

# J/105 News

Official Publication of the J/105 Class Association

October 2000

## Nelson says...

Even though the J/105 class is nearly ten years old, the class governance is really only one year old. It was not until the North Americans in San Francisco last August that we adopted a Constitution and elected a group of officers. So it can be said that we are still in our formative stages. This is the first year we've had a budget and we only now are looking to add some kind of paid class administration duties.

Two needs came across as crystal clear at the national meeting in September. We need to ensure that members perceive that they are getting good value for their dues. We also need to ensure that the class organization serves the entire membership, not just one region of the country or only the sailors that attend the national events.

As Secretary/Treasurer and Webmaster I would like to help make this the "dot-com" (or "dot-org") sailing class. Clearly the primary interface for our membership should be the website and we will try to keep it updated at least weekly if not more often as events warrant. The FORUM continues to be helpful with contribution from new owners as well as veterans. In the near future you will see a classified section and means for paying dues by credit card.

Nevertheless, we still feel that there is value in a Newsletter. Even though most of our members have e-mail addresses, some of them are not totally computer literate. We need to reach out to everybody at least twice a year. This edition of the Newsletter represents the first edition that has not been at least partially funded by JBoats and the first edition that is being sent only to paid members. In April JBoats paid for the printing and mailing and it went to all owners. That edition had two mild complaints. The first was that most of the content was taken from the website and there was nothing new. The second was that the print quality was not what it should be in this computer age.

The first problem was addressed by asking several of our members to write feature articles which have not appeared on the website. The second problem is being addressed by our own Skip Malm (#148 WISH, Fleet #4) who owns a printing business (Activities Press, Inc.). Please thank him for offering to print and mail this Newsletter.

Finally, if the website and newsletter are to be the best they can be, we need your input and your help. Please contact me if you have suggestions. I'd especially like volunteers to write articles for the Newsletter. It's your Class Association and you can help to make it THE BEST Class Association.

Nelson Weiderman  
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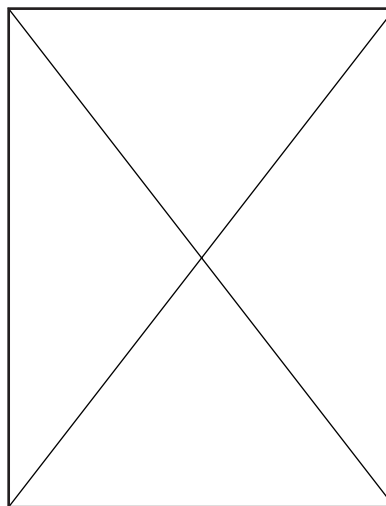
## LeRenard tops NA's

What won the NA's this year?

According to **Steve Philips**, owner and skipper of winning boat **LeRENARD**, the key to success was staying away from the ends and the edges, and trying to avoid any big mistakes. As the only team in the 34 boat fleet to post all top ten finishes, obviously his strategy worked.

"This was a very tough regatta due to so many good boats and the light and shifty conditions," Philips said. Day one's races were abandoned due to lack of wind. Two races each on Saturday and Sunday in (even for Annapolis) light and shifty stuff challenged competitors and race committee alike.

Philips and his all amateur team of **Jamie Brohawn** (jib/tactics), **Steve Adams** (bow), **Dave Thomas** (mast), and **Sandy McAllister** (main) also



LeRenard shows her downwind prowess

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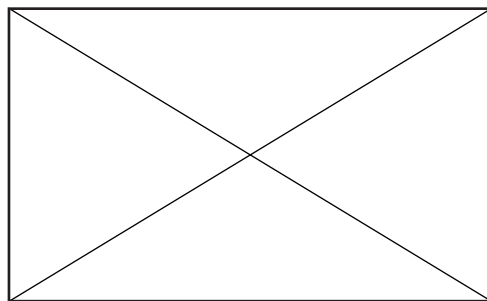
used conservative boat handling to their advantage. "We'd decided to always drop the chute early, to have our boat more flexible and to be properly set up for the next windward leg," explained Philips. "During the last race, this strategy enabled us to pass five boats who were all in a pile fighting for overlaps with chutes up. We dropped our chute early, pulled out the jib and cut inside the cluster." LeRenard also

won the Corinthian trophy, a half hull donated by Bill Sutton for the top placing amateur team at the NA's.

**Bill Sutton**, a class veteran from

*continued on next page*

## 2 105's fly to Kenwood



JOSE CUERVO loading for her first flight

KAREN ROSENBAUM

'TIONAL' were the only cargo, well under the plane's 120-ton capacity. Besides the Russian crew and an English representative from HeavyLift, two sailors took advantage of the free flight to paradise: 'JOSE' crew Erik Schumann, who was planning on accompanying the delinquent sisterships, and a spur-of-the-moment 'stowaway', Karen Rosenbaum.

More on Kenwood inside, and at  
[www.j105.org](http://www.j105.org)

Six 105's signed up to participate in the Kenwood Cup in August, but when the container was opened in Honolulu, only four boats were inside. Mistakenly, the shipping company had left JOSE CUERVO and IRRATIONAL AGAIN on the tarmac in California. Not only would their owners miss the regatta, it would cost the whole fleet a one design start since five boats were required. So a few more phone calls to the shipping company (and perhaps a well placed threat or two) found a solution: both boats were airtailed to Hawaii aboard a gigantic Antonov plane - one of just three in the world. 'JOSE' and 'IRRA-

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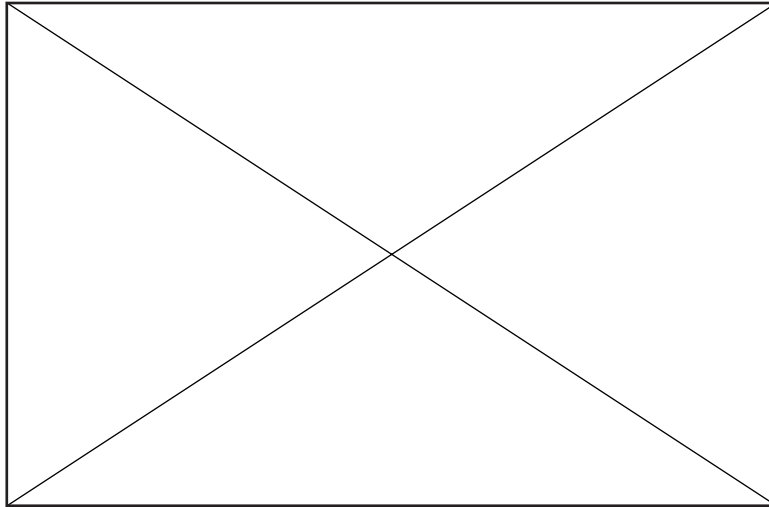
# 2000 North Americans

(continued from page 1)

Arlington, Va., posted a bullet on BLOND ATTACK in the final race to move into second overall. He agreed the conditions made for a tough event. "In the light and puffy stuff, the key is to keep your head out of the boat looking way up the water for that next zephyr of wind. I thought we did a good job of reading the shifts or puffs and adjusting accordingly."

Andy Skibo's PLUM CRAZY team led going into the last race, but after being called over early and returning to start they could only post a 23rd, which pushed them back to 3rd overall. Many owners commented how deadly an OCS was in the light air because of the difficulty in restarting.

Many compliments were heard for the shoreside organization, which was overseen by John and Mary Driver (who also sailed THOOSA to seventh overall). John spent many hours measuring boats and dealing with rules questions in his quest to keep the class as strictly one design as possible, and



A different coast and a different year: last year's NA's in San Francisco

JEFF JOHNSTONE

keeping it simple."

Linda Ambrose (also from J/Port Annapolis) did a terrific job running logistics for the entire regatta and making everyone feel welcome.

Also to be commended is class newcomer Julian Bigden, who took delivery of MOJO in March and managed a fourth-place finish overall. "I'm a little surprised. I wasn't sure we could do this well," said Bigden, who divides his time between Annapolis and Lancaster, PA. Bigden got up to speed in his new boat by competing in the weekly Eastport YC Friday Night series with his crew.

Obviously, he picked up a few pointers since the MOJO team posted a second and third and ended up only five points behind Plum Crazy.

His secret weapon may have been Jonathan Bigden, who learned a lot about J/105's from the Drivers as part of THOOSA's crew for the past few years.

both Drivers were recognized for their hard work by J/Port's Paul Mikulski, who awarded them the Spirit of the Class award. (Mikulski was instrumental in the building of the Annapolis fleet.) Sue Mikulski summed up the award with the following: "John and Mary have the right attitude. They believe in keeping the class honest,

## Highlights from the National Meeting

The J/105 Class Association Meeting took place on September 21, 2000 at J/Port Annapolis, prior to the North American Championship. The following was submitted by Nelson Weiderman, Secretary/Treasurer. For full details, go to the website and click on News.

Ten members of the current and future Executive Committees, representing six fleets, attended the Annual Meeting. Here is a brief summary of the discussion.

### Budget and Dues

The ExecComm decided to provide funding for both the website and class administration. The officers will be looking to fill a Class Administrator position. On the income side, the ExecComm voted to start a sail royalty system for better control of sail purchases.

### New Rule

7.6 A yacht that that has been protested for infringing rule 7.2 (bowsprit rule) or 7.5 (helmsman position rule) may exonerate herself by promptly making one complete 360 degree turn. (Previously the only penalty for these rules was disqualification.)

### Consitution Change

9.5(b) was changed so that

North American and International Championship Regattas will have guidelines established for their conduct, in order to bring some consistency to the National regattas and to encourage participation from across North America.

### Possible Rule Changes

1. Allow new owners to buy two spinners in the first year of ownership.
2. Tighten up definitions of sail purchase and acquisition and the rules for replacing and/or repairing damaged sails.
3. Allow an owner to replace any two sails in one year and any three sails the following year.
4. Develop a sail tag/button system.

Sailmakers would be required to purchase numbered sail tags that would be sewn onto the sails by the sailmaker.

5. Define a crew eligibility rule.
6. Consider limitations on professional owners.
7. Consider changing the class spinnaker from 77 sq. m. to 89 sq. m.
8. Consider alternatives to the 970 lb. weight limit.
9. Reconsider the handicap for shoal draft boats.
10. Make the dodger and forepeak cushions optional for racing.
11. Consider allowing a split fine tune/coarse tune for the mainsheet system.
12. Consider how to equalize boat weight.

Given such a long list, the Technical Committee will direct their attention to the sail issues ASAP so they can be voted in by December for implementation by 1/1/2001. Please note that there are no concrete proposals yet. If you have any cogent comments, please direct them to the Chief Measurer.

## New Officers

President	Don Priestly	J105sailor@aol.com
Vice President	Rick Wollerman	wollerman@worldnet.att.net
Secretary/Treasurer:	Nelson Weiderman	nhw@sei.cmu.edu
Chief Measurer:	Bill Sutton	billsutton@aol.com

Stuart Burnett was appointed as Member-at-Large by the Copyright Holder.  
Jeff Johnstone and Don Trask were re-appointed to the Technical Committee.

Read all the details at

[www.j105.org](http://www.j105.org)

# Configuring a Nexus System

For me, outfitting J/105 #198, LEGACY, in 1998 was great fun. Finally I had the chance to set a boat up just the way I wanted. One of the decisions I spent a lot of time on was selecting the instruments. After examining many different systems, I chose Nexus for its capabilities, display quality, and price-performance.

The system on LEGACY is based on the Nexus N3000 System integrated with a Garmin 215D GPS Chartplotter and a Nexus autopilot. The N3000 System includes speed, depth, wind, and heading sensors, one Multi-Function Display (MFD), and the server unit. To this I added a Nexus Tactical display, a Wind Data display, two mast-mounted MultiXL displays, a Nexus GPS Repeater, and a Nexus Remote Control with sockets at the helm and nav station. In the Nexus system, each sensor and display is intelligent, putting processed information on the Nexus bus that all other components can use. The functions available for display are based on the sensors installed. Install the speed impeller and you get boat speed and temperature. Add a masthead wind sensor and you get apparent wind speed and angle as well as true wind speed, angle, and VMG. Add the fluxgate compass or heading info from your GPS and you can not only view the boat's heading, but also the true wind direction (i.e. the wind is from 317°).

The Nexus MultiXLs display the four most important performance parameters forward on the mast where the whole crew can see them. Normally we display Boat Speed and True Wind Speed on the upper display and Boat Heading and True Wind Direction on the bottom display. By mounting a large heel-angle indicator below the two MultiXLs, I've got everything I need to sail the boat fast - performance info, heel angle, and jib telltales - right in my line of sight.

The remaining four displays are located in the recesses in the back of the cabin trunk, though on newer boats the same instruments could be located in the instrument pod above the companionway hood. A Multi-Function Display and a Tactical Data Display are installed to port of the companionway. On the starboard side reside a Wind Data Display and a Nexus GPS Repeater.

The MFD is the jack-of-all-trades of the system. Like the MultiXLs, the MFD can simultaneously display two lines of digital information from four "pages" of data containing over 35 possible functions. We configure the MFD to display speed and the 10-minute countdown timer. After the start I use

the Remote Control to switch the MFD to depth and VMG. We also use the MFD to check water temperature, battery voltage, and other occasionally used functions.

The Tactical Data Display shows both my current heading and the memorized heading. It also has an analog display that shows graphically how much you're lifted or headed from the memorized heading. When memorizing a course heading, the Nexus system is smart enough to know which tack I'm on when I press the memory button. The Tactical Data Display also has a unique header-alarm function. After setting the header-alarm for, say 10 degrees, the Tactical Data will sound an alert if you exceed that value for more than five seconds, and then show the number of seconds that the header has exceeded the alarm value.

The Wind Data display shows a graphical display of apparent AND true wind angle, plus the percentage increase or decrease of any speed function. Opposite the wind direction indication is the graph of the measured performance value. While this "performance gauge" is typically used to track changes in boat speed, it can track many other values as well.

My favorite function on the Wind Data display is the Next Heading function, which alternately displays your current heading and the heading on the other tack assuming a tack or jibe to the same true wind angle. This is especially useful downwind with the rapidly changing jibing angles of a sprit boat. Sure beats trying to do the math in my head!

The final display on LEGACY is the Nexus GPS Repeater, which can simultaneously display Speed Over Ground, Course Over Ground, Distance to Waypoint, Bearing to Waypoint, and steering guidance. This allows you to quickly evaluate the effect of current and leeway.

The Nexus Remote Control is unique in its ability to function as both a display and a control unit for the instruments and autopilot. The Remote Control serves as a "dual-MFD", since it has left and right sides for each display page. It can control any of the other instruments except the GPS Repeater. Normally my Remote Control is mounted on the pedestal while sailing and used to control the instruments and autopilot. We also installed a socket for the Remote Control at the nav station for use below decks.

The Garmin GPS is mounted on a swinging arm just inside the companionway, which allows it to be tucked safely away during races or be easily visible from the helm when desired. All of its navigation data is available on the displays and the autopilot. The integration of the Nexus autopilot with the Nexus instrument system and GPS allows the autopilot to steer to a compass heading referencing the fluxgate, to an apparent wind angle referencing the masthead wind transducer, or to an actual course track based on the steering directions from the GPS.

The integration of the instruments, autopilot, and GPS was much easier than I expected and has worked well. Compared to the coax cables used by some other systems, the 1/4" Nexus four-conductor cable can be run anywhere easily. I've also been pleased with the lighting on the Nexus instruments. The background glows orange against the black LCD segments and can be adjusted to three intensity levels. Finally, the damping level can be adjusted independently for each display based on the data you typically show on that instrument.

Is the Nexus system perfect? Well, no. My base system was installed before the MultiXLs were available. When I added them I experienced some intermittent problems because my server unit did not have enough power to run the added displays. Nexus already had an improved server unit in production and immediately shipped me a new one, which has performed fine.

Another quirk occurs if you have more than one MultiXL installed. The first time they are connected to the system, they must be added one at a time with a power-on cycle between each connection, so they will pick up individual bus-IDs; otherwise they will not be separately addressable. Finally, I wish they offered a tall masthead mount that would get the sensors up high for improved accuracy downwind.

These are minor issues, however, and I can recommend Nexus instruments without hesitation. The features exceeded my expectations, the integration was easy, my service experience has been good, and the pricing is competitive!

*Stuart Burnett is a computer systems programmer who works for Reynolds Metals Company in Richmond, VA. Stuart sails #198, LEGACY, out of the Fishing Bay Yacht Club in Deltaville, VA. He is Fleet Captain of Fleet #15 and is the at-large member of the Class Association Executive Committee. He and his wife, Cyndi, spend the winter months coaching the New Kent High School girls volleyball team, which won the 2000 Virginia state championship.*

# Kenwood Cup 2000

6 J105's attended the 2000 Kenwood Cup in Hawaii. For reasons best understood by those participating, boat names were changed as follows: Tom Thayer raced WALLOPING SWEDE as JUXTAPOSE, Tom Coates turned SOLDINI into CHARADE, and SABERTOOTH was raced under the name TIBURON. Thanks to Tom Thayer for the meat of this report.

The first day of racing provided only 4-7 knots of highly variable wind. Only one race and a number of redress hearings resulted, including one in the J105 fleet. The trades returned for the second day of racing with 16 to 22 knots providing a new challenge: sorting out the fastest way through the waves for the two buoy races.

The third day was the first "distance" race, to Kaneohe and back, about 55 miles. The offshore race truly proved the one design sailing concept with lead changes throughout the first half of the race. Then CHARADE planted her grip on first, with JUXTAPOSE leading a tight group behind her. By the finish, CHARADE had established a five minute margin and JUXTAPOSE held onto second, despite never having more than a 10 boat length lead on JOSE CUERVO during the last

25 miles of racing. So going into the layday, CHARADE was in first for the regatta with a three point margin over JOSE CUERVO, and JUXTAPOSE just one point back in third. However, more than half the points were still ahead, with four more around the buoys races scheduled and the triple-rated Molokai race still to come.

After a much needed layday, JUXTAPOSE roared into second place when CUERVO had to retire with halyard problems. But CUERVO got second back the next day when JUXTAPOSE fouled them. Meanwhile, CHARADE racked up an impressive string of first place finishes to establish a commanding lead.

The 148 mile Molokai Race has a reputation for toughness, but this year's race benefited from lighter than average wind (around 18 knots). CHARADE once again dominated the first 3/4 of the race, but JUXTAPOSE split on the last leg and surfed their way to a 35 second lead at the finish, giving them second overall.

At the end of the Kenwood Cup, a skippers meeting was held to get feedback on how to get

broader participation in the Kenwood Cup, and input from J105 owners was actively sought. Please send your thoughts to [fuzz@northsails.com](mailto:fuzz@northsails.com).

## Thayer's Top 10

### Reasons to attend Kenwood

1. Warm water and wind.
2. Spectacular scenery.
3. Great race organization. (Good lines, prompt results, good alternative penalties.)
4. Yacht harbor is walking distance from everything.
5. Overwhelming number of trophies, giveaways etc.
6. EXCELLENT press support. (Three or more helicopters overhead during the races, representatives from the Japanese, Australian, and local press.)
7. Local support. (Special rates, signs, banners, etc at restaurants and hotels).
8. Race variety. (Windward/leeward buoy races, triangle courses, and offshore races.)
9. Race parties every night of competition. (You've got to have more stamina than I to do them all!)
10. All of the boats were in the same place.

## Tune Your Rig (to the Owner and the Sails)

Andy Skibo is Senior Vice President of Foster Wheeler, a very large, global engineering and construction firm. His three sons and daughter all race with him, and wife Leslie does all the lodging/travel logistics. This year on PLUM CRAZY they won Key West and the Annapolis NOOD.

I assumed that an article on rig tune would follow the pretty basic lines of "set mast butt here, set shroud tensions there" as is done by most sailmaker-published tuning guides. The topic however, proved to be dramatically more complex. The whole rig setup used on PLUM is still evolving, which to us is one of the enjoyable elements of owning this flexible and responsive boat.

Proper rig tune isn't a fixed set of numbers for all boats, all sails, all owners. The complex relationship between driver skill, sail trim skill on the boat, willingness to adjust the rig, deep draft (DD) versus shoal draft (SD) keel, and sail shape will ultimately determine

how you set up the rig for a given set of conditions (wind speed and sea state). So before you even begin to "set numbers", you have to understand, honestly and frankly, where you are as a program.

Three distinguishing features of our team affect our sail trim and rig tune. First, most of us are technophiles— we like to play with this boat. Second, this is a pretty focused, type "A" group with a very strong willingness to change gears, both on and off the racecourse. And third, our core crew spends a lot of time on PLUM. This year's schedule included 37 regattas. If we decide we need to shorten the forestay or move the mast butt position while motoring out to the start, it will happen without hassles or anxiety. So we can set up one way for a single race, see what works, and actually kick the whole setup around before the next start.

J/105 sails have evolved from some pretty generic, forgiving shapes to sails that now cover the full spectrum, from "maxed out performance" to "user friendly". A maxed out jib, with a flat entry (to get more of the allowable girth curve into the leach/roach for power) isn't as user friendly as a jib with a slightly rounder entry. Adding a half-inch of luff curve

can make a huge difference to the sense of groove for a new owner— at only a modest offset in ultimate speed. You can produce the effect of a rounder entry by adding forestay sag (see below), but are you truly sailing at the top 5 in a Key West or a North Americans? If you are not quite there yet, or if you honestly want a rig you set up at spring launch and forget about, then work with your sailmaker and make sure you get sails designed for you and your program.

Another consideration on sail selection, and hence on rig tuning, is the DD versus SD boat (I sail with both keel types), and the wind conditions in which you routinely sail. The SD boat does not accelerate well, it does not feather for more than a few seconds, it requires a higher angle of heel under all wind conditions for optimum speed, and most importantly for sail selection and rig tune: it has very little "groove". So the SD owner, especially one still coming up the learning curve, will probably want about 0.75 inch more luff curve in his jib that a maxed out DD jib would have.

**Mast Prebend:** The amount of mast prebend required is totally dependent upon your sail design. So rig setting numbers are only usable for a specific set of sails.

Our Ullman sails require a straight stick. When we set the rig from scratch (backstay completely off and shrouds slack), we first set the forestay to max length. Then the mast butt is pushed forward until the mast just

*continued on page 6*

## Andy's Rig Setup

### On PLUM we adjust:

1. **Prebend**  
(forestay length, mast butt position and partner chocks)
2. **Forestay sag**  
(mast prebend, forestay length, shroud tension, backstay, mainsheet tension)
3. **Straightness athwartships**  
(shroud tension)

### Our Mid-Range Settings (12-14 knots)

**Low:** no numbers! Dead soft - really! Under sail tighten just enough to avoid leeward sag. Heavy air: a single additional turn might be required.  
**Intermediate:** 17. Heavy air: max 22 (about + 2 turns). Light: no lower than 15.  
**Upper:** 47 to 49. Heavy air: Up to 51.

For more info about rig settings, go to [www.j105.org](http://www.j105.org)



# Getting Up to SPEED

*Joerg Esdorn took delivery of #324, KINCSEM, in March 2000. In his first regatta, the AYC Spring Series, he took fourth of 17 boats, but wound up the six race regatta with a bullet. In his second regatta, the Greenwich Cup, he was first with 2-2-1 in a 14 boat fleet. We asked Joerg what it took for a new owner to get up to speed so quickly. Here are his impressions of what worked for him:*

**1. Information.** Ever since I ordered the boat, I've perused the class and fleet 6 websites on a regular basis. There's a lot of information on those sites, and it's easy to just see what's new on the owner's forum of the class website - just hit the "last week" or "last day" buttons. I've also asked specific questions and found people very eager to give their views.

**2. Rig.** A friend who has experience with other J-boats told me it would be very important to have the forestay at maximum length. He was right! Just like on other J's, you want to avoid leeward helm at all cost because you'd lose all the lift from the rudder. See the National website (and Andy Skibo's article in this newsletter) for instructions on how to measure and set up for maximum forestay length.

My sails are from Doyle and they're made for a fairly straight mast. Paul Beaudin from Doyle/City Island was very helpful with the setup. He told the yard how to set the mast and then went sailing with us to make sure it was right. We started out at having the back of the mast at 10" forward of the main bulkhead (measured at the bottom), and we've moved it to 9 3/4". That gives just a little bit of prebend - looks like a couple of inches.

Rig tension: I have seen in several tuning guides to start from "handtight" and then add a specified number of turns. There are guys that are fairly small (like myself) and then there are others who have the grip of a main-sheet in 30 knots... imagine the difference in "hand-tight"! So when Andy Skibo reported on the class website that he used the new Loos Tension Gauge for rod and published his winning Key West settings, I bought one right away and have been experimenting with it ever since. Also, I tied small lines through the holes in the threads of the turnbuckles. These prevent turning just fine.

*It seems very important to have the top telltale on the main flying in light air.*

Settings: At the start of 2000 I set up at 63 on the uppers, 29 on intermediates and 20 on the lowers. I changed that later to Andy Skibo's settings of 51/17/slack. Between races

at the Greenwich Cup, I noticed that with those settings, the mast was not quite in column when sailing upwind with the backstay on a couple of inches. So we changed it on the water to make the mast in column with the backstay on - it's now 43/20/slack. It took some experimenting with the "slack" tension of the lowers to get the mast be in column in the middle. There is about 2 inches of play at about 5 feet up from the deck.

The uppers are visibly loose at more than 15 knots true. We learned at Block Island Race Week that others have even looser settings and we'll try that next. For heavy air, I add a full turn to the uppers and lowers, but I'm still experimenting with that. (The main advantage of more tension on the lowers is a straighter forestay).

**3. Trim.** I looked at a number of tuning guides and they were pretty similar. We're not very mechanical about trim, though. We start with halyard tension that gives wrinkles in the main and jib up to 15 knots or so true. We bring the backstay on about 1 inch at around 10 knots true, and tighten it another two inches in 18 knots. (We taped a short batten to the cylinder and marked it in 1/2 inch increments). The key is to make the main a little flatter and to make the helm balance. The backstay comes off immediately when it gets light and the helm is too neutral or leeward (mark the center position on the wheel for your mainsail trimmer to see the position of the helm).

It seems very important to have the top telltale on the main flying in light air. To avoid leeward helm, you have to have the boom in the middle in most light stuff. These two guidelines together mean that the traveller has to be up a lot in lighter air. You also need to heel the boat to leeward in drifting conditions.

To help in jib trim, I put tape markers on the lower spreaders as suggested on the class website by Mark Washeim. In light/medium stuff, you can really feel the boat go dead if the jib is in further than the end of the taper on the spreader. We trim the jib to have an exit parallel to the centerline at the bottom spreader in any sort of breeze. The base position for the jib car is the fourth screw from the front just showing; we go forward one hole in light air and back two (or three) in heavy air. In light air, you want a nice, full bottom in the sail. We've experimented with barber-hauling, but we're not sure it makes a big difference.

**4. Driving.** If we're not in depowering conditions, I almost always foot upwind - telltales on both sides of the jib streaming. In light air, I'm in acceleration mode a lot (lee-

ward telltales wiggling a bit). I find it takes a lot of concentration to drive this boat upwind in most conditions. Initially, when I looked around for 5 seconds, I was down 1 knot in speed. It's gotten a little better, but it's still good to avoid all distractions. If you have to call tactics in addition to driving, at least have someone else do the looking around....

Downwind, I find that the polars for the boat are quite helpful. Often, though, you have to head higher to keep your air clear. I've found that it's less of a problem to sail a little higher and faster than to sail even a couple of degrees lower. The A-chute is very unforgiving if it gets blanketed.

*I find it takes a lot of concentration to drive this boat upwind in most conditions.*

We're generally using the cabin top winches for the jib sheets. In light air, we sheet to the leeward one, in heavier air we sheet to the top one. In heavy air when it really matters to keep the weight up to windward, you have to make sure trimming is done very quickly so that the trimmer is back on the rail in no time.

**5. Weight.** My boat is pretty heavy, so I try to empty out what I can before races. The more important thing probably is to have maximum crew weight in almost all conditions. That weight has to be on the high side at all times in more than a few knots of breeze. Also, the weight should be forward to get the stern out of the water - my bowman sits right at the shrouds going upwind and all others line up right behind him.

The J105 is a great sailing boat which is quite sensitive to changes in trim for its size. I don't think it's all that different from other keelboats as far as mast setup and sail trim are concerned. So reading a good book about this (as I've done), really helps. And - in my view - once you know the basics, what really matters isn't boat speed anyway - being in the right place on the course wins any day. This is why we've had so many different winners this season in the Fleet 6 events.

PS: I'm often asked the origin of name KINCSEM. Kincsem is the name of the most successful race horse of all time. It won all races it entered as a 2, 3, 4 and 5 year old - back in the 19th Century. The name means "my treasure" in Hungarian. My wife and daughter came up with that one!

# Managing your Midgirth

*Nelson Weiderman runs a small web design business. He has three grown children, two sons and a daughter, and was recently grandfathered. With his two sons as regular crew, he won the Fleet #14 Season Championship this year in #300, KIMA.*

You are chatting with friends before a major regatta when the Fleet Measurer pulls you from the group and starts talking in hushed tones. It seems that your class spinnaker has measured in at 77.5 square meters when the limit is 77 square meters. But you have a certificate from the sailmaker saying it is a legal J/105 class spinnaker! Your backup is a four year old reaching kite. What to do? You've got several thou invested in this regatta and your crew will not be happy if you have to go home with your tail between your legs.

If you want to prevent this situation, you need to understand how your spinnaker is measured and how it responds to environmental conditions. With even tiny increases in humidity, spinnakers will increase in size.

To measure your spinnaker, find a tape measure that reads either meters or decimal feet. Feet and fractions is just too much math. At each corner the official measuring point is the intersection of the two sides that form the corner (e.g. the intersection of the luff and the leech at the head). In most cases the sailmaker has sewn a ring into the corner so that the bearing point on the ring (the point at which the shackle or bowline contacts the ring) is the same as this intersection.

For the first three measurements, the foot (SF), the luff (SLU), and the leech (SLE),

have a helper hold the tape at one measurement point and read the tape at the other measurement point. Pull the sail taut, but don't try to stretch it. Try for accuracy of at least 0.1 foot or about .03 meters.

"So the measurement varied over three inches, simply by varying the amount of moisture in the cloth."

Now go for the mid-girth (SMG). Double the sail over by having your helper hold the measuring points of the head and clew together, and find the midpoint along the leech by stretching out the doubled-over sail and marking the tape with a magic marker at the fold. Put a similar mark on the luff by holding the head and tack together. Then measure the distance between the outer edges of the tapes at those marks.

Next, plug your numbers into the magic formula:  $(SLU+SLE) * .25SF+(SMG-.5SF) * (SLE+SLU)/3$ . If you have a metric tape you are done. (If you've been using a tape in decimal feet, you need multiply the result in square feet by .0929 to get square meters.) If your number is less than 77, you can rest easy. If it is more than 77 there's some shrinking to be done.

I performed the following experiments in which my midgirth varied by 0.3 feet (over 3-

1/2 inches). First I dried it on my hot concrete driveway for 30 minutes: baseline measurement, 23.5 feet. Then I laid it on the lawn for 30 minutes. It drew enough moisture from the grass to increase the mid-girth to 23.6 feet. Then I hosed it down: an additional 0.2 feet wider. Then I air dried it at the top of my flagpole for an hour and got it back to 23.6. Then I spread it out in my car with the heater turned on high for 30 minutes. Surprise! The SMG grew to 23.7, perhaps due to the high humidity in the car. Finally, I dried it on the concrete in the sun for two hours: back to 25.5 feet.

So the measurement of my spinnaker varied from 76.69 at its smallest to 77.48 at its largest, simply by varying the amount of moisture in the cloth. (And I only used the midgirth measurement as a variable -- had I used all four measurements, the effect would have been more dramatic.)

The moral of this story is that you can "adjust" the size of your spinnaker by as much as a percent or two in area by controlling the moisture in the cloth. If yours is more than 1% too big, chances are that your sailmaker has pushed the envelope too far and you should take it back to be replaced, but anything less than that can probably be "adjusted".

Over time a spinnaker will get smaller because of wrinkles and shrinkage of the cloth. If your spinnaker measures in too easily, maybe it's time for a new one.

## Rig Tuning (continued from page 1)

barely starts to invert against the forward chock. Then the butt is locked down. The butt to bulkhead dimension (eg. 9 1/2 inches) is unreliable because bulkhead location varies by over 1 inch from boat to boat. Ditto for the "maximum forward" butt position. You can only determine the correct amount of prebend by eyeing or measuring your mast.

**Forestay Sag:** This is critical in balancing the boat in heavy air, and to the groove in light air. Once the boat is set up to our numbers, we watch how much backstay we need as the wind builds. If we don't shorten the headstay by 0.5-0.75 inches in the 25-knot range, we have to use too much backstay, which depowers the main too much for balance.

If you don't have much feel for the groove in light air, you can induce the effect of more jib luff curve by adding more forestay sag. If you're at max forestay length, kick the mast butt aft 1/8 to 1/4 inch. Too much forestay sag? Go the other way with the butt.

**Mast straightness athwartships:** When we set the rig up from scratch, the first thing we do is center the tip. To find equal measurement points on the port and starboard sheer

lines, we measured aft from the stem and filed a small groove in both sheers, marked with black paint. To make sure the tip is centered, pull the main halyard shackle down hand tight until it just touches one mark and cleat it. It should also then just touch the mark on the other sheer at the same pull. If not, adjust the uppers until both sides measure equally, without winding on more than modest tension.

All my numbers refer to settings for the RT-10 Loos Gauge (the only one I know of for rod rigging). I personally do not believe you

can come even remotely close to correct shroud tension by using "10 turns above hand tight". Whose hand tight? One turn on the uppers is the difference between 42 and 47 on a Loos gauge. Buy one and keep it on the boat, or get a couple of boat owners together and buy one as a group.

From your centered tip, wind up the intermediates and uppers, into the range where Loos readings become meaningful. Eyeball the mast for straightness; you can have exactly equal readings and still have the mast pulled to one side.

Take the shrouds up to final mid-range setting. Then adjust them under sail: **Lowerts:** Tension just enough to keep lower 1/3 of mast from sagging to leeward. Do not end up with a bump to windward. **Intermediates:** Mast should be straight -- but check under sail as you warm up prior to race. No sag to leeward, no bump to windward. **Uppers:** We may add a turn or two (see the box) in heavy air. But basically, you just don't want the tip pulled to windward. It shouldn't sag to leeward in light/medium air, but some sag to leeward in the heavy stuff helps reduce heel.

### A note about temperature change

Rig tension is sensitive to temperature. The aluminum spar has a different coefficient of thermal expansion that the high nickel stainless shrouds. So if you set your rig to proper tensions on day one, when it's cloudy and 70 degrees, and day two is sunny and 88 degrees, you'll find the tensions have increased the equivalent of a turn or more. It can move you from your light air setting to a medium air setting. Check every day if the temperatures are varying.

# Crew Organization

Bob Taylor is a J/105 two-time North American Champion (1998 and 1999). A retired dentist, he started a dot-com one-design chartering business called OneDesignCharter.com. He served as Vice President of the J/105 Class Association this past year. Taylor's full story can be found on the website.

I've been racing the J/105 for several years now and have recently been working with new and existing owners on getting their boats and crews up to speed. Here's a guideline for organizing a five person crew to make it around the buoys.

**BOWMAN** Anything and everything from the mast forward is your responsibility, including the jib and spinnaker, halyards and shackles, sprit and furling drum function. Communicate with the helmsperson and tactician about their starting and race strategy. Dress accordingly, you'll get wet before anyone else!

**Start:** Keep your helmsperson alert to other boats and call distance to the line. Then get off the bow and seated on the rail as soon as possible.

**Upwind:** Relay information about incoming puffs and wave sets, adjust outhaul, vang as requested, cunningham if rigged at the mast.

**Final approach to weather mark:** Free spinnaker halyard, open forward hatch, doublecheck all lines, stand at mast ready to hoist spinnaker.

**Weather mark/downwind leg:** Hoist spinnaker, be ready to troubleshoot wrap, assist in tack line adjustment, close forward hatch, face backwards and call out puffs and waves as they come down the course, adjust outhaul and vang. During the jibes, pull in on new spinnaker sheet to get the clew around the furler jib.

**Leeward mark:** It's CRITICAL the lazy jib sheet is put behind the open foredeck hatch prior to starting the douse. Grab the lazy sheet and hand down to the "squirrel". At the douse, pull aggressively on the lazy sheet until you can grab the spinnaker tape and gather and guide the kite into the hatch. Once the tack is released, get that in the hatch, and "dog" down the hatch over the tack, sheets and halyard. Pull some slack in the spinnaker halyard and get back on the rail.

**PITMAN Before the start:** Everything from the mast back to the primary winches is your responsibility, as well as gear stowage and placement below decks. While tuning up, adjust halyard tensions, check onboard electronics for function. Help the trimmer with the jib sheets during the pre-start maneuvering, be ready to hike to either side after the start.

**Upwind:** Constantly monitor and relay your boat's speed and gauge with boats on

your weather side to the tactician and helmsperson. Make any halyard adjustments during tacks.

**Final approach to weather mark:** Stay hiking as long as possible, then pre-feed the spinnaker tackline and be ready to extend the sprit.

**Weather mark/downwind:** Once bow is at the mark extend the sprit fully. Tail the spinnaker halyard. Adjust halyard setting and tack line height. Prepare the lazy spinnaker sheet for a jibe, clean up and flake spinnaker halyard. Fly the kite just prior to the jibe and release the sheet through the jibe.

**Leeward mark:** Make sure spinnaker halyard will run freely, get below to the forward hatch. During the douse pull in the spinnaker sheet and then the tape. Keep your head away from the starboard side as the pole's on its way in! Then hustle back to the weather rail.

**MAINSHEET TRIMMER/TACTICIAN Before the race:** Your responsibility is all things from the traveler to the stern. Check the mainsail for rips and the battens for tension, check shroud tensions for the racing conditions expected and adjust if necessary. Develop a strategy for the race and constantly reassess the conditions.

Trim the main during the pre-start and set up a plan to pick an area on the starting line to implement your race strategy. Don't block the helmsperson's view of the boats ahead.

**Upwind:** Set the main up for speed right at the start and get to whichever rail is needed to properly balance the boat. During the tacks, take up the lazy jib sheet and hand over to the jib trimmer once fine tuning is needed. Be ready to release the mainsheet if a big dip is anticipated.

**Approaching the weather mark:** Take over the jib trimming duties. As the bow rounds the mark, ease off the jib sheet and furl the jib as soon as the kite is 50% hoisted.

**Downwind:** Control the main on the jibes if it's blowing hard, otherwise balance out the boat, have a good view of the surrounding boats and implement tactics to gain positions.

**Leeward mark:** Call for upwind settings on outhaul, vang, backstay. When ready to douse, unfurl the jib and put the working jib sheet with one turn around its winch. Put the spinnaker halyard around the starboard secondary winch with one turn. When the douse starts, control the halyard release with pressure on the secondary winch, stopping the douse if necessary with the halyard sheetstopper. As the douse in nearing completion, release the tack line and sprit, remember to forewarn your "squirrel" that the pole is coming. Jump back to the mainsheet and trim to upwind settings as you round.

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# Fleets

- |                             |   |
|-----------------------------|---|
| <b>#1 SAN FRANCISCO</b>     | Patrick Benedict<br>(925) 837-0780(H)<br>benedictpw@aol.com                 |
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| <b>#3 CHESAPEAKE</b>        | Peter Schellie<br>(202) 778-6150(O)<br>schellpd@bingham.com                 |
| <b>#4 LAKE ONTARIO</b>      | Ian Farquharson<br>(416) 737-0379(W)<br>ianf@speedware.com                  |
| <b>#5 LAKE MICHIGAN</b>     | Rick Wollerman<br>(630) 420-8499(H/O)<br>wollerman@worldnet.att.net         |
| <b>#6 L. ISLAND SOUND</b>   | Terry Laughren<br>(212) 245-1953<br>LeslieVelde@prodigy.net                 |
| <b>#7 ACAPULCO, MEXICO</b>  | Joaquin Brokman<br>Aguada #2, Acapulco, GRO 39300 MEXICO<br>011-52-575-1813 |
| <b>#8 SO. CALIFORNIA</b>    | Brian Dougherty<br>(714) 427-0277<br>BPDougherty@worldnet.att.net           |
| <b>#9 NEW ORLEANS</b>       | Rick & Sandy Gibson<br>(504) 866-0965 Fax: (504) 588-2305                   |
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# Crew Positions

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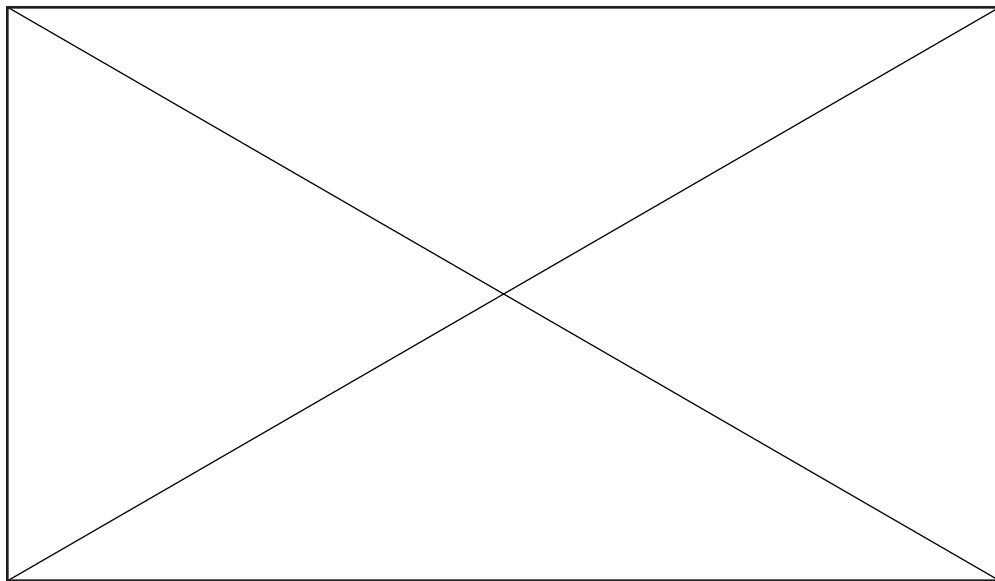
**TRIMMER** *Before the start:* Make sure your gloves fit well and your kneepads are thick enough! When sailing upwind check the jib shape. When trialing the kite, look for rips or tears in the cloth. Get a good feel for the breeze and be nice to the helmsperson, communication between the two of you is what makes it all work.

*Upwind:* Final trim on the jib and giving the helmsperson the groove he needs is the priority. Hike on the rail once the jib is set. You're first off the rail to release the jib sheet for any tack.

*Final approach to the weather mark:* Hand off jib trimming duties to mainsail trimmer and set up working spinnaker sheet on secondary winch. Be on the weather side with spinnaker sheet in hand as the bow rounds the mark.

*Spinnaker set and downwind:* As the spinnaker is hoisted, trim in on the sheet to spread the corners of the spinnaker. Once the kite starts to fill, ease the sheet to get it flying properly. Constantly communicate with the helmsperson as to the amount of pressure on the sheet. Jibes: hand off the working sheet to the pitman, grab the lazy sheet and cross over the coachroof, under the boom during the jibe itself. Trim in hard on the new sheet and be ready to ease big time once the kite fills.

*Leeward mark:* Continue to fly the kite as best you can while the jib is unfurled. Once the douse begins and the bowman has the lazy spin-



JEFF JOHNSTONE

*The new class president Don Priestly battling last year's wind at the NA's in San Francisco*

naker sheet well in hand, release the sheet and jump to the new working jib sheet. Trim the jib to the necessary setting as you work back up to speed upwind.

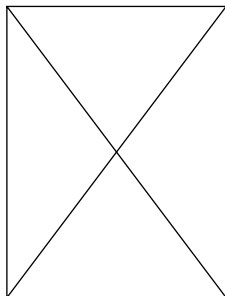
**HELMSPERSON** *Before start:* Get feel of the boat, the wind and the waves. Discuss race strategy and tactics with tactician, be nice to trimmer(s).

*Around the course:* Stay focused on boat-speed and communicate with trimmers. Don't forget to smile every once in a while and remember to compliment your crew!

*There are many, many more details to Bob Taylor's full list of crew responsibilities. Find the complete story at*

[www.j105.org](http://www.j105.org)

This newsletter was edited and produced for the J/105 Class Association by Carol Newman Cronin of Live Wire Design Works



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