



Headsails

(800) 342-5033

www.haarsticksailmakers.com



Speed: The Haarstick design philosophy produces a fast Genoa that trims easily and predictably. A sail that will respond to the available trimming tools throughout its full wind range is our top priority. This goal is realized via our proprietary design and CAD program, and our Gerber cutter. This system, developed in house fully optimizes every seam curve, luff curve, foot curve and roach offset – right down to infinitesimal fabric stretch corrections. This makes for a genoa that performs flawlessly throughout its designed conditions.

Durability: *To make the best, most durable sails, you have to use the best sailcloth.* But you can't tell what cloth is good by just looking at it, or by "feel", as the "old-timers" used to do, you have to test it. Our cloth testing program began in the sixties, and has continued ever since. We believe that we test every batch of upwind cloth with the most thorough and rigorous testing procedures in the sailmaking industry. We not only test cloth when it is new, but we severely "beat" it up with our proprietary IMPACT FLUTTER testing program, and retest the cloth. The loss of strength after our Impact Flutter test is quite amazing, and the results of this test determine the durability of the cloth, and, most importantly, if we will accept the cloth and have it shipped to us. Over the years, this fabric research program has generated an enormous amount of data on all kinds of sailcloth. *No loft tests sailcloth like we do. No other loft uses a test procedure as severe as our unique "Impact Flutter" test.* This benefits every sail we make, race or cruise, working sail or spinnaker

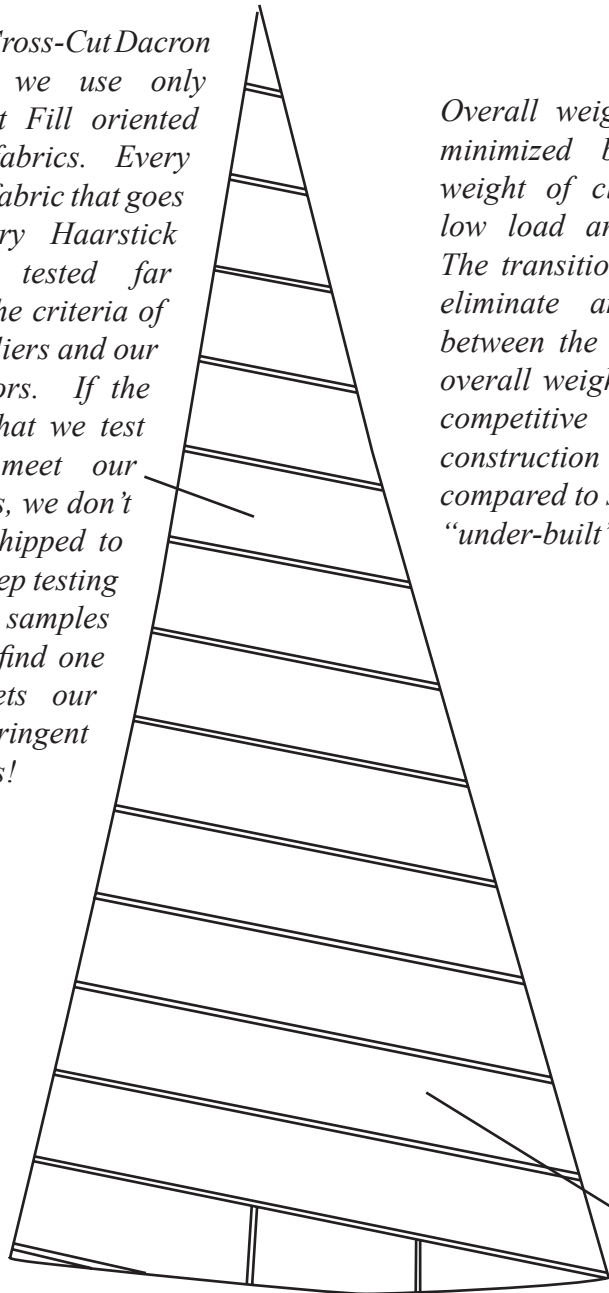
The same attention to fabric quality, proper engineering of the construction and finishing details goes into every Genoa. This benefits every sail we make – race or cruise.

The same attention to fabric quality, panel engineering, construction and finishing details assures that you will receive the finest Genoa available. Combine our proven expertise in sail design and computer cutting with the most accurate CAD/CAM program and the result is the highest quality Genoa for whatever type of boat you have, race or cruise.

Value: We encourage you to compare us to the competition. No other sail is engineered like a Haarstick sail, or built with as much attention to detail. Every Haarstick sail is designed and cut from tested and approved cloth, **ONLY** at our Rochester loft. Fast shapes, exhaustive fabric testing, engineering excellence, strong customer service, and attractive prices add up to genuine value. The next time you're considering a new Genoa, call us at 1-800-342-5033 or e-mail us at info@haarsticksailmakers.com.

All Haarstick Genoas are designed and cut with our with technology developed in house. This technology, including our unique Gerber cutter produce the most accurately manufactured sails available. All our Genoas and include computer generated corner reinforcements, load analyzed seam construction, luff attachment to fit the headstay system, 100% Stainless Steel rings and reinforced stress points.

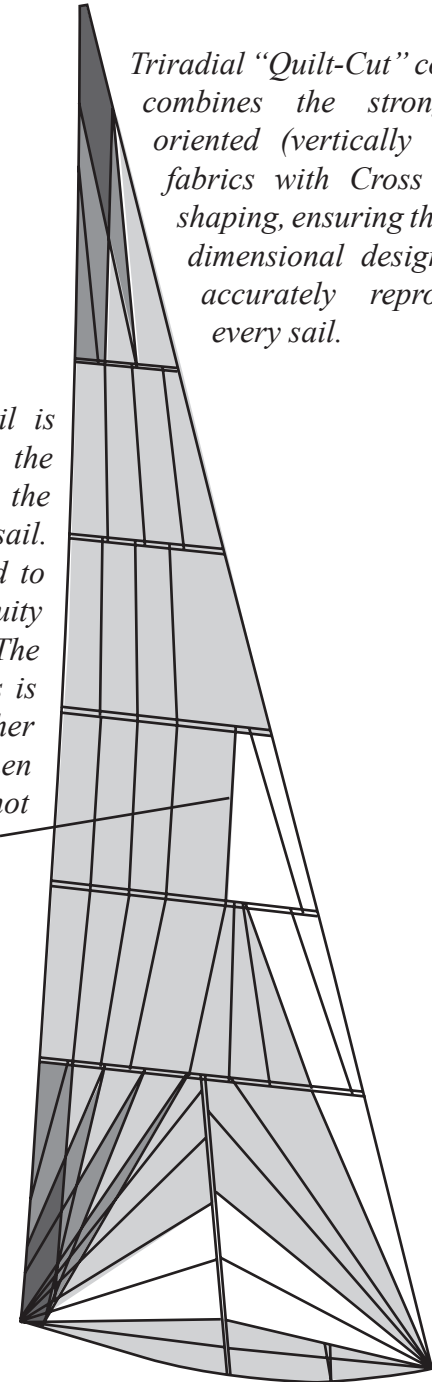
For our Cross-Cut Dacron Genoas, we use only the finest Fill oriented Dacron fabrics. Every batch of fabric that goes into every Haarstick sail is tested far beyond the criteria of our suppliers and our competitors. If the sample that we test doesn't meet our standards, we don't have it shipped to us. We keep testing other samples until we find one that meets our very stringent standards!



Cross-Cut Genoa

Overall weight of the sail is minimized by reducing the weight of cloth used in the low load areas of the sail. The transition is staggered to eliminate any discontinuity between the two fabrics. The overall weight of our sails is competitive with any other construction process when compared to sails that are not "under-built".

Triradial "Quilt-Cut" construction combines the stronger warp oriented (vertically orientated) fabrics with Cross Cut seam shaping, ensuring that the three dimensional design shape is accurately reproduced in every sail.



**Tri-radial Quilt-Cut
#3 Jib**

Time proven construction methods and a broad selection of fabric styles make the Cross-Cut a good choice for Club racing, and cruising.

Tri-radial “Quilt-Cut” Genoas:

Our Triradial “Quilt-Cut” is still the best construction method for racing Genoas. The primary reason is that we **THOROUGHLY TEST EVERY UPWIND FABRIC BEFORE WE PURCHASE IT, AND BEFORE IT GOES IN YOUR NEW SAIL!!**

This just can’t be done when the fabric is being made at the same time as the sail! How can the laminate in these “string sails” be tested ahead of time? They can’t! You the buyer are the test; if the laminate holds together and doesn’t delaminate, you are in luck. But what happens when you find sheets of film peeling off after only a few races, or worse, after one race in heavy air? There are many ways for the laminating process to go wrong, but only one way to insure the bad laminations never get into your new sail: Don’t make the cloth at the same time that the sail is made! We don’t sell our customers sails that are made from untested and unapproved cloth.

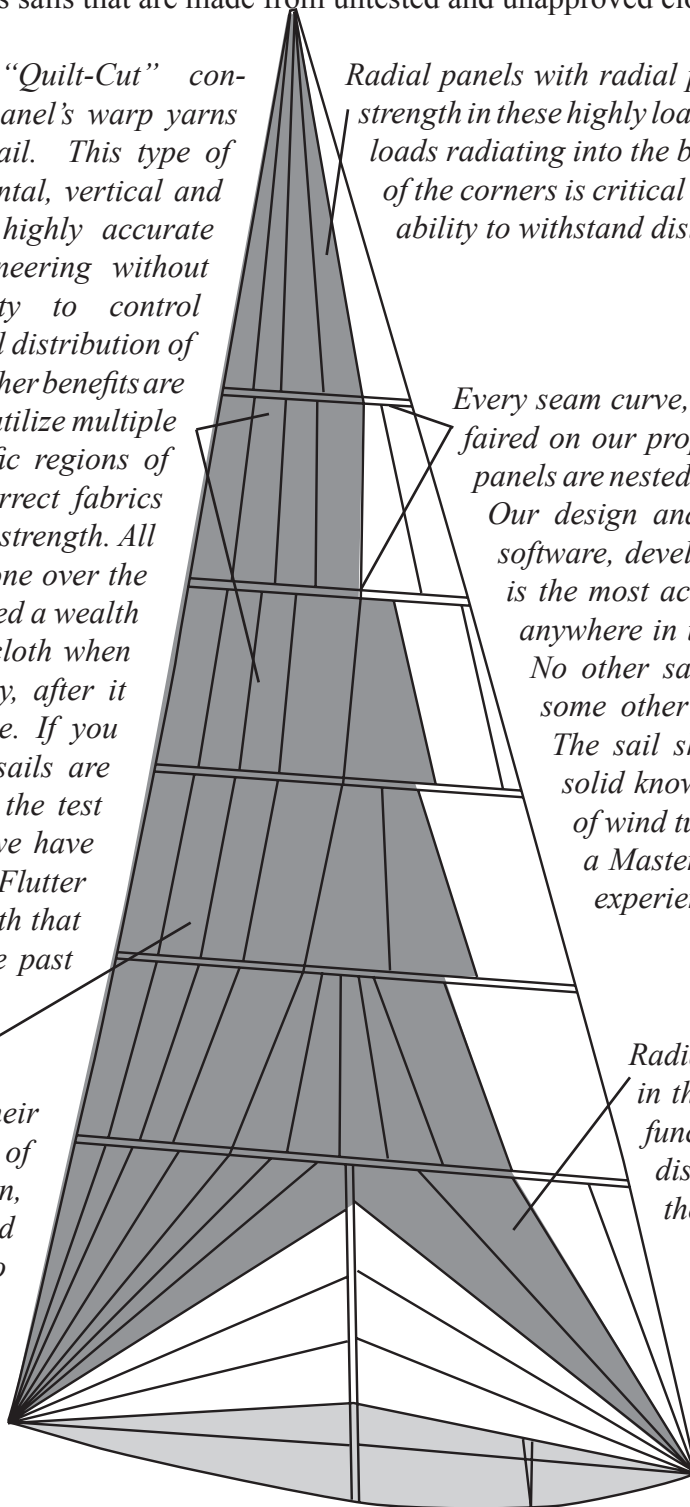
Our unique Triradial “Quilt-Cut” construction aligns the sail panel’s warp yarns with the loading in the sail. This type of construction, using horizontal, vertical and radial seams, facilitates highly accurate catenary threadline engineering without compromising the ability to control vertical and cross-sectional distribution of aerodynamic shaping. Further benefits are realized with the ability to utilize multiple fabric styles within specific regions of the sail. Choosing the correct fabrics for each application is our strength. All the testing that we have done over the past 35+ years, has provided a wealth of cloth test data for the cloth when new, but, most importantly, after it has received extensive use. If you want to claim that your sails are durable, you should have the test data to prove it. We do- we have our proprietary Impact Flutter tests for all the upwind cloth that we have purchased for the past 25 years!

Clean leeches that hold their shape longer are the result of our proper cloth selection, incorporating the tested stretch of the cloth into the cut of the sail, and the most accurate design/ CAD/cutting system in the business.

Radial panels with radial patches in the corners concentrate strength in these highly loaded areas, and efficiently handle the loads radiating into the body of the sail. Proper engineering of the corners is critical to the load range of the sail, and its ability to withstand distortion and premature failure.

Every seam curve, every luff, foot, and leech curve is faired on our proprietary CAD program, before the panels are nested and prepared for our Gerber cutter. Our design and CAD programs are proprietary software, developed in house. Our Gerber Cutter is the most accurate sail-cutting machine in use anywhere in the world (Resolution of 8/1000”). No other sail cutting method, by hand or by some other computer cutter, can match this. The sail shapes generated are backed by a solid knowledge of aerodynamics, two years of wind tunnel testing at Stevens Institute for a Master’s thesis, and 40+ years of design experience.

Radial foot panels with radial patches in the tack and clew perform the same function as the radial head panels: distribute the concentrated loads at the corners into the body of the sail.



Tri-radial Quilt-Cut Genoa

STANDARD FEATURES

All Haarstick RACING genoas include:

Luff Attachment to Match Forestay System
UltraBond load seams on all laminate Triradials, all seams on large Triradials
Sail Number
Adjustable Leechline and Footline
Telltale Window
Spreader Patches
Luff Telltales
Draft Stripes
CAD/CAM Radial Corner Reinforcements
Sail Bag

All Haarstick CRUISING genoas include:

Luff Attachment to Match Forestay System
Adjustable Leechline and Footline
Luff Telltales
CAD/CAM Corner Reinforcements
Sail Bag

OPTIONS

Sail Numbers (Standard on Racing Genoas 130% & Larger.) Many cruising sailors find it useful to have numbers on their genoas, usually their hull #. This can aid in identification when cruising or setting up a rendezvous with fellow cruising sailors.

Cunningham Placed 10" –18" above the tack, the Cunningham is used in lieu of halyard adjustment for controlling fore/aft draft placement.

Draft Stripes (Standard on Racing Genoas) Stripes of contrasting color (black, blue, red or green) placed on the sail parallel to the water to aid in illustrating the sail shape for more accurate trim adjustment.

Jib Battens (Standard on Racing Jibs) Non-overlapping jibs can be fitted with battens. This allows for a straighter leech, maximizing the efficiency of these sails.

Full length Sausage bags

Sail Handling Systems There are many roller-furling systems on the market today. Harken, Pro-Furl, Schaefer, Furlex and CDI are just some of the many sail handling systems available. Your Haarstick Sailmaker can discuss these options with you and provide you with specific product information and pricing.



**WE
MAKE
WAVES
Since 1970**

1461 Hudson Avenue, Rochester, NY 14621

1-800-342-5033

(585) 342-5200 • FAX (585) 342-8360

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