

# **UK SAILMAKERS ACCUMEASURE QUICK START MANUAL**

## **WHAT THIS PROGRAM DOES**

AccuMeasure is a program to read a sail's sectional shape from digital photographs. It runs on computers running Windows 98 and higher. AccuMeasure will read all popular image file formats including JPEG, TIFF, BMP and PCX. If you have a paper print, you'll need to scan it and save the file in any of the above formats.

## **PHOTO NEEDS**

The photos needed must be shot looking up from the middle of the foot of the sail. Get your camera as close to the surface of the sail as possible. It is usually difficult to get the entire bottom draft stripe in the picture. To get as much as possible of the longest draft stripe, rotate the camera so that the longest draft stripe runs diagonally across the frame. If you can't get the whole bottom stripe into the frame, get the front of it and as much as you can of the rest. AccuMeasure lets you position the measurement tool off the edge of the picture.

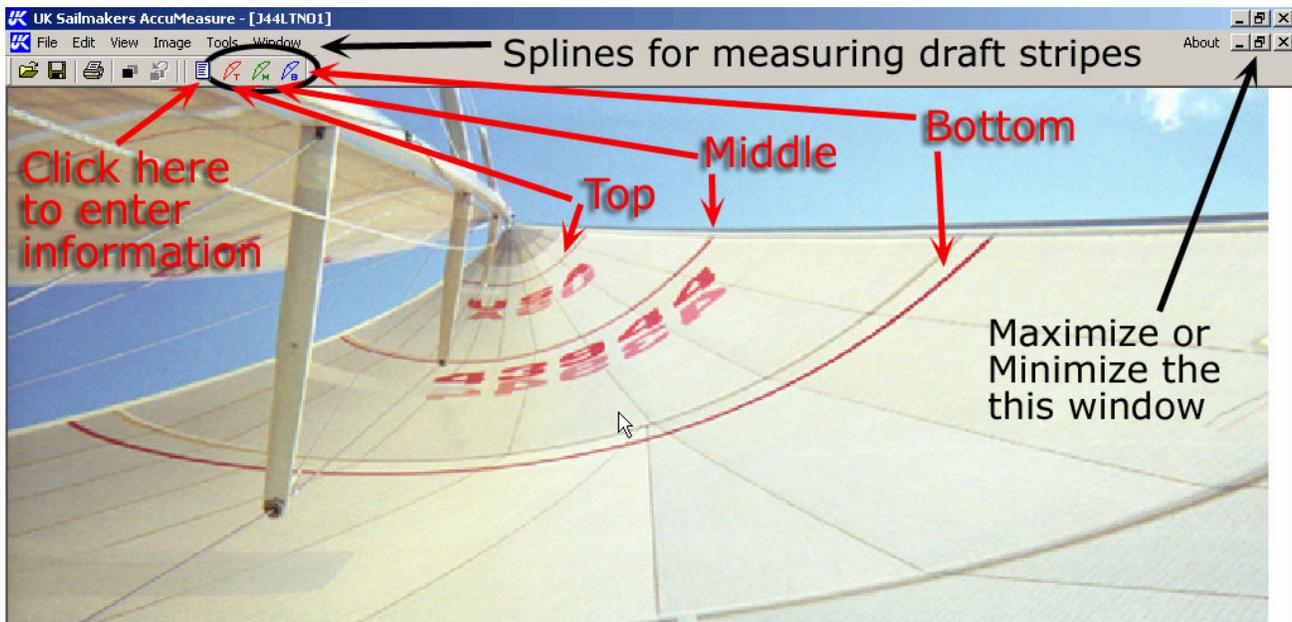
If your camera has a zoom lens, zoom out as far as you can with your camera to get as much of the sail as possible in the frame. If you are shooting with a 35mm camera that uses interchangeable lenses, use a slightly wide-angle lens (35 - 40 mm works best). Too wide a lens causes distortion and a narrower focal length lens does not get enough of the sail.

## **INSTALLING THE PROGRAM**

After you download the program, you will see a UK icon on your desktop. This is the installer program; double click on it to start the installation process. Once the installation is complete, you'll see an open window of the AccuMeasure folder with the AccuMeasure program icon. Before running the program make a shortcut for the program and place it on your desktop. Do this by clicking the right mouse button and then selecting CREATE SHORTCUT. A duplicate icon will appear in the window. Just drag the duplicate to the desktop. Now close the window, move the installer program icon to the trash and you are ready to go.

## **STARTING THE PROGRAM**

Double click on the shortcut icon to start the program. Go to the file menu and choose OPEN. The install program comes with three sample pictures for you to practice on. To follow along with these instructions, open the file titled J44LTNO1. The other two sample files are NITEMA~1 and SWAN48M. When



**Figure 1: Spline Tools and Information Window**

you left click once on any image file, you will see a thumbnail preview of it to the right. To open a file, double click on its name. If the picture does not fill the screen, click on the MAXIMIZE WINDOW button. It's the middle of the three buttons in the top right of the picture window's title bar.

## TAKING MEASUREMENTS

Start out by measuring the sail at the top draft stripe. To line up the spline tool with the draft stripe, zoom in to the draft stripe. Do this by putting the cursor over one end of the stripe, then hold down the right mouse button and drag across the picture to the other end of the draft stripe. Before letting go of the right button, make sure the rectangle that defines the zoom area encompasses the entire draft stripe. If you accidentally zoomed too far and cut off some of the draft stripe, double click the right mouse button to zoom back out.

Now click on the Top Draft Stripe Spline tool. See Figure 1 above. An airfoil shaped line will show up on your photo. Move the cursor arrow over the front end of the spline, press down the left mouse button and hold it down while moving the front of the spline to the front of the draft stripe. Now move the back end of the spline to the back end of the top draft stripe.

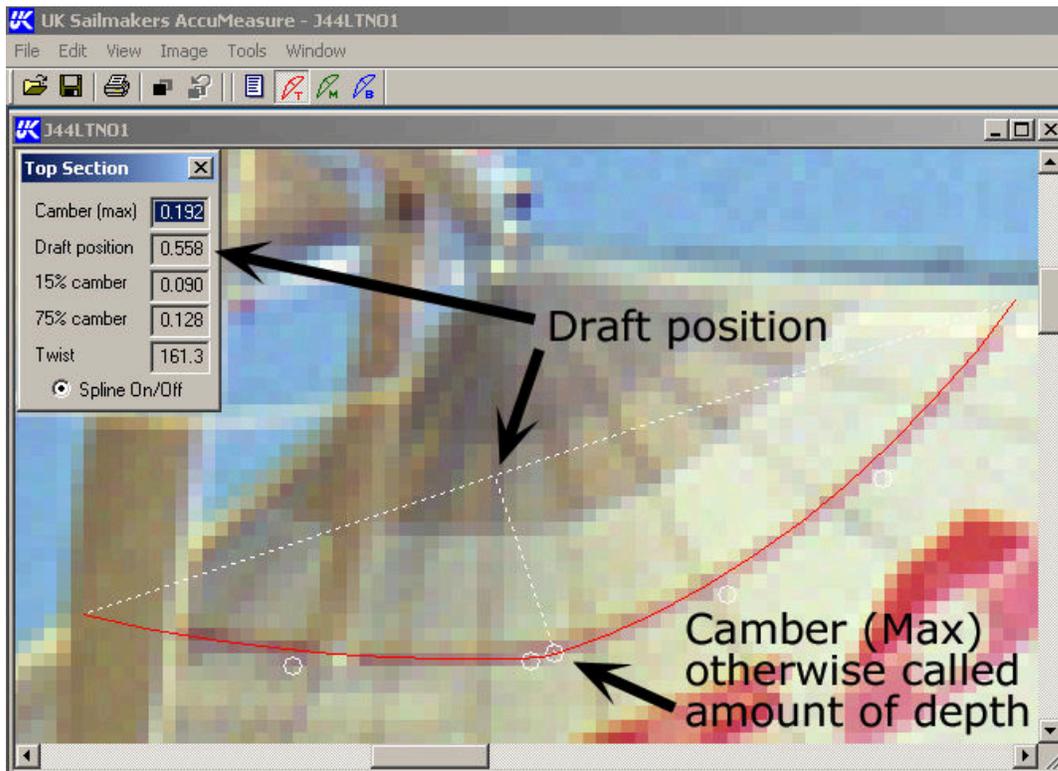
You'll notice in the example in Figure 2 that we had to use "our best judgement" in placing the aft point of the spline since a spreader obscures the back end of the draft stripe.

Next comes the most important step, finding the depth of the sail (Max. Camber) and how far back from the front of the sail the maximum depth point is (Draft Position). To do this, move the cursor arrow over the Max. Camber point of the

measurement spline. This point is the small circle at the end of the dotted line running perpendicular to the dotted line connecting the forward and aft points of the spline. Once you have the arrow over the spline, depress the left mouse button and hold it down while you drag that point along the draft stripe. Stop dragging and let go of the mouse button when you get the highest reading in the Camber (max) box of the Section Window. In Figure 2 below, the Camber (max) is 0.192 or 19.2%.

The small section windows can be dragged around the screen by moving the cursor arrow over any point of the section window's title bar and then clicking and holding down the left mouse button and then dragging the window wherever you want it. When finding the max. camber, move the section window close to the mid point of the draft so that you can watch the max camber number change as you drag the max. camber point around.

Next, drag the small white circles around so that the spline perfectly traces the draft stripe.



**Figure 2: Finding Max Camber and Draft Position**

In the section window of Figure 2, you'll see that the Draft Position is 0.55, which means that the maximum camber position, is 55% aft.

Once you finish with the top draft stripe, zoom out by double clicking the right mouse button, or go to the VIEW menu and choose FIT IN WINDOW. Then zoom in on the middle draft stripe. Select the middle draft stripe spline and measure as described above. Some camera lenses might not be capable of captur-

ing the full bottom draft stripe of a No. 1 Genoa or mainsail. If one end of the draft stripe is cut off, AccuMeasure lets you move the end of the spline into the white space to the right of the picture.

If the missing part of the stripe is on the left side of the picture, you'll need to "Flop" the image so that the missing part is on the right side. Do this by going to the VIEW menu and choose the MIRROR option. Note that when you click on the spline tools, they will put the spline on the page with the front of the spline toward the right. If you Flop the picture with the MIRROR option, you will have to drag the forward point of the spline around to the left where the forward end of the draft stripe has been moved.

## DOCUMENTING THE SAILING CONDITIONS

After measuring the draft stripes, open the INFORMATION window to record the wind and trimming settings when the picture was taken. The information in

this box is very important for interpreting the spline measurements. To open the INFORMATION window, go to the TOOLS menu and choose the first option, which is INFORMATION. You can also click on the INFORMATION icon in the tool bar, which is just to the left of the TOP SPLINE icon.

## SAVING YOUR WORK

To save your file with all the data from the spline measurements and information notes, go to the FILE menu and choose SAVE AS. Make sure that SAVE FILE TYPE is

**Figure 3: Information Window**

"Ukimage 24-bit color (#.uki). This way all the measurement data will be saved with the picture. Any other file format will not save your measurement data.

## PRINTING

Printing a .uki formatted file creates hard copy showing the picture, splines and all the measurement data and historical information. You can save the printouts in a file or binder to document different trimming techniques, how the sail behaves in different wind conditions or to send to your UK Sailmakers representative for further analysis. Figure 4 on the next page is a sample printout.

Besides printing hard copy, you can e-mail a .uki formatted file to your UK Sailmakers representative. The file size does not increase from the size of the original photo.



FILE: L11

Boat:	J/44	Apparent Wind Speed:	10
Owner:		Apparent Wind Angle:	29
Sail:	North Light No. 1	Halyard setting:	Tight
Date:	June 1997	Backstay setting:	1000 lbs
Tack:	Starboard	Lead or Traveller setting:	#5
Notes:			

<b>Top Section:</b>		<b>Middle Section:</b>		<b>Bottom Section:</b>	
Camber (max)	0.187	Camber (max)	0.173	Camber (max)	0.145
Draft position	0.528	Draft position	0.551	Draft position	0.456
15% Camber	0.093	15% Camber	0.085	15% Camber	0.080
75% Camber	0.129	75% Camber	0.136	75% Camber	0.104
Twist	162.5	Twist	165.0	Twist	168.3

**Figure 4: Printout from AccuMeasure**

Thank you for taking the time to read these instructions. Feel free to look at the UK ACCUMEASURE REFERENCE MANUAL for more information. It is the other PDF that was part of the AccuMeasure download.