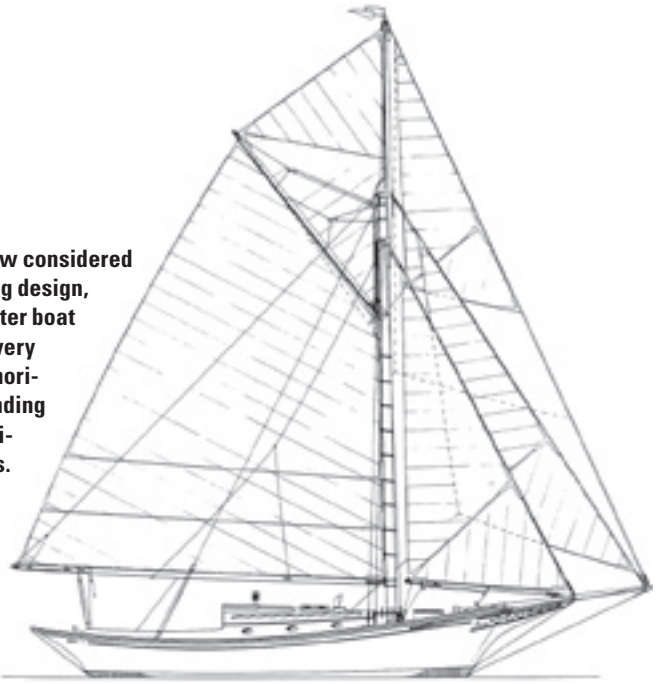
It is not an exaggeration to say that the famous early American yacht *Cleopatra's Barge*, perhaps the first purpose-built cruising boat ever conceived, was actually a working boat in disguise. Built in 1816 for George Crowninshield Jr., a wealthy merchant mariner from Salem, Massachusetts, who wished to embark upon a "voyage of amusement and travels," *Cleopatra's Barge* was a conventional hermaphrodite schooner of the era and superficially resembled many other commercial vessels found in Salem at that time. Her hull form was quite ordinary, with a bluff, full bow section that tapered off to a narrow underwater run aft. This classic "cod's head and mackerel's tail" configuration represented the acme of early 19th century naval architectural theory, wherein it was presumed a vessel's underbody must be most efficient when shaped like a fish.

What was unusual about *Cleopatra's Barge* was the extravagant manner in which she was furnished. Her cabins featured exotic inlaid paneling and floors, gilded deck beams, velvet grab ropes, fireplaces, chandeliers, and cupboards crammed full of the finest silver, porcelain, and glassware. Her furniture, inspired by Crowninshield's admiration of Napoleon Bonaparte, was decorated in Empire style with imperial eagles. Her appearance above the waterline, meanwhile, was eccentric. Her starboard side was painted with bright, multicolored stripes, while her port side was painted in an elaborate herringbone pattern. Her deck, sporting 12 cannons with no apparent purpose, was dominated by a life-size wooden Indian that seemed to have silent command of the entire vessel.

Throughout the remainder of the 19th century, very wealthy people sailing extravagant vessels came to dominate the sport of yachting. The sport's primary focus was on racing, wagering, and social status, with rather less emphasis on cruising. The designing of yachts became a specialized practice, and gentlemen's sailing vessels — once little more than working vessels dressed up in all sorts of finery, as was the case with *Cleopatra's Barge* — became more refined in every respect.

By mid-century, yachts such as *America*, of America's Cup fame, had demonstrated the superiority of more scientific theories of naval architecture. By the 1880s, empirically based racing handicap rules began to supplant older rules based on commercial measurements devised originally for tax purposes. Toward the end of the century, as the U.S. entered its so-called Gilded Age, upper-class tycoons did most of their racing in large, highly specialized sailboats and most of their cruising in very large, grandiose steam yachts.

Meanwhile, more middle-class recreational sailors were finding ways of their own to get afloat. Inspired by pioneers like R. T. McMullen and John MacGregor, of Great Britain, and Nathaniel Bishop, of the U.S., the number of middle-class folk engaged in



The Friendship sloop, now considered a classic coastal cruising design, began as a working lobster boat in the 19th century. The very large cockpit and wide horizontal gunwales surrounding it were designed to facilitate the handling of traps.

cruising aboard their own small boats steadily increased from the late 19th century onward. This sort of unobtrusive sailing — small voyages for pleasure undertaken by ordinary people in very modest craft — was not of immediate public interest.

But there was something very powerful at work here: a seductive fantasy of autonomy and adventure that cruising under sail somehow promised to make real. John MacGregor summed it up very neatly in *The Voyage Alone in the Yawl Rob Roy*, his account of a cruise he made to France in 1867 in a 21-foot boat. "Often as a boy," he wrote, "I had thought of the pleasure of being one's own master in one's own boat; but the reality far exceeded the imagination of it, and it was not a transient pleasure."

Workboat to cruiser

While wealthy yachtsmen originally sailed newly constructed vessels derived from working craft designs, sailors of more modest means found that the easiest and cheapest thing to do was simply to buy an old workboat and refurnish it. By slapping on new paint, tacking in some furniture down below, and perhaps altering the rig a bit, many such boats could be made into perfectly serviceable cruisers. It helped, of course, that in the late 19th and early 20th centuries, working sailboats were steadily being replaced by power vessels and hence were available in increasing numbers.

Fishing boats were the most popular candidates for conversion. Some types established secondary reputations as cruising boats, ultimately eclipsing their primary identities. We tend to forget, for example, that two popular American craft now considered classic coastal cruisers — the Cape Cod catboat and the Friendship sloop — were both originally designed and operated as inshore fishing boats.

In Britain, in particular, lifeboats were seen as ideal candidates for conversion. This practice, which continues to this day, started at least as early as 1886, when E. F. Knight made a name for himself by cruising from England to the Baltic and back aboard *Falcon*, a converted lifeboat he purchased for just £20. Much later, in the mid-20th century, Tristan Jones established an even larger reputation voyaging aboard his converted lifeboat, *Cresswell*.

Pilot boats also were a logical choice for conversion, as they were usually designed to be both fast (so they could compete with other pilot boats racing out of a harbor to do business with inbound vessels) and seaworthy enough to go out in all weather. Several different types were pressed into service as yachts on both sides of the Atlantic. Old Bristol Channel pilot cutters became particularly popular as cruisers in Britain, and imitation pilot cutters (most notably those originally built by Sam Morse and now by Cape George Marine Works) are still in production today.

This 100-year-old Morecambe Bay prawner, designed and built as an inshore fishing boat, was rebuilt and refurbished as a cruising boat in the late 1990s. Such conversions were common in the late 19th and early 20th centuries.

Old gaff-rigged cutters that once worked for a living are still commonly used as cruising boats in Great Britain. This well-maintained example cruises out of the River Medway in the Thames Estuary on the southeast of England.

The Bristol Channel Cutter boasts a classic full-length keel characteristic of a 19th-century working boat. Many cruisers still value such keels for their directional stability and seakeeping ability.

Thomas Colvin is one of several contemporary cruising-boat designers who have mimicked old workboat designs. His pinky schooners, such as ***Papillon,*** are derived from inshore fishing boats that first appeared in New England waters in the early 19th century.

By far the most influential type were the beamy, double-ended 47-foot pilot and offshore rescue boats conceived by Colin Archer in 1893 for work along the coast of Norway. The simple symmetrical lines of these boats, known as Redningskoites, were copied very explicitly by others seeking to create durable, all-purpose cruising boats. The most well-known examples were the Tahiti ketch, designed by John Hanna in 1923, and *Eric*, a scaled-down 32-foot Redningskoite designed by William Atkin in 1925, which was reincarnated in the 1970s as the iconic Westsail 32. The huge success of the Westsail had a tremendous impact on the evolution of production fiberglass cruisers and begat numerous imitators. A few of the more modern variations with fin-keeled underbodies — the Valiant and Pacific Seacraft lines, for example — are still in production today.

The Slocum factor

The most famous converted working boat, of course, was Joshua Slocum's *Spray*. Slocum does not at all fit the template of the amateur cruising sailor described here, but his influence on the sport was extraordinary. In terms of his background, he had, ironically, much in common with George Crowninshield. Like Crowninshield, he gained all his nautical expertise as a professional merchant mariner. Unlike Crowninshield, however, Slocum lived in the latter part of the 19th century, when commercial sailing was being driven into extinction.

Whereas Crowninshield became a cruiser simply because it amused him, Slocum became one mostly out of desperation. His professional life had been destroyed and he was very down on his luck when, in 1892, a fellow ship captain, perhaps as a joke, made him a gift of a decrepit 36-foot Delaware oyster smack that had been left to rot in a field. With characteristic tenacity, Slocum rebuilt the boat and, after a very brief attempt to earn a living fishing her, he set out to sail around the world singlehanded. This voyage not only helped to legitimize "alternative" cruising in the minds of the yachting establishment, it also spread the seed of the cruising dream much farther than ever before.

What perhaps is most significant about *Spray* as a boat is how anachronistic she was. Even at the time of her circumnavigation, which Slocum com-

John Hanna's Tahiti ketch, at left below, the first "cult" cruising boat to inspire a generation of wannabe bluewater sailors, became popular during the 1930s. The design, which featured a jaunty double-ended hull form, was derived from Colin Archer ketches conceived nearly a half-century earlier as durable all-purpose workboats. The double-ended hull of the famous Westsail 32, below right, is identical to that designed by William Atkin for his *Eric* in 1925. Like the Tahiti ketch, *Eric's* lines were based on those of Colin Archer workboats.

pleted in 1898, she was completely obsolete. She was, by Slocum's account, approximately 100 years old when he acquired her, and her hull form reflected her age. Her shape tended toward the old "cod's head and mackerel's tail" school of design and featured a fat entry, with her maximum beam a little forward of amidships and a finer run aft on her waterline. She was quite wide (over 14 feet) with relatively shoal draft (about 4 feet) and short ends (her waterline length was approximately 32 feet). She also was immensely heavy for her size, displacing 24,000 pounds, and carried all her ballast in her bilges, with none at all in the keel.

Spray had nothing in common with modern turn-of-the-century yachts (a fact in which Slocum took great pleasure), but she still served well enough as a cruiser. Indeed, her performance was nothing short of extraordinary. Slocum reported achieving top speeds on the order of 8 knots and routinely averaged 150 miles a day on passage — numbers more typical of modern yachts displacing half as much. He also boasted of the boat's ability to steer herself, but credit for this, and for the speeds achieved, must in fact go to Slocum himself. He was a master mariner who had the skill and nerve to drive vessels very hard, and he was an intuitive expert when it came to sail trim.

What is also significant about *Spray* is that, in spite of her putative obsolescence, she is still considered a viable cruiser today. Contemporary boats that mimic her lines, most particularly steel hulls built to plans

"*Spray* had nothing in common with modern turn-of-the-century yachts (a fact in which Slocum took great pleasure), but still she served well enough as a cruiser. Indeed, her performance was nothing short of extraordinary."

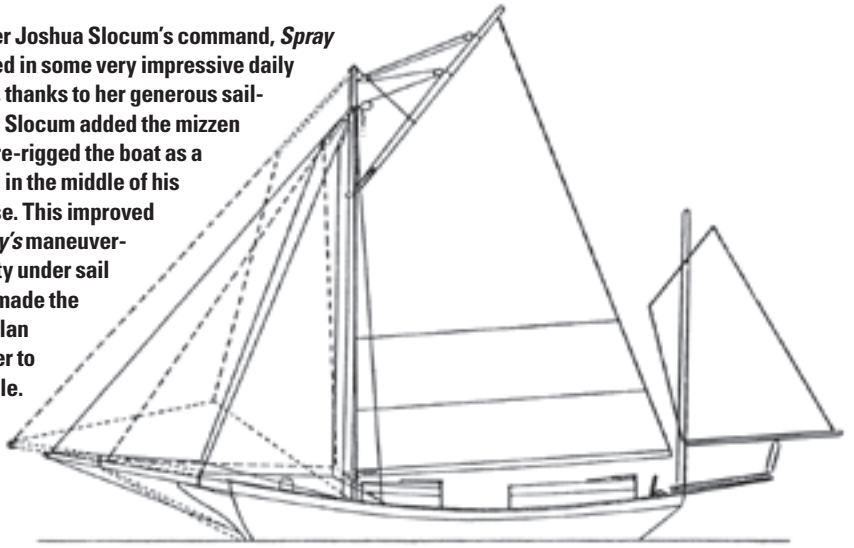
drawn by designer Bruce Roberts, though not exactly common, are not hard to find. Some devotees, in fact, still ardently insist that *Spray* represents the ultimate cruising boat.

What this demonstrates is that unlike racing boats, which are subject only to the ruthless criteria of winning and losing, the worth of a cruising boat can be measured in a number of ways. One very good reason, for example, why some (but certainly not all) traditional designs based on old workboats like *Spray* are still viable is that they yield lots of interior accommodation space, which for many cruisers is a key consideration. They also are considered by many to be extremely seaworthy. But perhaps the most powerful and also most subjective reason people still choose to cruise in such boats is because of their strong romantic appeal.

Fishing schooners

Ultimately, the culture of the modest amateur cruiser precipitated a growing interest in the sport of ocean racing. This interest was initially fueled, or perhaps was even created from whole cloth, by Thomas Fleming Day and his evangelistic boating magazine *The Rudder*. Ocean racing between large gold-plated yachts dated back at least as far as 1866, when a group of flamboyant tycoons pitted three vessels against each other in a spontaneous mid-winter transatlantic gambit for an enormous wager of $90,000. Subsequent ocean races were occasionally held under more or less similar circumstances, but what Day managed to do was transform ocean racing into an organized sport featuring much smaller boats.

Day sponsored his first distance race from Brooklyn, New York, to Marblehead, Massachusetts, in 1904. It was contested by six vessels, none of which had waterlines longer than 30 feet. The following year he sponsored another race from Brooklyn to Hampton Roads, Virginia, and in 1906 launched the first Bermuda Race, which Day himself won in a 38-foot yawl. He vociferously promoted this sort of competition in his magazine, presenting it as a challenge to mem-



Under Joshua Slocum's command, *Spray* turned in some very impressive daily runs, thanks to her generous sailplan. Slocum added the mizzen and re-rigged the boat as a yawl in the middle of his cruise. This improved *Spray's* maneuverability under sail and made the sailplan easier to handle.

The legacy of *Spray* lives on. Modern boats with lines based on those of the old oyster smack that carried Joshua Slocum around the world more than 100 years ago are still popular. This Bruce Roberts design was built in steel.

NORMAN FORTIER

The Cornish Crabber Pilot Cutter 30, top, is a modern fiberglass production boat that deliberately evokes the romance and tradition of old British pilot boats. Classic CCA designs dominated both racing and cruising for many decades. Originally built in wood, like the gorgeous Concordia sloop, center, many CCA designs were also built in fiberglass starting in the 1950s. Some are still built today and are valued for their aesthetic appeal. The first fiberglass boat to win the Bermuda Race was a Pearson Invicta yawl, *Burgoo*, bottom, in 1964. By this time successful CCA designs often featured yawl rigs and keel/centerboard hulls. *Burgoo* is owned by Milton Ernst of Providence, Rhode Island.

bers of the upper-class yachting establishment, whom he described as "a lot of grey-headed, rum-soaked piazza scows . . . who spend their days swigging booze on the front stoop of a clubhouse."

Day staged more Bermuda races from 1907 through 1910, then abandoned the effort in 1911 to take his own 26-foot boat, *Sea Bird*, on a transatlantic passage. Competition of this sort then died out for several years, thanks largely to the start of World War I, but was revived in 1923 by members of the fledgling Cruising Club of America (CCA), which officially assumed custody of the Bermuda Race the following year and has maintained it ever since.

In terms of boat design, this egalitarian blending of cruising ethos and ocean racing yielded serendipitous results. The most successful American ocean-racing boats in the immediate aftermath of World War I proved to be very seamanlike schooners. They were designed by men such as John Alden and William Hand and were both comfortable and relatively fast in open water. These boats were heavily constructed, relatively beamy, and of moderate to deep draft, with ballast distributed both in their bilges and low in their keels. They also featured short-to-moderate overhangs and full keels gently cut away forward.

These fisherman schooners, as they were known, were, in the context of their time, nearly perfect dual-purpose vessels. They had enough space below for comfortable accommodations, were heavy enough to feel safe and solid in a seaway, yet were just fast enough to win races. They were the result, interestingly, of a very active cross-pollination between yacht and workboat designs. That's because they were based on Grand Banks fishing schooners, which in turn had been refined by yacht designers. One of those designers was B. B. Crowninshield (a descendant of proto-cruiser George Crowninshield), who had been asked to improve upon older 19th-century fishing boat designs that had proved unsafe in open water.

Fisherman schooners, particularly Alden's Malabar series, dominated the first decade of CCA Bermuda racing but were steadily supplanted by more modern designs that refined the schooners' essentially conservative full-keeled underbodies by narrowing beam, stretching overhangs, and placing all ballast low in the keel. Another very important change, of course, was the adoption of the more aerodynamically efficient Marconi rig. By the mid-1930s these new designs came to dominate amateur ocean racing, but they were controlled in their development by the CCA's new rating rule.

The basic hull form of CCA-rule boats, as descended directly from those of the fisherman schooners before them, is still considered by many to be among the most aesthetically pleasing ever conceived. More importantly for contemporary cruising sailors, the CCA rule still controlled the evolution of yacht design a quarter-century after its introduction, when the advent of fiberglass boat production in the late 1950s and early '60s made the sport of sailing even more accessible to people of modest means. The result was a flood of sturdy, attractive, full-keeled fiberglass sailboats produced by firms like Pearson, Bristol, Hinckley, Allied Boat, Seafarer, and C. E. Ryder, many of which are among the most affordable and most seaworthy older boats still available on the brokerage market today.

Charlie Doane is completing a reference book about cruising sailboats, to be published by International Marine. Over the years he has owned and maintained a 1964 Pearson Alberg 35, a 1977 Golden Hind 31, and a 1985 39-foot hard-chined aluminum cutter designed by Yves-Marie Tanton. He lives with his family in Portsmouth, New Hampshire.

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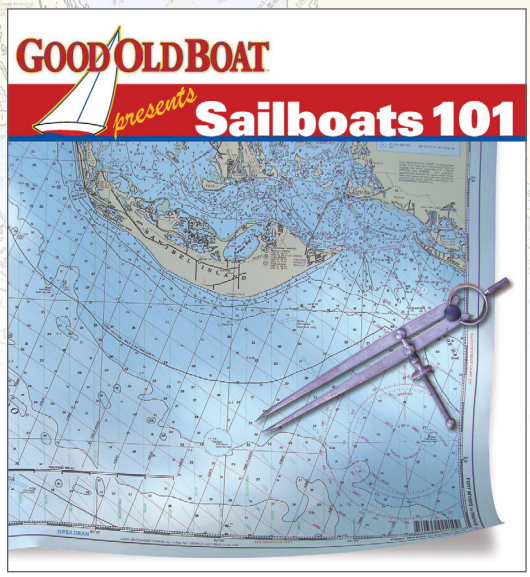
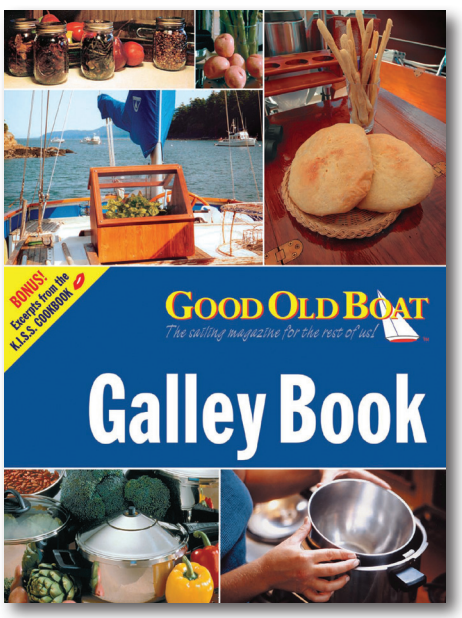
Articles compiled for you from *Good Old Boat* archives

Sailboats 101



The Sailboats 101 series of articles — written by Don Launer and illustrated by Ted Tollefson — was introduced in 2003 in our July issue. Beginning with Depth Sounders 101, Don came up with the subjects for each 101 article. Subject matter has varied widely and includes binoculars, bilge pumps, bronze, and brass. The Sailboats 101 collection contains all Don's articles from July 2003 to November 2011. As their titles suggest, 101 articles present introductory information on a variety of subjects covered in other ways in the pages of the magazine.

There's no one better at explaining something concisely than Don Launer, a lifetime do-it-yourselfer, sailor, engineer, and tinkerer. We asked him to write no more than 900 words on any topic and to work with Ted Tollefson, another sailor who would be doing the layout and developing the illustrations.



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WESTERBEKE CORP.

Universal Atomic 4 1950 trade show ad for the first model, above. It only claims 25 horsepower for the Atomic 4, not the 30 horsepower claimed later. Fahrney Hydro-Carbon Motor marine engine, 1901, below. The nameplate reads: Fahrney's Hydro-Carbon Motor, Speed: 600, Type: Marine, HP: 8, No: 54, Built by E. H. Fahrney, Chicago, Patented March 5, 1901.

A history of the

Up to 50,000 of these stalwart gasoline

In 1948, the Universal Motor Company of Oshkosh, Wisconsin, introduced a new engine model that soon began to play an important role in the Canadian and American sailboat industry, a role that has continued right up to the present day. In recognition of the dawning nuclear age in which it was born, this engine was called the Atomic. Including the number of cylinders in the name of its engines was a Universal Motor Company tradition, and because the new engine had four cylinders, the full name of the new engine was the Atomic Four, with the Universal model code UJ. Today it is commonly referred to as the Atomic 4.

Like all Universal marine engines, the Atomic 4's roots stretch back to the earliest Universal 4-cylinder marine engine — Universal Model C, first manufactured in 1915 — and even further back to 1898 and the very first engines built by the Fahrney, T&M (Termaat and Monahan), and Badger companies. These companies were the ancestors of the Universal Motor Company, which was formed by their incorporation in Oshkosh in 1913.

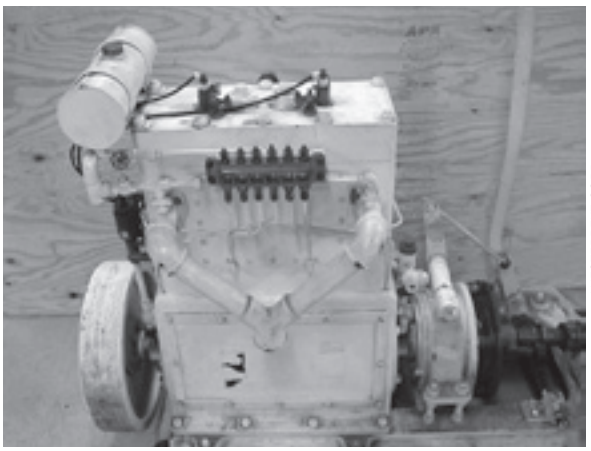
It's a not a Jeep engine!

Despite persistent rumors to the contrary, the new Atomic 4 was not a modified Jeep or tractor engine. It was based on the earlier Universal Utility Four engine, which was very similar to the Atomic 4. In fact, one of the Universal Motor Company's advertising slogans was "100% marine motors," because all its engines were designed as marine engines, instead of being adapted from automobile or tractor engines.

The early military and civilian Jeep engine was a 4-cylinder, L-head design (also known as a flathead, with the valves in the block on the same side of the cylinder) like the Atomic 4, but it was twice the size of the Atomic 4 at 134 cubic inches and had three main bearings, whereas the Atomic 4 has just two.

In 1953 Jeep switched to an F-head engine (with exhaust valve in the block and intake valve in the head), which bears even less resemblance to the Atomic 4 than the original Jeep engine. Atomic 4 engines, small tractor engines, early Jeep engines, and many other types of small marine and industrial engines (such as Hercules and Continental) had similar 4-cylinder L-head designs. Because they used the same Prestolite distributors, starters, coils, and Zenith carburetors as the Atomic 4, they looked similar and were often assumed to be the same engine.

The immediate predecessor to the Atomic 4, the Utility Four, Universal



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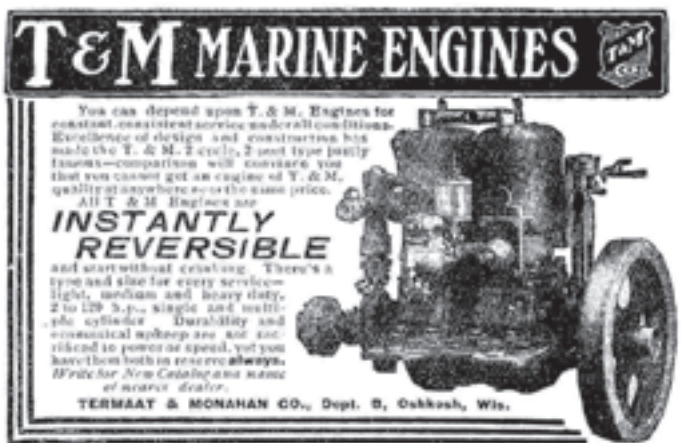


ENGINES AFLOAT, BY STAN GRAYSON

Universal Atomic 4

engines were built between 1948 and 1980

by Robert Hess

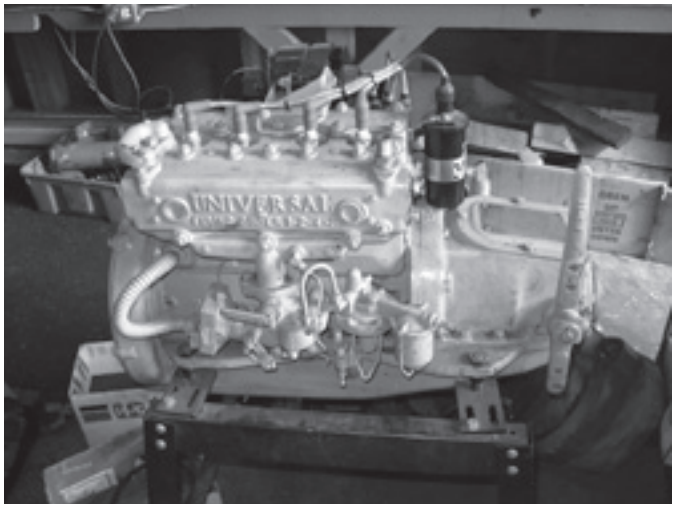
Model BN, was introduced in 1933. It was a 4-cylinder L-head engine with a capacity of 95 cubic inches, which developed 25 horsepower at 2,500 rpm. Unlike the Atomic 4, it was fitted with a Joes Gears integral reversing gear, not a Paragon. Joes Gears were manufactured by the Snow & Petrelli Manufacturing Company in New Haven, Connecticut.

The Utility Four was used extensively all over the world during World War II to power lifeboats for the ships, barges, and tankers of many navy and merchant marine fleets. It was available with an optional magneto ignition and a dual carburetion system that allowed it to run on gasoline or diesel fuel. To burn diesel, the engine was started on gasoline from a small engine-mounted tank and then switched to diesel when it warmed up. The hot exhaust system was used to pre-heat the diesel so it could be used as fuel.

Building the engine

The Atomic 4 was built at the Universal Motor Company factory in Oshkosh, in three main configurations: direct drive (UJ), reduction drive (UJR), and V-drive (UJVD). The Paragon reverse gears and reduction drives used on the Atomic 4 were built at the Paragon Gear Works factory in Taunton, Massachusetts, and the Walter V-drives fitted to the V-drive models were built by the Walter Machine Company in Jersey City, New Jersey.

Most Universal engine parts were cast in-house at the Universal Foundry, which was in a separate building near the factory in Oshkosh (the foundry was torn down in 2000; the factory is still there). Universal engine parts cast at the foundry were marked with the cast-in foundry mark UF (for Universal Foundry) as well as a cast-in model code and part mold number.



The Atomic 4 model code is UJ, and the Atomic 4 block mold number is 1, so Atomic 4 blocks are marked UF and UJ-1, cylinder heads are marked UF and UJ-2, oil pans are marked UF and UJ-4, and so on. Parts on early engines used the same casting numbers as later engines, even though in some cases the design of the parts was changed. For example, besides cylinder head and manifold redesign for newer engines, the belt pulley UJ-79, used on early engines with generators, was cast with thinner sheave sides than later pulleys intended for use with alternators.

Design changes

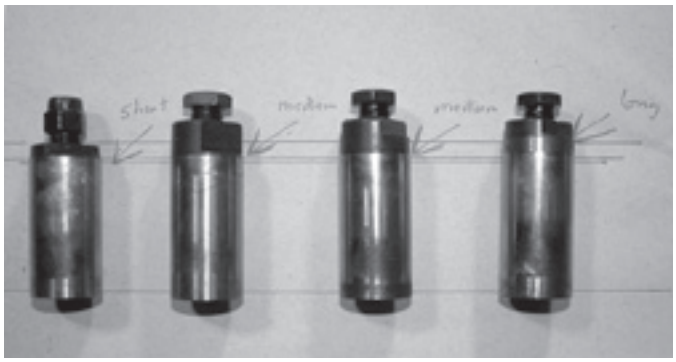
Many design changes were made to the Atomic 4 over the 32 years it was in production. However, there were three main variants. The early-model engine's main distinguishing feature was a cylinder head without a thermostat housing and a "flip-top" oil filler cap on the side of the gear housing. These were built until around 1967 (up to serial number 79475). Early-model transition engines were identified by the oil filler cap in the gear inspection cover plate and were built around 1967 to 1969 (serial number 79476 to 170508). Late-model engines with an integral thermostat housing in the cylinder head (incorporating a modern full-flow bypass thermostat) and an oil filler cap in the front of the block were built from 1969 to 1980 (serial numbers higher than 170509).

Other major changes to the engine during its production life included a switch from Prestolite (initially 6-volt and later 12-volt) to Delco Remy electrical components; a modified lubrication system and oil-pressure release valve; a better carburetor (Zenith 68); different water pump (Oberdorfer); upgraded valves, valve followers, and springs; revised flywheel housing and cover plate (the new plate was a flat piece of sheet metal instead of the earlier cast piece); and a revised oil viscosity specification (SAE 30 for hot weather or SAE 10-30 for multigrade/year-round use).

Universal also issued several bulletins, including a modification to the oil-pressure release valve to stop fluctuating oil pressure, a modification to the thermostat housing to help cure overheating in hot weather, and a revised fastener torque specification for connecting rod nuts from 33 to 25 foot-pounds.

A lower-power version of the Atomic 4, the Stevedore, was produced for several years starting around 1974. The Stevedore model designation added an S to the Atomic 4 model, (model UJS for direct drive, model UJSR for reduction drive, and model UJSVD for V drive). The Stevedore was built to comply with lower Canadian federal import duties on engines with less than 20

Facing page: an ad for the T&M (Termaat & Monahan) marine engine. This page, above right: an early Universal Atomic 4 UJ.



Atomic 4 lifters were available in at least four different styles.

horsepower, because truckloads of Atomic 4 engines were being shipped north from Oshkosh into southern Ontario and fitted in sailboats built in the busy Canadian sailboat manufacturing industry centered there (C&C, Grampian, Hinterhoeller, Alberg, Hughes, Northstar, Bayfield, and others), which was shipping most of the boats they built back to customers in the U.S. (all this before the introduction of the North American Free Trade Agreement).

In 1978, changes to U.S. and Canadian Coast Guard regulations made it necessary for Universal to replace the AC Delco mechanical fuel pump used on all engines built since 1948; they switched to a Facet electric fuel pump with an oil-pressure safety switch.

The previously unused automotive ballast resistor bypass R-terminal on the Delco starter solenoid was incorporated in the system as an oil-pressure safety switch bypass to allow the electric pump to supply fuel while starting the engine before it had built up enough oil pressure (10 psi) to activate the oil-pressure safety switch.

Over the years, Universal also increased the optional equipment available for the Atomic 4 directly from the factory: a bypass oil filter (made by Fram); adjustable rubber engine mounts (made by Bushings Unlimited); high-capacity alternators (made by both Motorola and Leece-Neville); different control panels (some made by Teleflex); and freshwater cooling (made by Sendure).

Even after the engine had been out of production for 15 years, Westerbeke (which later acquired Universal) introduced minor design changes in the form of a new-style graphite head gasket (only one gasket is required as long as compression is under 125 psi), and an optional 180°F thermostat that raises engine operating temperature for longer life and lower fuel consumption designed to be used in freshwater-cooled engines only. Sales of the Atomic 4 grew strongly as the recreational sailboat market expanded.

The end of production

In 1961, the Universal Motor Company was sold to the J. M. Nash Company of Milwaukee, which became Medalist Industries in 1967. Thus, Universal changed its name to Medalist Universal Motors. This new shift in ownership changed the Atomic 4 model designations several years later. The UJ became the 5101; the UJR, the 5102; and the UJVD, the 5103. In the 1970s, Universal also manufactured a single-cylinder engine called the Atomic One and a twin called the Atomic Two, but neither had the level of sales of the Atomic 4 and they are not well known.

“. . . sailboat manufacturers increasingly began to switch from gas to diesel engines, and sales of the Atomic 4 tapered off.”

At the end of the 1970s, sailboat manufacturers increasingly began to switch from gas to diesel engines, and sales of the Atomic 4 tapered off. Production was stopped in 1980. The price of an Atomic 4 at that time was $2,324. Freshwater cooling was a $398 option.

By 1974, Universal had already begun importing Kubota diesel engines from Japan and adapting them for marine use, so the company was ready for the sailboat market shift to diesels. The company’s early Universal diesels were named Atomic to take advantage of the reputation of the Atomic 4.

Catalina, the largest U.S. sailboat manufacturer for many years, fitted Atomic 4 engines to most of its smaller boats until around 1985 (the engines fitted between 1980 and 1985 were produced in 1979 and 1980 and stored until they were sold), when they switched to Universal diesels.

Parts still available

Westerbeke dealers continue to sell new Universal marine diesels and parts for the Atomic 4. But Atomic 4 blocks, oil pans, valve lifters, and crankshafts, as well as several transmission components, such as Paragon gear throw-out bearing assemblies, are not available. However, most common rebuild and repair parts still can be obtained, including cylinder heads, pistons, thermostats, gaskets, and manifolds.

Many people have wondered if it would be feasible for Westerbeke to begin building brand-new Universal Atomic 4 engines. Many engine shops have approached foundries to evaluate the feasibility of manufacturing new blocks, only to discover that, although it is possible to cast new blocks at a fairly reasonable price, the cost of custom machining each casting to create a viable engine is prohibitive.

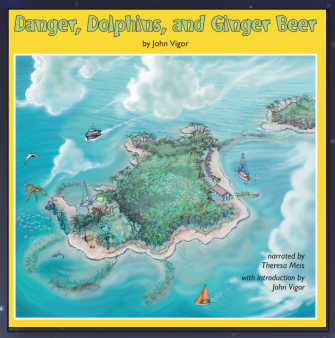
This is due to the lack of the original Universal factory tooling and production line. If Westerbeke did begin building a 21st-century Atomic 4, it would require many design changes to bring the engine up to date. The most important design decision would be the fuel the new engine would use.

Nevertheless, even without a new design, the legacy of the Atomic 4 is assured. Like the little engine that could, thousands keep chugging in classic sailboats around the world.

Robert Hess is a licensed marine mechanic at Eastern Marine Systems, a Volvo Penta dealer in Toronto, Ontario. Before joining Eastern Marine, he was a Westerbeke/Universal marine engine dealer in Vancouver, British Columbia. He and his wife, Laura, sail Water Lily, *a 1979 Hughes 38, which they repowered with a new Universal M35B diesel to replace the original Atomic 4 UJR.*

Read Me a Story

Bedtime Stories for Young Sailors



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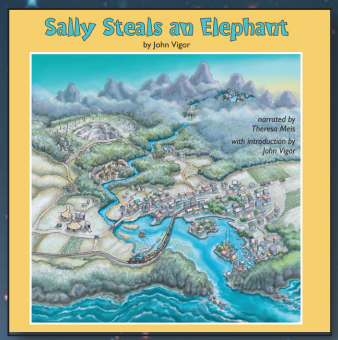
Sally Steals an Elephant finds the Grants in the South African jungle, where the children encounter a kindly elephant, her cruel circus owner, and even a witch doctor.



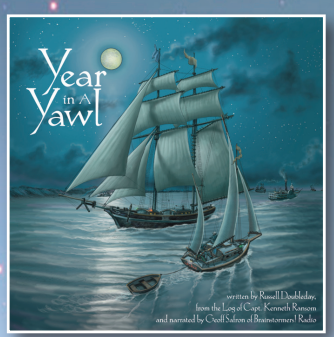
John Vigor:
Danger, Dolphins, and Ginger Beer

John Vigor:
Sally Steals an Elephant

John Vigor:
So Long, Foxtrot Charlie

Foxtrot Charlie just wants to get along with his foster family. But sometimes being an ordinary 13-year-old boy gets him into trouble — messes, explosions, accidents — the harder he tries, the more he fails. Just when he thought things couldn't possibly get any worse, Foxtrot is lost at sea with his foster father, foster sister, and a friend. With the lives of three other people in the balance, Fox is faced with a challenge that helps him understand what's really important.

Russell Doubleday:
A Year in a Yawl



Not long after Joshua Slocum completed his historic circumnavigation, four young men from Michigan set out on another adventure that had never been done before: the Great Circle Route of the eastern U.S. They built a boat and traveled down the Mississippi, around Florida, up the Eastern Seaboard, back through the Erie Canal, and home to the Great Lakes. Their youthful enthusiasm and resourcefulness make this classic true story of a century ago a powerful influence on youngsters today.

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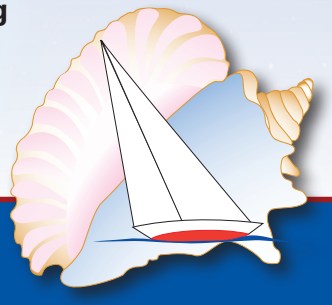

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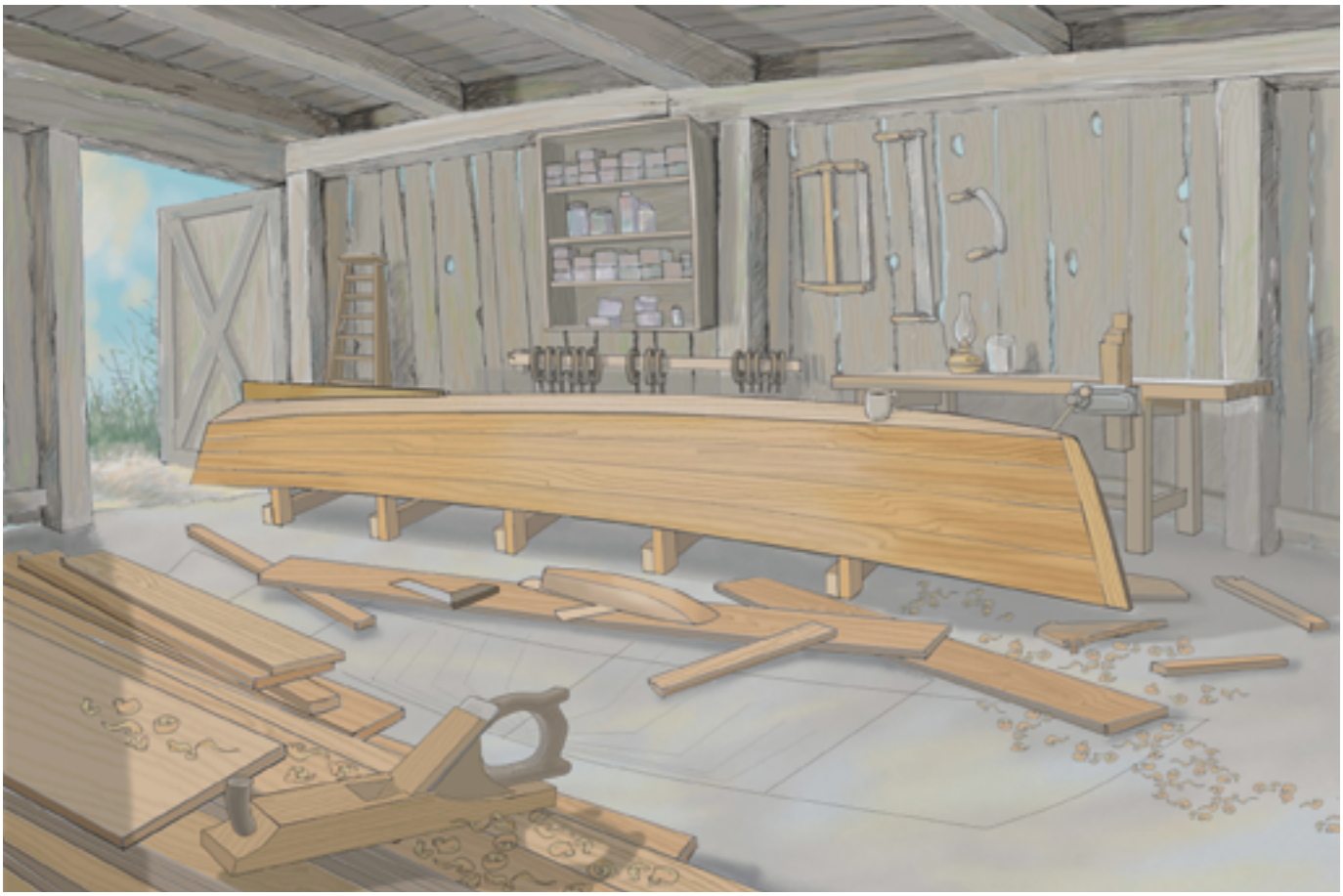
The enduring adaptable sharpie



ILLUSTRATIONS BY FRITZ SEEGERS

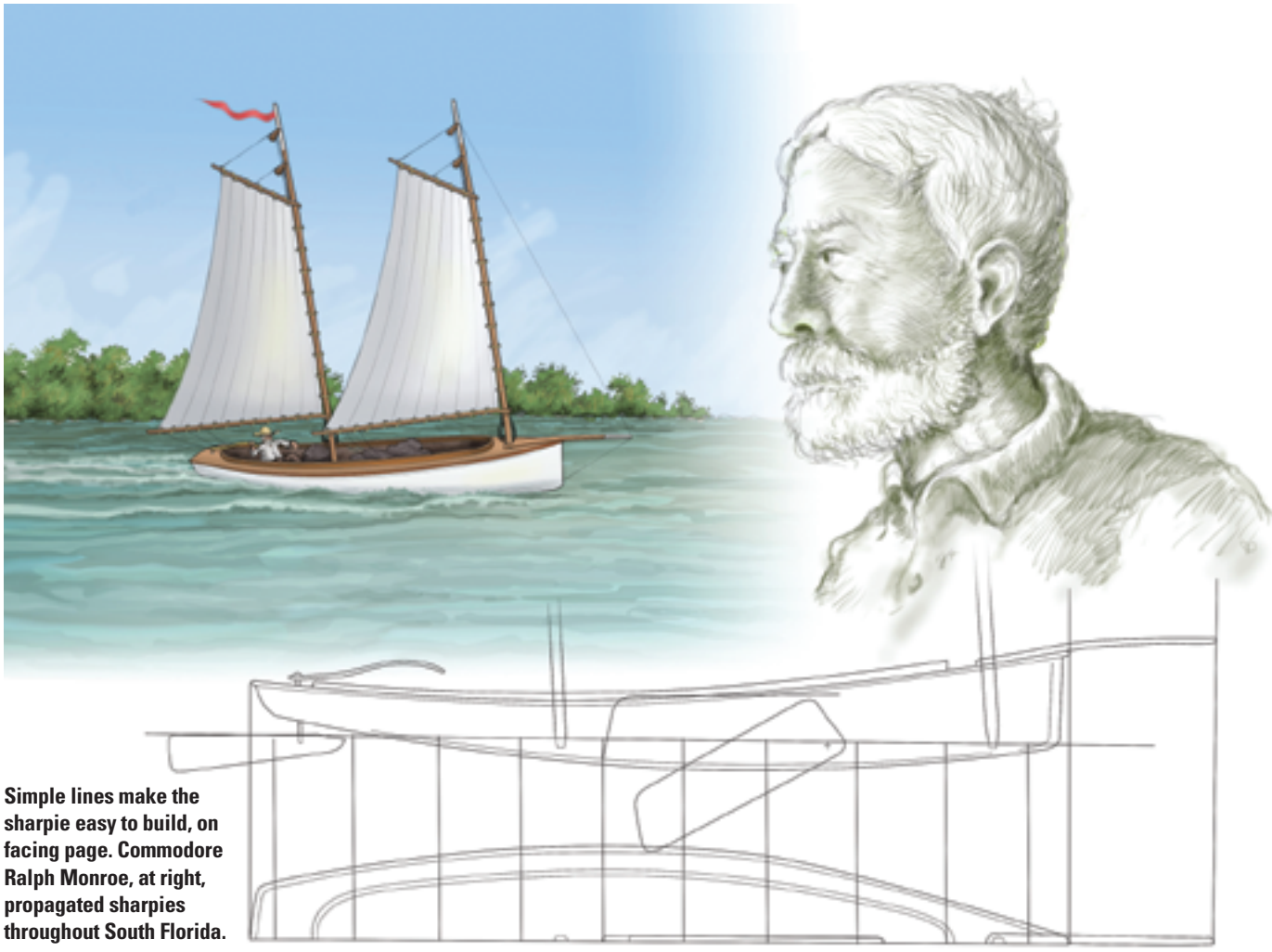
A versatile workboat expanded its range

by Henry Cordova

Of all man's artifacts, the one most like a living thing is a sailboat. This is especially so for the traditional working boat built by workmen's hands with simple tools from the earth's natural materials. The boat responds directly to the forces of nature not only through the skill of its crew but also through the accumulated experience of generations of boatbuilders who contributed to its form. All over the world, boats can be found that are perfectly suited to their local waters, their intended uses, and the materials and skills of the men and communities that depend on them for their livelihoods.

Boats endure the same ruthless selection that living organisms suffer. Those forms that do not work do not survive, and those that do work are changed, perfected, and constantly improved. Successful designs are copied and spread and those with merit endure or are modified as needed. As in natural selection, it's mostly a process of trial and error. Many boats are proven inadequate or are lost; both the sea and commercial competition are unforgiving.

Sailors and craftsmen are clever; they learn from their mistakes and their traditions preserve what works and discard what doesn't. It is not just the sea that forms these vessels, but also their crews' business, their trade, and the fisheries and markets they serve. A regional boat type may be exquisitely adapted but it is not necessarily an inbred over-specialized organism. As in the organic world, sometimes boats that evolved in one environment can be unexpectedly



Simple lines make the sharpie easy to build, on facing page. Commodore Ralph Monroe, at right, propagated sharpies throughout South Florida.

successful in others or they can be easily adapted to new conditions. Every vessel is a compromise, since every virtue is paid for by some shortcoming.

An American original

America has a proud and incredibly diverse maritime tradition for such a young country. During colonial times, European boat designs, Native American craft, and peculiar local requirements gave rise to a variety of watercraft and their successes were propagated along the coasts and up the rivers. One of the uniquely American craft to arise in the new nation was the sharpie. Its origins are not clear but may be traceable to the native log sailing canoe. Regardless of its origin, by the middle of the 19th century the sharpie was already a recognized type, especially in the oyster fishery around New Haven, Connecticut.

The prototypical New Haven sharpie was a shallow-draft, flat-bottomed, hard-chine (where the sides meet the bottom) vessel with decks low to the water. Although of limited interior cargo volume, it could carry a great deal of weight for its size. It was easy to build and, when handled by an expert, surprisingly seaworthy. These boats were usually rigged with two masts and triangular sails, and although meant primarily for shallow water, had many qualities that made them suitable with little or no modification for a variety of other uses. Sharpies were fast, easily beached, could be rowed as well as sailed, and while certainly not ocean-crossing cargo vessels, they were surprisingly safe offshore in a blow.

Most important, they were easy and cheap to build with basic skills and tools. The sharpie was simplicity itself. Two long tapered boards were joined at the bow and kept apart at the stern by a flat transom. A set of transverse boards along the bottom kept the sides apart and the water out. A few crosswise thwarts provided seats for the crew, places to mount the masts, and stiffening for a long hull with a sharp bow (hence the name). The design worked well for boats smaller than 50 feet, provided certain mathematical proportions were observed, and soon more elaborate sharpies were appearing with more complex rigs, superstructures, cargo carrying capacity, and watertight decking and cabins. But the basic concept for a light, nimble, strong sailer was retained, along with ease of construction and, most important, the ability to float in a "heavy dew." Regardless of size, if a sharpie ran aground, its crew could always get out and push.

The type catches on

Before long, sharpies were popping up all along the Eastern Seaboard and on the Great Lakes. The design caught on across the Atlantic, where it was embraced by yachtsmen in Great Britain and France. The French Navy even experimented with arming a large one as a revenue cutter for colonial service.

Imitation is the sincerest form of flattery; a safe, useful design is not "intellectual property" to be hoarded and patented and marketed for profit. It belongs to all who need it. The class reached its highest development and its finest hour late in the 19th century after steam propulsion was already common on larger ships and the Age of Sail was rapidly coming to an end.

In 1881, New York engineer and entrepreneur, marine architect, seaman, conservationist, and Florida pioneer, Commodore Ralph M. Munroe, introduced the sharpie to Key West. His boat, the 30-foot *Skipperee*, took the local

sailors by storm, as its performance was far superior to that of other craft in the area. The vessel proved to be perfect for Florida waters and the Commodore quickly designed and built others that soon became useful in knitting together the scattered coastal settlements of the state in those pre-railroad days.

Commodore Munroe was a truly remarkable man and justly remembered to this day for his many services to Florida, but his talents as a mariner and naval architect alone would have assured him a place in the history books. He built or drew the lines for *Presto*, *Egret*, *Micco*, *Utilis*, *Wabun*, *Nethla*, and more than a dozen other large sharpies that firmly established this sailing class in Florida waters.

His big sharpie designs exploited the virtues of this class but were customized for specific missions: offshore work, mail packet, fishing, yachting, running the treacherous inlets, or navigating shoal lagoons and coral coasts. Even the government caught the fever, and brought in two large sharpies as oceanographic survey vessels. Other designs spread throughout Florida in applications ranging from singlehanded fishing to bay cargo lighters to coastal trading to smuggling. Some ventured into the Caribbean and the Bahamas. The design could easily be adapted to a particular use, but its general characteristics allowed it to serve in other roles in a pinch. The Commodore designed subtle variations in the basic sharpie hull depending on his intended use for each vessel. It was the optimum blending of specialization and adaptability, the marriage of traditional wisdom and common sense with modern design science.

Ideal sharpie habitat

The key requirements for Florida were shallow water and surf performance, simplicity of construction and rig, ease of operation and use, and the ability to be easily rowed or poled in the mangroves. The smaller sharpies had unstayed rigs, making it easier to drop the masts on deck when navigating creeks and bayous with overhanging vegetation or to snug the boats down during the region's frequent thunderstorms. The larger ones could venture safely into the blue waters of the Gulf Stream. The type was not really a rough-water craft but, with an experienced crew and in spite of its size and shallow draft, it could often acquit itself quite well in a squall or a "norther."

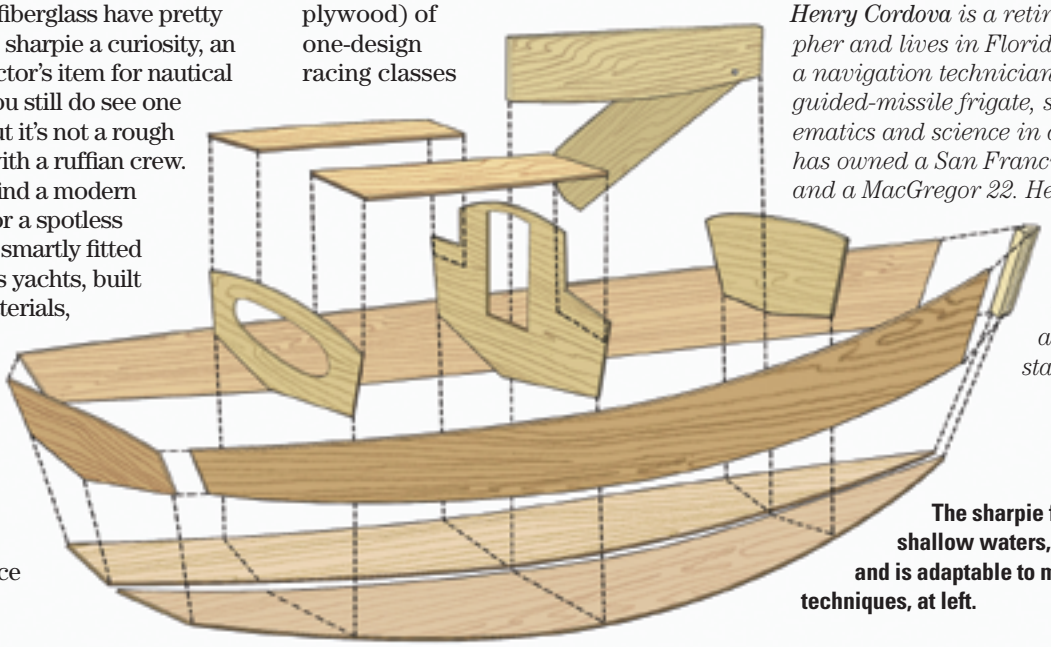
The Florida coastline is primarily vast stretches of sand. This means easy beaching most of the time for a sharpie's flat bottom but a danger to keelboats. Barrier islands protect the coasts, but the sand bars and passes to the shallow lagoons behind these natural breakwaters are treacherous in a heavy sea. A sharpie could surf in and shelter while a heavier hull would have to stand offshore and fight to the death. Many of the settlements, such as Biscayne Bay, Fort Myers, Charlotte Harbor, Tampa, Cedar Key, and the Panhandle ports,

with their wide river mouths and tidal estuaries, and their mangrove labyrinths defended by keys, flats, and bars, were perfectly suited for these boats.

Today, the coast has been tamed and the engine and fiberglass have pretty much made the sharpie a curiosity, an antique, a collector's item for nautical antiquarians. You still do see one occasionally, but it's not a rough working boat with a ruffian crew. Instead, you'll find a modern plastic replica or a spotless museum piece, smartly fitted out as luxurious yachts, built of the finest materials, and flawlessly maintained. These are not the same working boats that fished our waters, carried our mail, and took our produce to market.

But the spirit of the sharpie survives, the familiar lines can be seen in the gasoline-powered mullet skiffs that still ply Tampa Bay and in the flat bottoms and vee hulls (now in modern plywood) of one-design racing classes like the Optimist pram and the Windmill.

Commodore Ralph Munroe would be proud.



The sharpie form is ideal for shallow waters, on facing page, and is adaptable to many building techniques, at left.

Henry Cordova is a retired geographer and lives in Florida. He was a navigation technician aboard a guided-missile frigate, studied mathematics and science in college, and has owned a San Francisco Pelican and a MacGregor 22. Henry enjoys writing, astronomy, celestial navigation, and collecting star atlases.

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