

# RESTORE SAIL PERFORMANCE WITH A PRECISION RECUT

## **SAIL PERFORMANCE IS SHAPE DEPENDENT**

Sail shape and minimizing stretch are two key variables in delivering optimum upwind performance and reducing heel and weather helm. These factors also extend a sail's wind range before a sail change becomes necessary.

Quantum's Precision Recuts give new life to racing sails by restoring the sail up to about 90% of its original shape. Reshaping techniques can be applied to both Dacron® and membrane sails to yield a sail that will allow you to point higher, sail faster, and is easier to trim.

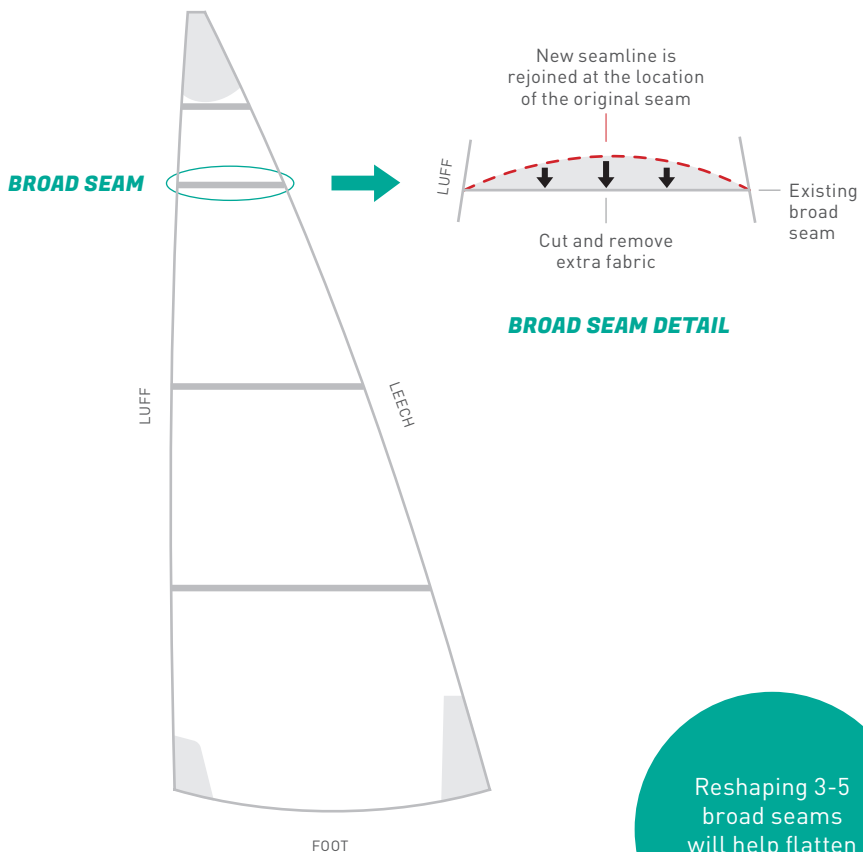
The condition of the sailcloth is key; it must not be too worn and stretchy or the adjustments will not produce the desired results. With good fabric, reshaping can generally be done once or twice during the life of a sail.

Working behind the scenes for top-level race programs are sailmakers who continuously tweak and recut sails to maximize boat speed and sail performance while working within sail limitations. With Quantum's Precision Recuts, club and weekend racers can enjoy the same performance benefits and competitive advantage of top teams like Quantum Racing.

Following are three of the most common ways to recut a sail to restore optimal performance.



# BROAD SEAM RESHAPE



**BROAD SEAM DETAIL**

Reshaping 3-5 broad seams will help flatten the entire sail.

## **PROBLEM: DEEP DRAFT. FULL SAIL. CAN'T POINT VERY HIGH.**

The sail depth becomes fuller and more rounded. The draft moves aft. You're no longer able to point as high as when the sail was new. An inability to hold a lane or position close to other boats can really destroy a tactical game plan.

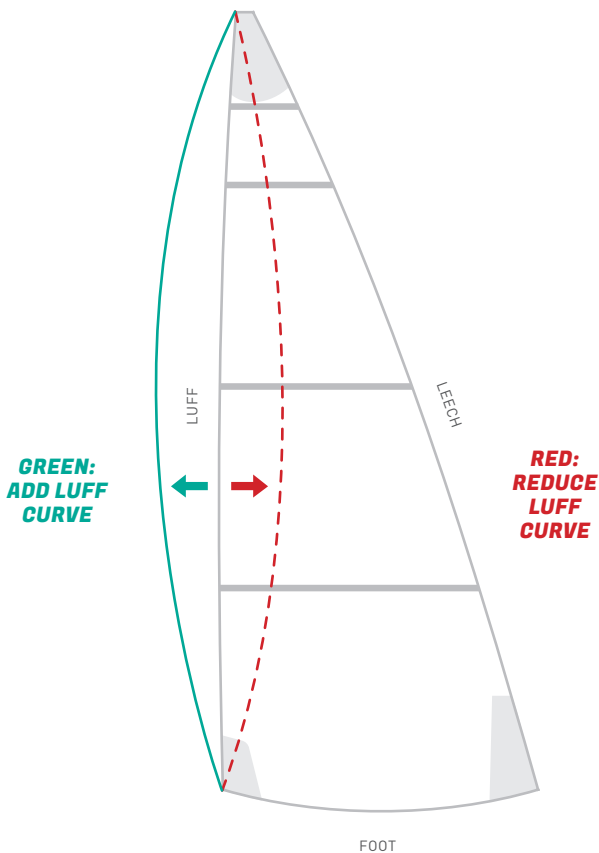
## **SOLUTION: SEAM RESHAPE**

Seams are reshaped and extra fabric is removed. This procedure flattens the sail and helps return the draft to the original and optimal location. Generally, three to five seams are remade to achieve desired shape.

## **RESULT: FASTER SAIL. POINTS HIGHER!**

With the flatter sail you can now point higher than before! Your sail is flatter, faster and more efficient. Your boat sails more upright and is far more responsive.

# LUFF CURVE RESHAPE



Luff curve can be removed or added to help return sail to original entry shape.

## **PROBLEM: REDUCED ENTRY. SAIL IS HARD TO STEER.**

As sails age, their entry is reduced due to a variety of factors. Stretch, as well as over-tensioning the halyard can reduce entry. Reduced entry will make the sail harder to trim, less efficient and make steering more difficult.

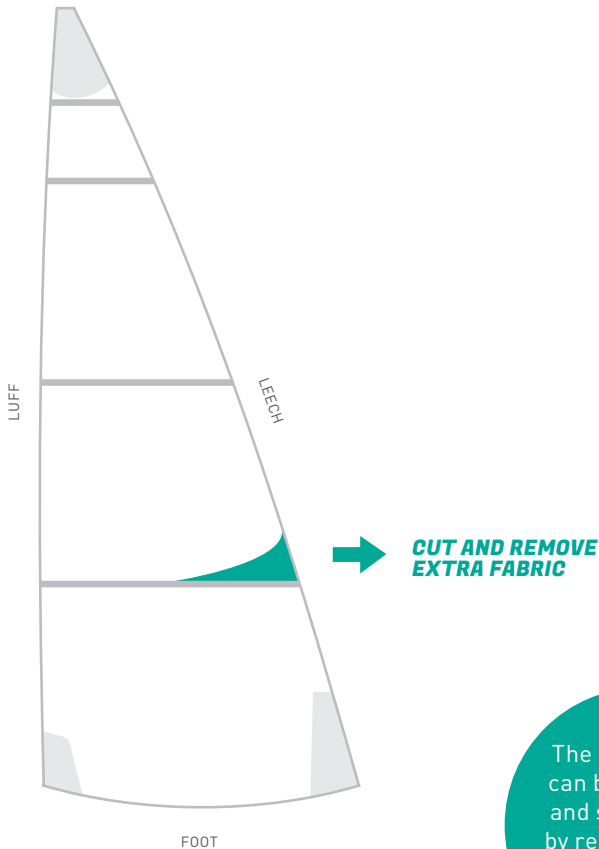
## **SOLUTION: LUFF CURVE CHANGE**

Luff curve can be restored to help return the sail to its original entry shape. Sometimes a luff curve change is made to remove entry and flatten the sail.

## **RESULT: FASTER, EASIER TO STEER SAILS.**

Returning entry gives you a bigger range to steer inside that is still ultrafast. Steering will be easier and you'll be able to go faster and win more races!

# LEECH TAKE-UP



The leech length can be shortened and straightened by removing extra fabric along a seam or elsewhere.

## **PROBLEM: LEECH FALLS AWAY. SAIL ISN'T DELIVERING POWER.**

On cruising Dacron® mainsails and genoas, the leech can stretch and fall away, making the sail more difficult to trim and reducing boat speed. Leech stretch can also hamper the use of furling systems.

## **SOLUTION: LEECH TAKE-UP**

By removing extra fabric at a seam or elsewhere on the sail, the leech can be shortened and straightened to its original dimensions and shape.

## **RESULT: SMOOTH LEECH WITH PROPER POWER AND EXIT. MORE POWERFUL SAIL.**

By bringing the leech back to its in-line design shape, the sail is once again a proper foil and will deliver efficient power.

## **NEW SAIL PERFORMANCE AT A FRACTION OF THE COST**

Older sails in good condition can be reshaped to return the sail to peak performance at a cost far less than the price of a new sail. Generally speaking, a recut will cost less than 20% of the price of a new sail. Speak with your local Quantum sail consultant for more detailed pricing.

## **HOW DO I KNOW IF MY SAIL IS A GOOD CANDIDATE FOR RESHAPING?**

If you are experiencing any of the problems noted above, contact Quantum Sails and we will happily perform a sail shape analysis and provide you with the results and an estimate at no charge.

The analysis requires an on-the-boat photo of the flying sail. You can do this yourself following the tips on the next page. Submit the image to a Quantum sail consultant and ask for a sail shape analysis. We'll digitize the image, measure the shape, determine which techniques are required to address problem areas and provide you with a detailed recut solution that's perfect for you.

## **FOR MORE INFORMATION**

Sometimes a new sail is not the answer. A Precision Recut can help extend the lifespan of your sail and maximize the return on your investment. Our knowledgeable sail consultants and service technicians are available to help you find the best solution for your boat. Contact your local loft, find a loft near you on our website at [www.QuantumSails.com](http://www.QuantumSails.com), or give us a call at 888.773.4889.



**QUANTUM SAILS HAS BEEN WORKING WITH MY TEAM AND MY SAILING INVENTORY FOR THE PAST SEVERAL YEARS. THROUGH ACCESS TO THEIR TOP DESIGNERS AND SAILMAKERS, WE'VE BEEN ABLE TO CONTINUALLY ADJUST AND REFINE SAIL SHAPE THROUGH RECUTS TO KEEP MY SAILS AS FAST AS POSSIBLE. I CERTAINLY WOULD NOT HAVE BEEN AS SUCCESSFUL ON THE RACE COURSE IF NOT FOR THEIR COMMITMENT AND EXPERTISE.**

— DAN CHERESH, C&C 30 *Extreme 2*

# TIPS FOR TAKING PHOTOS OF YOUR SAIL FOR RECUT ASSESSMENT

- 1 Sail must be full, on a close hauled course, trimmed correctly.
- 2 Photos should be taken from the mid-foot of the sail in question, with the lens aimed at the head of the sail.
- 3 Rotate the camera to capture the full length of the lowest draft stripe.
- 4 Take a variety of photos from this location, as well as photos of any specific problem area on the sail.
- 5 Where practical, take a few photos from the stern of the yacht, with the lens pointed forward toward the bow, and up towards the head of each sail.
- 6 It is very important to note the conditions when the photographs were taken: time, date, wind speed, point of sail, halyard and sheet tensions, control line settings, backstay pressure, sea state – anything and everything related to the sailing conditions at time of photography.
- 7 We recommend keeping a digital photograph library of your sails across their lifespan. This data will help you become more adept at understanding sail shape, and will assist your sailmaker in their evaluation and recommendation for recut.

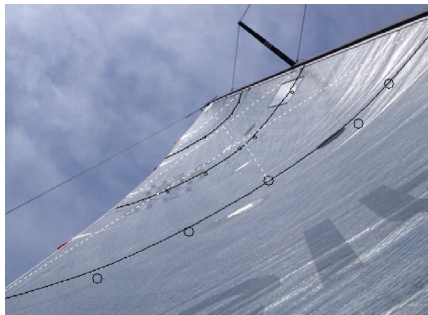
## PHOTO QUESTIONS?

Call your local sail consultant or service department for more information.



### NEW SAIL

It's a good practice to photograph your sails when they are new. In a few years, the photos will serve as a valuable reference when evaluating sail shape for a recut. Pictured here is a new Melges 32 sail.



### AFTER RECUT

This photo of the same Melges 32 sail was taken a year later following a recut. This image illustrates the output of the sail scan process, which digitizes the sail shape and provides measurement data for the recut. From this "after" image, the designer can evaluate the effect of the recut and verify results.