MASTERING THE SAIL

IN THE FIRST OF SAIL'S NEW SERIES ON SAIL TRIM, LEARN ABOUT HOW TO TRIM AND HANDLE THE BIGGEST WEAPON IN DOWNWIND SAILING

BY JOSH ADAMS

Though asymmetric spinnakers date as far back as 1865, credit Australian skiff sailor and designer Julian Bethwaite with the invention of the modern asymmetric, which he tested and developed on his Australian 18 designs during the 1980s. Bethwaite needed a spinnaker with a long luff and flat leech on either gybe. This would enable crews to sail the skiff's tight apparent-wind angles without collapsing the chute or sacrificing the sail power they needed to reach high speeds off the wind. That the sail, with its fixed tack and single sheet, simplified downwind sailhandling was an added bonus.

Twenty years on, the asymmetric spinnaker has developed into a versatile downwind sail for a wide variety of performance and cruising boats. Before boatbuilders could introduce the spinnaker on their racers, they had to devise a system for getting the sail away from the blanket of the mainsail while sailing on a low reaching course—not a problem on a skiff, which sails downwind at near-upwind angles. A common solution for this is tacking the sail on a retractable bowsprit; the Melges 24, in 1993, was the first to reach the masses with this configuration. To make the sail more versatile downwind, it is designed to be projected to windward of centerline, which helps a boat sail lower reaching angles.

Though it requires a small number of crew to handle—it has only one set of sheets, and in most cases no spin pole—compared to a symmetric spinnaker, an asymmetric chute still needs to be trimmed right when sailing a straight line and during maneuvers. To demonstrate, I went sailing with Dave Flynn of Quantum Sail Design Group in Annapolis, Maryland, and worked the 960-square-foot asymmetric on *Rum Puppy,* a J/105. The results were some tired hands, a few rips in the sailcloth, and the following photo guide to sail trim.

PHOTOS BY WALTER COOPER


EXPERT TIPS ON
A-SAIL TRIM
GYBING TECHNIQUE
ALTERNATIVE TAKEDOWNS: LETTER DROP AND THE MEXICAN
[HEAD]
[SHOULDERS]
[LEECH]
[LUFF]
[LAZY SHEET]
[CLEW]
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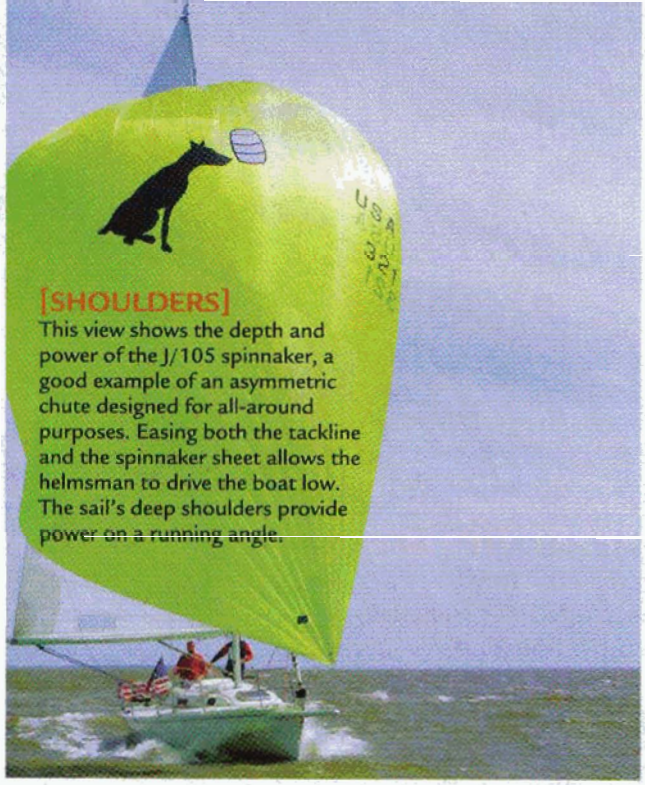
A-Sail Trim

Ease the spinnaker sheet until the luff of the sail breaks. Trim. Ease it again, trying to maintain a slight curl in the sail. It's that simple, but only if the sail is set up right.

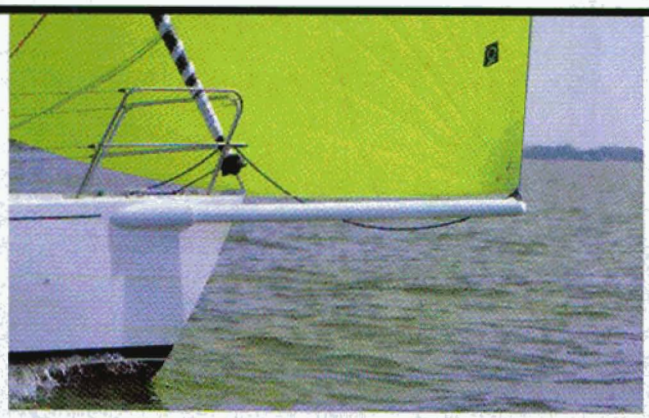
More than a control line you pull and cleat, the tackline is one of the keys to a well-trimmed spinnaker. Dave Flynn's rule of thumb for a sprit boat, such as the J/105, is to ease the tackline if the luff of the sail is no more than 10 percent longer than the straight line from head to tack. This will help project more sail area to windward, allowing the boat to sail deeper angles (more than 135 degrees apparent) more effectively. As windspeed drops, lower the tackline and sail tighter reaching angles.



[SHOULDERS] This view shows the depth and power of the J/105 spinnaker, a good example of an asymmetric chute designed for all-around purposes. Easing both the tackline and the spinnaker sheet allows the helmsman to drive the boat low. The sail's deep shoulders provide power on a running angle.

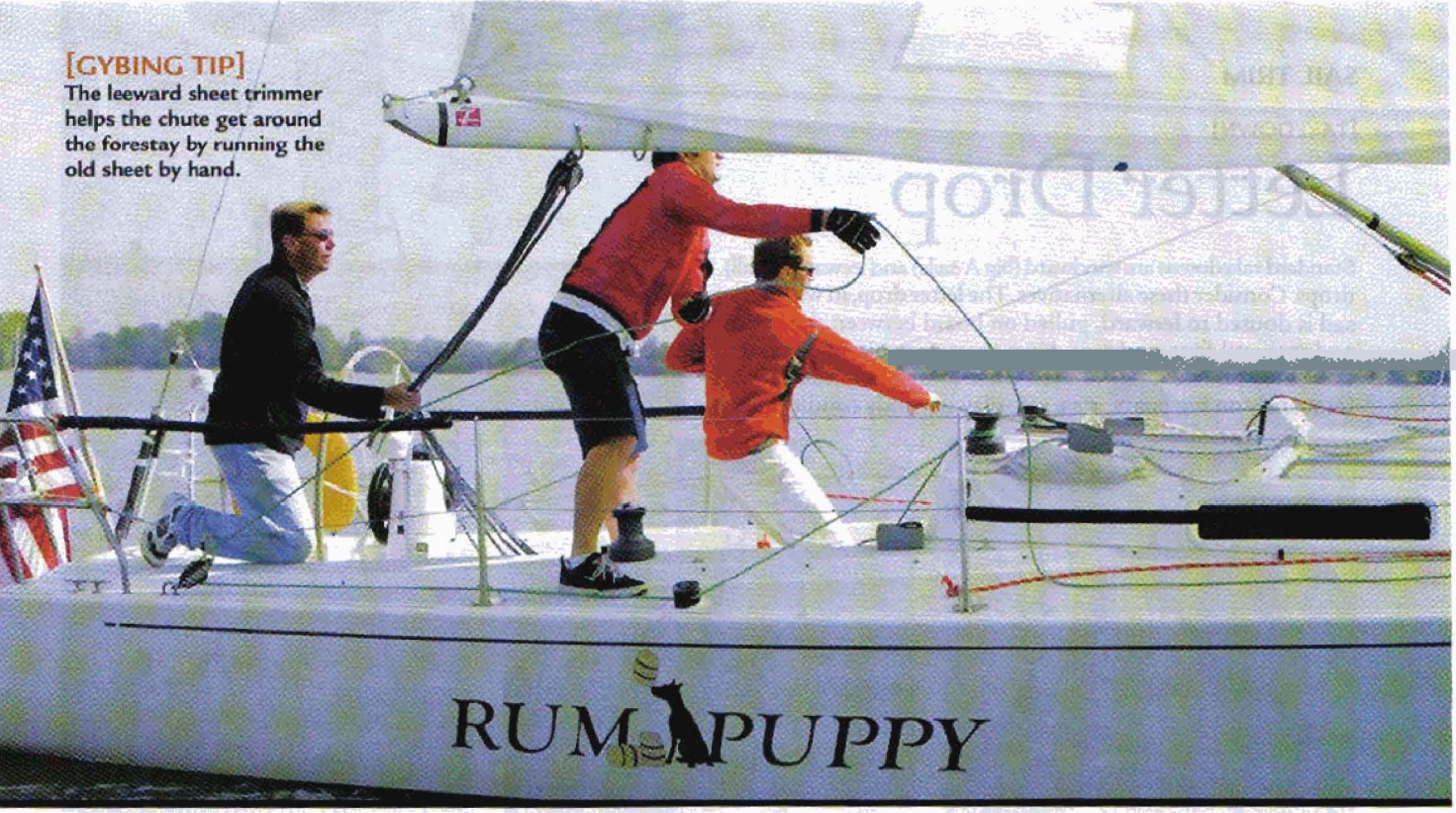
[LUFF] Projecting area to windward on an asymmetric sail is the same as squaring a pole back on a symmetric chute. You control this with the tackline; easing roughly two feet is optimum trim on a J/105 asymmetric. Using the trimmer's head as a reference, note the large amount of area projected to windward (to his left).

[LEECH] Sailing in 18 knots of wind, it's important to trim the sail with a fair amount of leech twist. This keeps the boat on its feet and helps the helmsman steer down the face of a wave. Because leech shape is difficult to see when trimming to windward. remember to occasionally look under the boom and up at the sail.



[TACKLINE] In light winds, fully trim the tackline to set the tack snug on the end of the bowsprit. This shortens the luff, which is optimum for sailing tighter reaching angles.

[TWING] On most boats, a twing (block-and-tackle led to the rail) is needed to control the height of the spinnaker sheet. But on the 105, the boom acts as a natural twing.



[GYBING TIP]
The leeward sheet trimmer helps the chute get around the forestay by running the old sheet by hand.

The Inside Gybe

The techniques shown in the following photo sequences can be done with three crew—the helmsman and two trimmers—though more is merrier; most J/105s race with five. In the inside gybe, the lazy sheet is led inside the spinnaker luff and forward of the forestay. The alternative is an outside gybe (sheet led outside the sail), which forces the trimmer to haul in more sail.

[1] The helmsman initiates the gybe by steering the boat down at a steady rate of turn. Start the turn when the sail has good pressure in it, and turn only as fast as the sheet can be eased.

[2] It's all about the ease. The trimmer lets the sheet run off the winch as quickly as possible, but not faster than the boat's turn. Make sure the sheet is ready to run before the gybe.

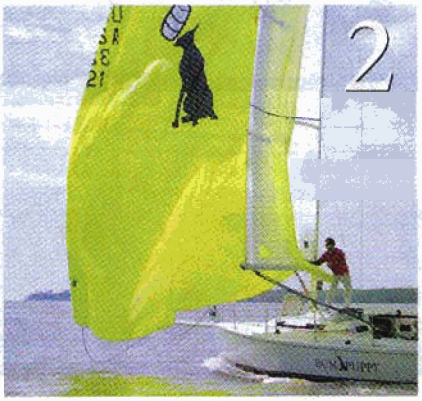
[3] When the clew reaches the forestay, the new trimmer trims full strength on the new sheet. Letting the clew run too far beyond the forestay will create extra work for the new trimmer.

[4] As the soon as the chute fills on the new side, ease several feet of sheet—until the sail breaks along the luff. This is important in heavy air, when the boat gets overpowered.

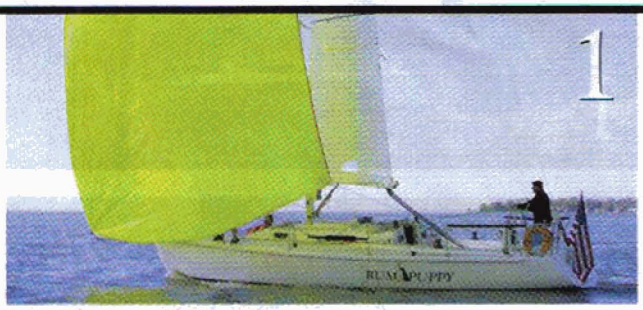
[TAKEDOWN]

Letter Drop

Standard takedowns are windward (big A-sails) and leeward (small) drops. Consider these alternatives. The letter drop, in which the sail is doused to leeward, pulled on board between the boom and mainsail foot, and sent down the companionway, can be done only on boats rigged with loose-footed mainsails. Used frequently on big boats, it's a safe play in windy conditions.



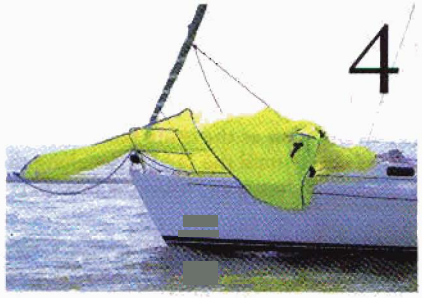
[1] Before dropping the spinnaker, lead the lazy sheet between the boom and the foot of the mainsail to a winch on the deckhouse. [2] A trimmer in the cockpit grinds in the sheet; this can be done by hand in light winds. When the clew reaches the boom, a crew standing on the deckhouse should start to gather the foot of the sail. [3] Ease the tackline and continue gathering the foot. The sail is ready to douse once it's blanketed by the main and the majority of the foot has been pulled through the boom/foot slot. [4] Ease the halyard and aggressively gather the sail, guiding it down the companionway; there should be one crewmember below. The letter drop is very effective on offshore raceboats because a small number of crew on one watch can handle the blanketed sail.



[TAKEDOWN]

The Mexican

In a Mexican, the chute is gybed and doused to windward. It's crucial to correctly time the turn with the halyard release. Buddy Melges coined this term while sailing with *America*³ in 1992 off San Diego. He warned his crew that if they didn't get the chute down, they'd be forced to sail to Mexico.



[1] Setting up for the Mexican takedown, one crewmember goes below and stands in the forward hatch ready to gather the sail. The helmsman prepares to gybe the boat.

[2] During the gybe, the sail blows back on to the boat. Another crewmember goes forward to guide the sail down the hatch.

[3] Once the sail blows against the mast and rigging, ease the halyard. The biggest mistakes on the Mexican are easing the halyard before the sail blows onto the boat and not turning enough through the gybe. Both errors can put the sail in the water.

[4] Don't release the tackline until the sail has been gathered. An early release could drop the foot of the sail close to the water and risk "shrimping" in the water.

Dave Flynn of Quantum Sail Design Group lives in Annapolis. He is a one-design and offshore racing veteran. Special thanks to Jack Biddle for the use of his fast and well-rigged J/105, *Rum Puppy*. **Next Sail Trim:** Trimming and handling a cruising spinnaker on a Tartan 33.