

A Vermont Town Leads a Food Revolution (p. 83)

A Stunning Rhode
Island Seaside House
(p. 58)

The Return of Great
White Sharks
(p. 98)

New and Easy
Lobster Recipes
(p. 64)

YANKEE

NEW ENGLAND'S MAGAZINE FOR 75 YEARS

SUMMER ON THE MAINE COAST

A photographer's Down East odyssey (p. 64)

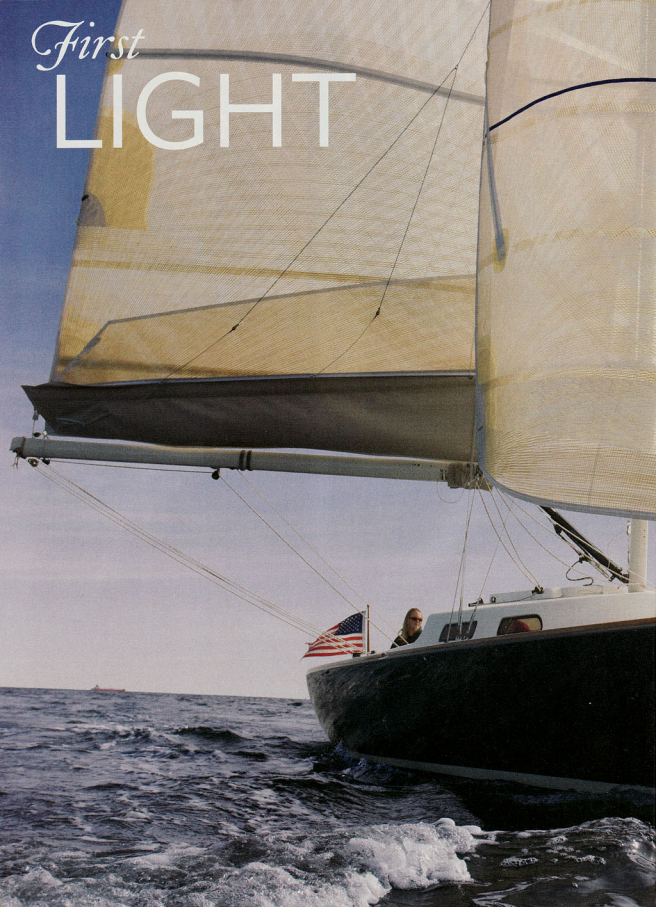
JULY/AUGUST 2010
U.S./CANADA \$4.99



YANKEEMAGAZINE.COM

Plus! Discover the
Maine Island Trail (p. 42)

First
LIGHT



IN REVIEW: *What to read, where to eat ...* p. 26
ONLY IN NEW ENGLAND: *Barnum's birthday ...* p. 28
KNOWLEDGE & WISDOM: *Amazing facts ...* pp. 30, 32
THE BEST 5: *Public gardens ...* p. 34
LOCAL TREASURE: *Eric Carle Museum ...* p. 36
DATEBOOK: *Happenings, then and now ...* pp. 38-39



The e33 high-performance daysailer was designed by Jeremy Wurmfeld of eSailing Yachts, cofounded in 2006 with sailmaker Robbie Doyle, ABOVE. The vessel's sails, made of Pentex fiber, are easily raised and trimmed without winches.

The Art of the Sail

At Doyle Sailmakers, a timeless craft meets cutting-edge technology. On the open seas the results are breathtaking.

BY JIM COLLINS

PHOTOGRAPHS BY
MICHAEL EUDENBACH

As Robbie Doyle likes to say, he didn't open a sail loft in Marblehead because the area needed another sailmaker. In 1982, the centuries-old tradition along Massachusetts' North Shore was still quietly humming along; when Doyle started his company, 10 lofts operated in and around Marblehead. Doyle opened a sail loft because he thought he could make better sails than any of them.

For a decade, Doyle had worked under Ted Hood, the best known of the Marblehead sailmakers and one of the best known in the world. The industry, by then, had moved a long way from the heavy cotton and linen sails that had been the mainstay of sailing's golden age. Hood had been at the forefront of adapting superlight, super-strong synthetic materials such as Dacron, Kevlar, and Mylar. But sailmakers at Hood and elsewhere were still designing sails essentially by hand then, mostly from experience and by trial and error. Computer-assisted

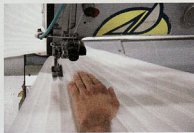
modeling and design, just coming on board, were about to unleash a flood of innovation and possibility. Robbie Doyle was uniquely positioned to take the new technology and run with it.

He'd grown up sailing around Marblehead, eventually earning a spot on the 1968 Olympic sailing team. At Harvard, he'd majored in applied physics, preparing for a medical career. But the lure of speed and open water had brought him to Ted Hood instead, and he'd turned his physics knowledge to rigging and sail design. There he'd become involved with Ted Turner's 1977 America's Cup bid, both as a sail designer and as a crew member, and had decided forever against medical school. ("It was a surprisingly easy decision," he recalls. "I was traveling all over the sailing world, and I felt a tremendous sense of momentum.") He'd worked and sailed and studied with the best of the best. Now he was ready to see what he could create alone.

The first set of sails Doyle designed on the computer was for an Express 27 that went on to victory in three of its first four races, and, soon after, Doyle Sailmakers went from zero to 10 employees. He became the Steve Jobs of sailmaking, using vision and technology to stretch the limits of what had previously been thought possible. In 1984, working with engineers at Delft University of Technology in the Netherlands, Doyle introduced the radical "elliptical load theory" of sail shape; his models proved, for the first time, that to minimize drag, a sail's vertical distribution of shape was as important as its horizontal distribution. Other developments followed: Panels were no longer necessarily horizontal, and radial designs were now introduced, and individual panels were no longer automatically cut from the same cloth.

As yacht sizes grew steadily in the late 1980s and into the '90s, Doyle's advantages grew more pronounced. He designed sails for the first of the megayachts, the 125-foot-long *Freedom*, and

The new Doyle loft in Salem, Massachusetts, anchors a globe-spanning company. RIGHT AND BELOW RIGHT, Todd Basch sews a sail's "soft corner" (a Doyle innovation: a light and flexible corner attachment, replacing the typical hard metal ring). BELOW LEFT, a headboard (a triangular reinforcement for the sail's upper point).



for two of the largest privately owned superyachts in the world: *Mirabella V*, christened in 2004, and *Maltese Falcon*, launched in 2006. The design of *Falcon's* sails grew out of a technical paper with the daunting title "Optimization of Yard Sectional Shape and Configuration for a Modern Clipper Ship." The document was co-authored by a graduate student in mechanical engineering at Stanford: Robbie's son, Tyler.

In the spring of 2007, Robbie, Tyler, and the Doyle team moved from Marblehead to a new 32,000-square-foot facility in nearby Salem. The new loft—far from the water, in a metal-sided warehouse—seems, at first glance, leagues away from its maritime heritage. There's little hint that you're in a place that caters to a market where a single set of sails might run a million dollars or more. Robbie Doyle himself—touseled sandy hair, tanned, typically wearing a golf shirt, khaki shorts, docksiders—looks as though he's just come off a boat and gives

the impression that your money here doesn't pay for aesthetics.

"This is still an exciting business to me," Doyle says, "especially the science and engineering parts of it. At the moment, our work on the fluid dynamics of moving air is helping us understand the dynamics of moving water. There's a lot of innovation out there just ahead of us."

On a wall in the main office hangs a framed photo of *Mirabella V*, but the real art here is inside the computer terminals, and in the plotter and fabric-testing machinery in the back room, and out beyond that, in the wide-open 200-foot-long expanse where sailcloth lies flat on a wooden floor. There, in sunken stations, standing behind high-tech sewing machines, sailmakers stitch together an ancient craft with modern science, throwing everything they can into the wind. ☛

For more on the art and science of sailmaking, visit: doylesails.com