

# Why Everyone's Talking About J/ Sprits & Asymmetricals

Now it's possible to sail fast with just a friend or two as crew. After all, this is how we sail most of the time on a day's sail or when cruising? Rarely is the gang aboard to hold the boat down or fly a chute. If that's the case, the measure of a good sailboat should be how well it sails upwind and downwind *with only 2-3 people aboard*. The goal is VMG, Velocity-Made-Good, straight into the wind or away from the wind, considering both speed and sailing angle.

Good short-handed VMGs are when a "50-something" husband & wife jibe a

It's safer. One corner of the spinnaker (the "tack") is always secured to the bowsprit, eliminating wild oscillations. The sail has more slope to its leading edge with a center-of-effort located further forward and lower. Wind gusts lift the bow, propelling the boat forward with finger-tip control. No more "white-knuckled" round-up broaches.

Speed from the asymmetrical's greater power pushes the apparent wind 30-50 degrees forward of the true wind direction. In light air and lumpy seas, the sail's added power steadies the boat. Deep

good sportscar, turning as if it were part of you. Not with sluggish delay. But with a smooth, even response - around crests, down waves and through crowded harbors.

## Mainsail Only

The new J's sail well flying any sail combination you feel comfortable with. For harbor-cruising or heavy winds, an unreefed main is the answer. If the boat sails 6+ knots under main alone, why bother with large overlapping jibs? Visibility is improved. The big main is a bonus for "cruising canvas" races. And, it takes one person to sail the boat. High wind mode is a flattened mainsail with open leech, achieved by tightening backstay, cunningham, vang and out-haul. These adjustments are quicker and easier than reefing. The jib can be rolled up and forgotten.

## 34% Upwind VMG Gain?

Hull design, rig, sailing length and weight location greatly affect VMG. You see many cruising boats motoring upwind in both light and heavy air. Why? Not enough sailpower for light air or stability for a breeze. For example, the new J/120 (40 ft.), sailing upwind at 7.2 knots, 38 degrees from the true wind (25 degrees apparent) will have a VMG of 5.7 knots. This is 15% faster than other production 40 footers sailing 7 degrees further from the wind at 7 knots with a VMG of 4.7 knots. And, it's 34% faster than a classic cruiser doing 6 knots with an upwind VMG of only 4.2 knots. These differences are inescapably locked in by design and construction.

## Low Center of Gravity

Good upwind VMGs are only possible with a low, vertical center of gravity (VCG). Top-heavy boats roll and pitch. This motion disturbs water flow around

J/105 (34.5 ft.) with asymmetrical through Woods Hole against the current, while others motor. Or, beat upwind in steep waves doing 6.8 knots with a VMG of 5 knots in 18 knots of wind!

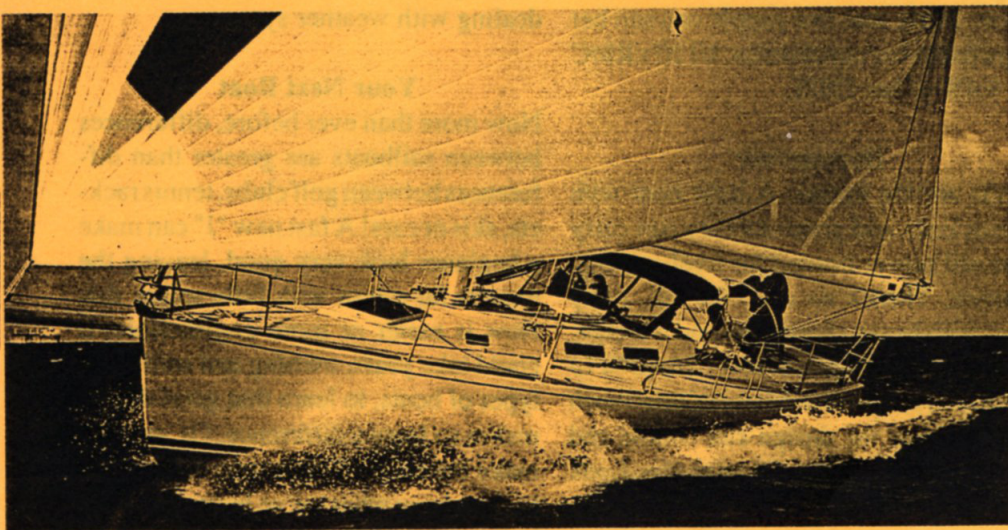
## Safe, Fast & Easy

Flying one of these new asymmetrical chutes from a retractable, carbon-fiber bow sprit is a one person job. By using a cockpit-operated snuffer, no one has to be on deck when the spinnaker is flying, being jibed or doused. To jibe, simply let off one sheet and pull in the other. Downwind VMG is doubled. Result? Less motoring and more sailing.

sailing angles (160-170 degrees True Wind Angle) are achieved in a breeze. The luff, which is 8% longer than the straight line distance from tip of the sprit to halyard exit on the mast, rotates to windward as the sheet is eased - projecting area to the wind like a conventional spinnaker when pulled back by a pole.

## That Feel

The new Js instill a sense of confidence, freeing one from anxieties. Even when planing at 10+ knots, one feels in total control. There's less work. Guests aren't pressured into unfamiliar tasks. Fewer orders are needed. It's more fun! Like a



J/130 (42.7')



the boat and airflow past the sails, not to mention equilibrium of the crew on deck. The lower the weight of the boat relative to its waterplane, the greater the stability, the more sail that can be carried and the smoother the motion. This explains a J's smooth, stable ride through waves. The VCG is well below the waterplane.

### Resin Infusion Process

You get what you pay for. Low VCG is achieved by light, strong construction of what's above the water. Since 1977, J Boats' licensed builder, TPI has become the highest quality production builder with the best warranties in the world. Starting with J/80 One Designs (26.25 ft.) and J/120s, the new J/Sprit boats benefit from TPI's innovative resin-infusion process. Their end-grained, aircraft-grade balsa-core laminates have structural GRP skins with 65-70% glass content, or the equivalent of custom high-tech, oven-baked pre-pregs.

### J/120 Carbon-Fiber Rig

The best place to reduce weight is aloft. J/Sprit boats have Hall spars - the best engineered, tapered, aluminum racing spars available. They are custom-designed for J Boats, race-tested and abused to insure reliability with a good safety margin built-in. Running backstays aren't required. Checkstays, where provided, are for sail shaping or an extra margin of safety in extreme offshore conditions. For the new J/120, one may select a carbon-fiber mast to further optimize upwind VMGs for short-handed cruising. These white, custom-engineered, one-piece, autoclaved spars have a Harken Battslide track designed for custom low-profile slides. The 120 pound weight saving aloft is equivalent to having two invisible 200 pound genies sitting on the weather rail to improve performance.

### Ballast Ratio & Shoal Draft

The best place to add weight is in the keel. The closer that is to 50% of the boats total weight (DSPL) the better. A lead keel, fixed under a deep, structural molded sump, having much of the weight

in a bulb at the bottom, is better yet. The J/120's ratio is 6,000 lbs/12,900 lbs or 47%. A high ballast ratio and quality construction are even more important, if you decide on our shoal draft option. A "J" with a shoal draft keel will outperform most deeper cruising boats. Before deciding on this option, consider that the need for shoal draft may be a function of speed. A fast boat, that easily sails 50 miles in a day, puts more deep harbors in range than can be visited in a year.

### Righting Moment (RMC)

Good upwind VMG requires good stability. A measure of this stability is RMC, the foot pounds needed to heel the boat 1 degree. Keel weight, form stability and construction quality are captured by this number. Among similar boat types, the higher the RMC relative to DSPL, the more likely that two people can sail her upwind to her capabilities. J/120's RMC is 9.4% of her DSPL.

### Horsepower

Sails are the horses. A light boat with clean lines and good stability can carry the sail power needed for lively performance. There's no need for tall, scary rigs with heavy sheet loads and winches. Sail Area to displacement ( $SA/[DSPL/64]^{.67}$ ) is a good indicator of how much horsepower the design can handle and what its speed potential might be. Look for ratios over 20. The J/120 is at 22%.

### Low Resistance

Too much weight usually means too much wetted surface (WS). Like brake shoes. The more WS there is relative to sail area, the quicker you stop. A good SA/WS ratio is critical for performance in North America's light air. Among 40 footers, J/120's ratio of 2.7 is fast. A boat with a 2.0 would be "glued".

Then there's form drag. It's usually faster to be long and narrow. But only when combined with greater stability and sail power. A length (LWL) to beam (BWL) ratio greater than 3 is desirable for good directional tracking in waves. Then, oversized keel, skeg or rudder

surfaces aren't necessary. A long canoe tracks, a pram spins. J/120 has a healthy 3.7:1 ratio with flared topsides. Flare slaps waves down and keeps the crew dry. Vertical-sided hulls bounce waves up on the crew.

### Speed Rating

The rated speed of most sailboats is published. Order a copy of PHRF Handicaps from US SAILING (401-849-5200). It's how we know the projected speed of a J/120 with genoa will be 30 seconds per mile faster than a Sabre 42 - more than the length a football field after 8 minutes of sailing! Or, that her all-round speed will equal boats which are nearly 20 feet longer, such as a Swan 57, Hinckley 59 or Deerfoot 62. An often overlooked benefit of such speed is the help it gives you in route-planning when dealing with weather systems.

### Your Next Boat

Now more than ever before, differences between sailboats are greater than differences between golf clubs, tennis rackets, skis or cars! A fast new "J" can make a beginner look very good, leaving the experts far astern with little solace that slow is easier or more comfortable. It could take years, owning and sailing all types of boats, to learn that good design makes so large a difference. Or, you can make the most of your time and dollars by acquiring what we've learned and are building into the six new award-winning J/Sprit designs from 26 to 53 feet in length.

### Next Step

We hope you'll take the next step by letting us know which model you might be most interested in.

**J<sup>®</sup>**  
**BOATS**

Please call us at:  
**401-846-8410**



# Asymmetrics & Snuffers From The Cockpit - '94

Once you learn how, the snuffer system is easy, allowing one or two people to safely control a spinnaker in strong winds - an otherwise impossible and dangerous task on a large boat (over 30 feet). Like anything really new, old knowledge must be discarded first and a few critical new techniques practiced until mastered.

## Snuffer Design

A word of caution. There are a number of snuffer designs on the market. The ones we've found to be most effective have the following features: (a) a good, heavy-duty swivel shackle inside the sock for attaching the head of the spinnaker; (b) a second sleeve in a contrasting color that captures the up-and-down snuffer control line, outside of the main sleeve containing the spinnaker, which avoids the problem of control lines becoming snagged and also serves as a visible indicator of a twisted snuffer; (c) a light-weight plastic fairlead collar instead of a wire hoop at the bottom; and (d) 3/8" polypropylene braided line (similar to Marlow's Marstron) for the snuffer control that's light, won't absorb water or get heavy, and readily kink.

## Length of the Snuffer

The length from the bearing point of the upper eye attached to the halyard and the attachment knot of the "snuffer down control line" at the bottom of the snuffer cone bridle, when pulled down hard: Should be about 6 inches shorter than the straight-line distance between the halyard shackle when fully hoisted and the control's block on the end of the sprit (or bow). This allows you to completely gobble up the spinnaker in an emergency while putting some tension on the sock to keep it from flopping in the wind.

## Loading the Snuffer

Attach the spinnaker halyard to the top of the snuffer (so you don't lose the end as it's turned inside out), then reach in from the bottom, allowing the sock to accordion over your arm, to grab the swivel shackle for the sail's head inside the sock. Attach the head of the spinnaker, then draw it inside the sock, making sure that neither the sock nor the spinnaker is twisting in the process.

## Lower Control Block Set-up

A cockpit-operated snuffer is a great safety feature. You don't want to be on the foredeck when there are only two people aboard, in conditions which make you want to get

rid of the chute. This system also places the control lines at the luff of the spinnaker which makes them easier to operate and avoids them being twisted if the spinnaker is jibed.

*On typical cruising rigs, the procedure is to bear off so the mainsail blankets the spinnaker, then go on the foredeck to operate the controls with the spinnaker still up (and boat rolling about). This is a bit dicey and assumes the spinnaker hasn't been jibed to wrap the control lines around the headstay.*

The best snuffer control block at the end of the pole, or on the bow so far for boats under 35 feet, is a strong non-swiveling double with a becket (Harken 004 or similar) that is attached in such a way that the sheaves are lined up fore-and-aft and can't swivel. The spinnaker tack line is run through the becket, keeping the block upright & aligned with the sail. The two snuffer control lines are run, side-by-side, through the double sheave. Over 35 feet, it's best to use a triple or a single & double block mounted to the eye and taped side by side with the inboard single for the tack.

## Rigging the Snuffer

Detach the snuffer control line from the rope bridle on the snuffer cone, remembering how to re-tie the knot which secures it firmly in the center of the bridle. If it slips off to one side or the other, the snuffer cone cocks under load, creates friction and doesn't work well. With a J/Sprit, reeve this loose end forward over the pulpit, aft through the starboard sheave on the end of the Sprit, back under the pulpit and aft to pass through the UPPER pair of two Harken "snuffer control" bullseyes and camcleats installed on the starboard side of the cabin trunk. Then, make a continuous loop, which stays in the cockpit, by reversing to reeve it forward through the LOWER cam/bullseye combo, along the deck, under the pulpit, forward through the middle (port if using a 004) sheave, back over the pulpit, re-tying it securely in the middle of the snuffer bridle. BOTH SNUFFER CONTROL LINES (and snuffer cone bridle) SHOULD BE ON THE STARBOARD SIDE & FORWARD OF THE TACK (and tack line). The colored stripe (outer sleeve of the snuffer) should be facing forward as you look up when the snuffer is hoisted. There's a proper order from bow to stern of the lines. In front are controls, then tack line then sheets.

## Stowing the Snuffer System

There's a big advantage in not having to disconnect and then re-connect all the lines & snuffer each time one sets the spinnaker. In fact, I leave mine completely hooked up all season, including the snuffer control lines, tack line, sheets and halyard (when sailing with 100% LP jib). It's simple. Just drop it down the forward hatch and lock the hatch down (in the vent position) on top of the lines. If one needs to sleep in the V-berth, stow it all on deck in a waterproof, rectangular shaped spinnaker turtle.

## Automatic Tack Line

The tack line needs to be about twice the "J" measurement in length. With a J/Sprit one can set up the tack so that spinnaker will be pulled out to the end of the J/Sprit as it is extended. Here's how to set up the tack line. A length of 7/16 Dacron braid is tied to the tack of the sail exiting to port of the braided snuffer control lines, leading over the pulpit, to the LEFT AND UNDER snuffer control lines, back through the port single block (or plastic becket of a Harken 004), then under the pulpit and back to the bow cleat, where it is secured, so that the length of the tack line from the tack to the cleat equals the distance from the cleat to the end of the sprit when fully extended. Make a mark on the tack line where its inboard end is secured on the bow cleat. On a J/105, the tack of the sail is even with the front of the bow cleat when the J/Sprit is fully retracted in the boat. That leaves a corner of the sail on deck when sailing to windward. It's OK. There's not enough sail between that point and the hatch, when its closed down on top of the control lines/corner of the sail/halyard/sheets, to create a problem. Or, one can simply take the extra step of pulling the tack out to the mark prior to hoisting the spinnaker, so the corner of the sail doesn't have to be on deck when not in use.

## Halyard Feed

Assuming that one is sailing with the #3, 100% jib, the halyard goes out from under the hatch, AND UNDER & OUTBOARD OF THE JIB SHEETS. When the system is stored down the hatch, the halyard is held off to the base of the shrouds where it is held with a hook or snap shackle, then tensioned to keep from slapping around. Place a snap shackle on both port & starboard sides, so it doesn't matter which side of the headstay the snuffer is dropped on.



### Attach The Spinnaker Sheets

Spinnaker sheets lead from the clew, outside the lifelines to sheet turning blocks aft (flop them up over & inboard to avoid dragging them in the water) then forward to the midships turning blocks thence to a winch. It's a good idea to put tape completely around the shackle and base of the furler system, just above the drum where the genoa is attached and over the knot (or drill a second hole and run the furler line back inside the drum before tying the "dead-end" knot) on the top of the furler drum - to keep these projections from catching the spinnaker sheets or rolling them up with the genoa.

### Snuffer Limitation When Hoisting

First you must realize that it's impossible to slide the snuffer sleeve up over the spinnaker, without first exposing the clew and knots of the spinnaker sheets. Otherwise, the sock/sail combo bunches up and goes nowhere. The best way to do this is to pull it out of the cone when its laying on deck prior to hoisting the snuffer. If it shows a tendency to get hung up later: (a) rolling up the jib and "over-sheeting" the spinnaker will put air into the bottom of the spinnaker and help pull out the loose cloth, or (b) simply have someone go up on deck and get it started up by pulling the excess cloth down, just under the cone.

### Duties on the Hoist

Assume just two people on board, only one of which is experienced (X). It's best always to hoist and drop on the windward side of the jib, so you don't risk dropping the entire system overboard which you will find takes a major effort to correct. Here's the process:

X goes forward, frees the halyard from the shroud base on the way, opens the hatch, pulls the bottom of the spinnaker and cone on deck, then slides the cone above the clew, until the spinnaker sheets are exposed.

X returns to the cockpit and pulls out the J/Sprit, making sure the windward spinnaker sheet is free and the leeward sheet is secured in the "broad-reach" mode.

X then hands the tail of the spinnaker halyard to the inexperienced friend, helmsman (H), after insuring that the halyard stopper is in the "lock" mode. He instructs H to take up the slack while keeping the boat on course - when X hoists the sock.

X returns to the mast to jump the halyard where it comes out of the mast. There's little load, because the spinnaker is still in the sock.

X looks up to insure that the sock and lines are not twisted and that the sock is hoisted fully, then throws the hoisted tube around to the leeward side of the headstay.

X returns to the cockpit to roll up the jib and operate the snuffer by releasing the DOWN and pulling the UP controls. X

double-checks that the cone of the snuffer is going up smoothly without a build-up of sail inside above the cone.

X then applies lots of tension to the UP and moderate tension to the DOWN, cleating both lines to insure that these snuffer control lines aren't waving loosely - which can foul the spinnaker in a jibe.

### If the Sail Bunches Up Inside Sock

If the cone is restricted from sliding up by such an inside build-up, X has two remedies.

(1) Pull the cone back down to the clew by releasing the UP and pulling the DOWN. Then put some tension on the spinnaker leeward spinnaker sheet, so that this pressure will help the sail emerge and start to fill, automatically pulling more cloth out the bottom on the hoist. Or,

(2) X must go forward and grab the foot of the sail near the cone, forcefully yanking out as much sail as possible from the snuffer until the bunched up section above the cone is pulled out.

### Snuffer Take-Downs

X unrolls the jib then applies a loose trim and cleats it to take some air flow from the spinnaker.

X releases the spinnaker sheet then immediately releases snuffer UP and pulls the DOWN to snuff out the spinnaker all the way to the bottom.

X then hands the tail of the spinnaker halyard to H with one wrap around the cabin top winch, tells H to, "Hold with tension, until I start pulling down the sock. Then ease the tail of the halyard as fast as I can pull it from you. But, no faster, because we don't want to drop it in the water."

X then releases the spinnaker halyard stopper. It's OK. The chute's completely contained by the sock now.

X let's the pole retract about 3 feet, by uncleating then recleating the pole launcher line. This is so, he can reach the sock without letting go of the headstay. If it doesn't want to come back, yank the tack line when you get on the foredeck.

X goes forward on the windward side, (a) throws open the hatch, (b) **THROWS THE WINDWARD JIB SHEET AFT AND TO LEEWARD OF THE HATCH** (c) puts an arm around the sock from the windward side of the headstay and begins to drop down in a crouch while pulling the middle of the sock toward the open foredeck hatch (**FORWARD AND WINDWARD OF THE JIB SHEETS**), as H eases the halyard.

### WARNING

The most important lesson of snuffing!. **ALWAYS TAKE THE SNUFFER TUBE IN ON THE WINDWARD SIDE OF THE HEADSTAY.** By doing so, the system with

tack line & control lines can be made to drop between the uprights of the bow pulpit and is captured by the jib and lifelines on the foredeck, so you don't risk dropping the tube over the side. If the tube goes over the side, cone facing forward, the water rushes in and tries to climb to the masthead, the boat stops. The water doesn't get to the masthead, but its weight pulls down hard, tearing the halyard out of H's hand. The Loch Ness monster comes alive alongside the boat and it's almost impossible to pull in.

X closes and secures the hatch (one knob will do), pulling the spinnaker halyard loop off to the base of the windward shrouds where it is attached. (or detaching it, if using genoa)

H takes up slack in the halyard

### Dropping Without Snuffer

If not using the snuffer, we've found the best way is to rig a supplementary "dousing" line from the tack, directly over the pulpit, to windward of the headstay and down the forward hatch. Then follow this procedure: (1) unroll the jib and set a loose trim (2) release the spinnaker sheet and retract Sprit (3) have a "below-decks" person start hauling on the dousing line, with help from someone on deck, to pull the sail in around the headstay on the windward side of the jib (and forward/outboard of the jib sheets) Then stuff it down the forward hatch, leaving everything attached (except halyard. if using a genoa).

### Helpful Hints

Tie a 1/8 inch cord horizontally between upper and intermediate shrouds about one foot above the lower spreader. The sock often gets blown aft through the opening and then gets wedged, cleat-like in the "V" when dropped.

Use more 1/8 inch Dacron cord to create netting between deck and upper lifeline forward of the mast. Instead of making holes in the toe rail, start your net by stringing a piece of the 1/8 Dacron or some Kevlar cord, very tightly between the base of the pulpit and the 1st and 2nd stanchions back. Then lace into that as you would the top lifeline and middle lifeline with a series of three clove hitches or modified rolling hitches between uprights.

For information on J/Sprit boats from 26 to 53 feet, contact:

**401-846-8410**

**J<sup>®</sup>**  
**BOATS**