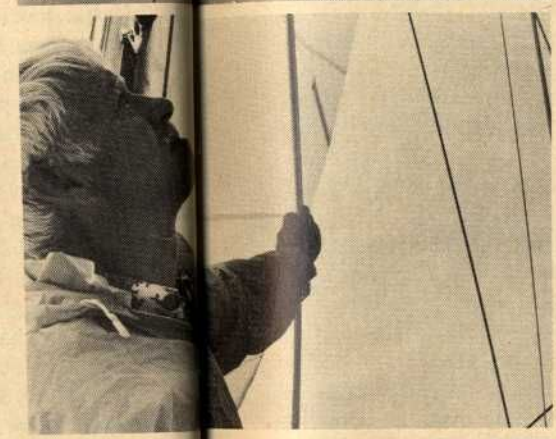
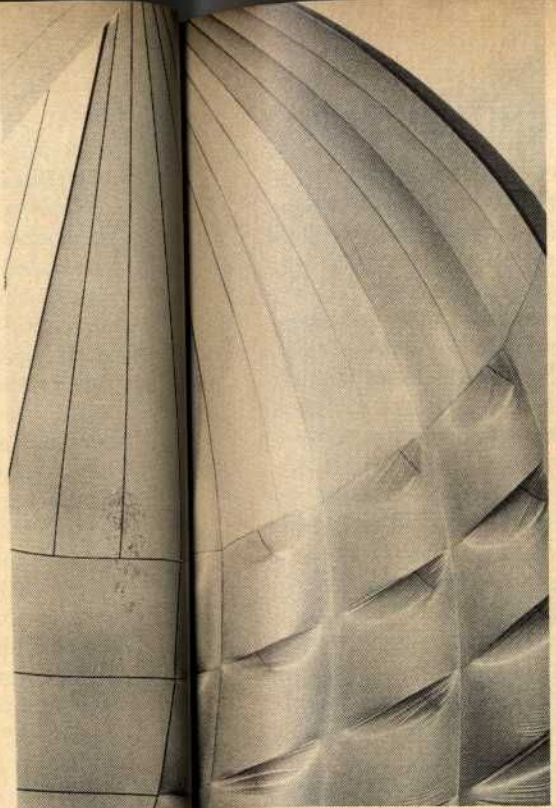




George X. Sand



Martin Luray



In 12-knot breeze off Pompano Beach, Fla. two Hinckley Bermuda 40's race boat-for-boat. Broad-reaching High Spirits flying Jalbert spinnaker stays ahead of Seward De Hart's Rissa, despite skimpiness of Jalbert chute. Above (top), detail of airfoils working on a windward leg, honeycomb construction in action (bottom) while running as Dom Jalbert (center) appraises wind effect.

# SUPER-CHUTE

Is Dom Jalbert's revolutionary new spinnaker the off-wind sail of the future?

By GEORGE X. SAND

□ Every racing sailor has this dream of glory:

The big race of the season—one that will decide the point total winner for the months of hard-fought, bitter campaigning. On the windward leg, sails are trimmed just right. You're using every trick in the book to stay up with two other contenders, but despite everything they're sliding away—several boat lengths ahead of you. They make the windward mark—and pop go the spinnakers as they head downwind.

But you're not *really* worried, because hidden in that mild-looking turtle in your pulpit ready to go is your secret weapon—a spinnaker so fantastic that it is going to blow the other boats right off the course and carry you to victory. Your foredeck crew is poised and as you round the mark up it comes smartly . . . SUPER-CHUTE! Wham, it fills and you charge downwind . . . faster than hull speed . . . faster than a speeding bullet . . . surfing with glee as you leave the other boats with their shocked crews and disbelieving skippers far behind. "What the hell was that?" they say, as you go charging by. It looks like a conventional radial head spinnaker, cut somewhat narrow in the shoulders. But what are those checkerboard panels—48 of them—down the center? What secret do they hide? The panels snap and crackle as the wind fills them. The leeches curl perfectly. Bemused by what they are seeing, the crews of the other boats allow themselves to drop further and further back—and then, the cannon shocks the stillness as you cross the finish line—first, and overall winner. SUPER-CHUTE has done it again. Later, the other skippers crowd around you and stare at the blue, mild-mannered bag out of which SUPER-CHUTE has emerged. But while you accept their congratulations, your only comment is a quiet smile. Victory is yours.

In actuality, there is more to this than a dream. Such a spinnaker may turn up in the Southern campaigns this winter and if not, then later on this year in other major races. The new downwind sail has been developed by Florida aerodynamics expert Domina Jalbert, who has spent most of the past five decades developing devices that put wind pressure to good use. The 17th of 21 children of a French Huguenot family, he grew up kite-crazy in the tiny Hudson Bay community of St. Michel. His love for kite-flying steered him into aviation, and while he has been an active pilot since 1927, kite-flying still is one of his passions, and in fact, led him to some of his more famous inventions, like the kite balloons used by the early Byrd Antarctic expeditions for suspending radio antennae. The parafoil is another, in effect, a kite that has no battens, looks like an air mattress floating in the sky, but is based on the very sound principle of wind pressure filling and supporting a fabric-covered hollow airfoil section. His clients have included the Woods Hole Oceanographic Institute, private vacation resorts, fishing interests, and naturally, the Government, which put his laboratory in Boca Raton, Fla. to work in the development of balloons for guided-missile, satellite and space projects. The balloon business having dropped somewhat recently, Jalbert, at the behest of his sailing friends, began looking into what could be done with sail development, which has remained essentially unchanged for the past 200 years. Closest to his experience is the spinnaker, with its kite and parachute-like characteristics. Over the past two years, he has been experimenting with the use of integral airfoil sections incorporated in a conventional radial-head-shaped spinnaker, finally coming up with a multi-cell chute that offers at least 25 percent more efficiency but no appreciable extra weight, even though there is about nine percent more fabric incorporated in the entire sail area. Just as important, the Jalbert spinnaker provides so much drive that it need not be as large as the comparative "plain skin" chute for a given boat length. In addition, Jalbert's method of "honeycomb" construction helps make his sail less prone

Continued on next page