

BAG END

## Reducing sail to regain control and peace of mind

by Bruce Halabisky

**E**ver since Bartholomeu Dias named the Cape of Good Hope, Mother Nature has been doing her best to put the kibosh on such starry-eyed nomenclature; by anyone's standards, the South African coast is a nasty stretch of water. A combination of unpredictable weather patterns, the strong Agulhas current, and few harbors make for challenging sailing and the need to be able to reef a sail safely and efficiently.

The volatile South African weather was foremost in my mind as my wife, Tiffany, and I sailed our 34' gaff-rigged cutter VIXEN toward the South African port of Richards Bay. We were eight days out of Madagascar

and only hours earlier had been running before a fresh northeast breeze just a hundred miles from the safety of Richards Bay. Without warning the barometer had dropped precipitously, the wind had clocked around, and now we were slogging into 30 knots of what looked to be the early stages of a southwest gale.

Below deck, I tucked our three-year-old daughter, Solianna, into her bunk behind a lee cloth. Blissfully ignorant to the building tempest, she'd had an extra-long session of Winnie the Pooh stories and was probably now dreaming peacefully of Piglet and Pooh and the blustery day in the Hundred Acre Wood. I left her to

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**Above**—The 34' gaff cutter VIXEN, seen here off the coast of Durban, South Africa, has three sets of reef points in her mainsail. This sail is critical to maintaining good balance in this rig; hence, the deepest reef. Note that the first two reefing pendants are run permanently; the third will be laced only when needed, as it's sufficiently inboard that this may be done safely while underway.



Halabisky begins tying in VIXEN's reef points (see step 5, following page). Note that, so as to not stress the sail, the line passes around the sail only, and not the boom.

sleep, put on my life jacket and safety harness, and went on deck to see how Tiffany was managing in the cockpit.

"Blustery" would have been a gross understatement to describe the howling wind that confronted me. Even courageous Christopher Robin would have chosen to stay inside, to say nothing of Pooh and Piglet, who would have been blown across the Mozambique Channel like the stuffed bits of cloth that they are.

While I was putting Solianna to sleep, the wind had increased to 40 knots, gusting to 45. Sea spray now lashed the sails and cabintop. VIXEN was feeling less like a freight train and more like an off-road vehicle on rocket fuel. It was time to reef. In fact, since we had already put in two reefs earlier, it was time to triple-reef.

Even though Tiffany and I had been through the procedure twice already, we briefly discussed our plan of action, then went to work. Fifteen minutes later we had the third reef tucked in, VIXEN was steering herself comfortably in 45 knots of wind and, more important, our rising anxiety and fear had been dispelled. We were now safer, more comfortable, and had peace of mind.

### The Seaworthy Gaff Rig

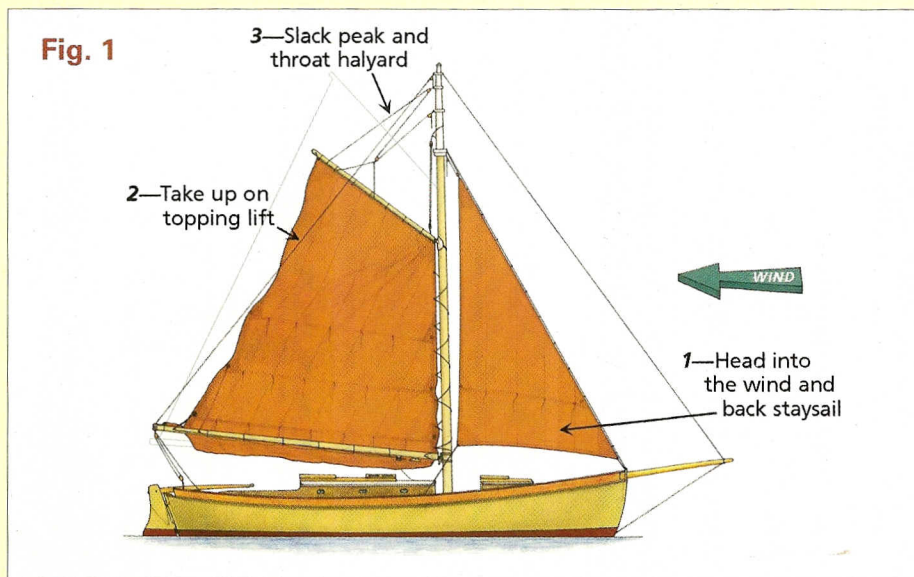
When John Atkin designed VIXEN in 1950, the gaff rig was already considered a bit romantic and even eccentric. On the racecourse the Bermudian rig, with its superior windward ability, had long ago eclipsed the gaff as the rig of choice. But Atkin was a firm believer in the seaworthiness of the gaff rig. Its low-aspect ratio, with a low center of effort, minimizes weather helm and adapts well to self-steering and long-distance passagemaking.

In addition, when a gaff mainsail is reefed, the center of effort doesn't shift significantly fore or aft. A Bermudian mainsail's center of effort, in comparison, shifts forward progressively with each reef. Another advantage of the gaff rig, especially in offshore conditions, is its short mast and robust, low-tension standing rigging—a testament to safety compared to Bermudian rigs with their tall masts, multiple spreaders, and stays and shrouds as taut as guitar strings.

Gaff-rigged cutters typically have a large mainsail, which is their principal driving force. VIXEN, for example, has a mainsail of 362 sq ft and an additional 232 sq ft divided between staysail and jib. While the skipper of a modern sloop might consider dropping the main entirely as the wind picks up and continuing to sail under headsail alone, this is rarely a good option on a gaff-cutter. The large mainsail must be reduced but not eliminated in order to maintain a balanced helm. VIXEN originally had a roller-furling boom, but this has been replaced with a slab reefing system with reefing pendants permanently run for only the first and second reefs. I've found that the clew of the third reef is sufficiently inboard for the pendant to easily be passed through the cringle when needed.

The accompanying procedure on reefing a gaff mainsail applies to a moderately sized craft of 30' to 40'. A larger boat might require more people to reef its sail, and a smaller one could be managed single-handed. On VIXEN, it takes two of us: I usually go forward while Tiffany takes the helm and oversees the operation from the cockpit. (See sidebar, following page.)

# Nine Steps to Reefing a Gaff Mainsail



## 1. Turn upwind and sheet in the sails.

This can often be daunting if you're running downwind in a big following sea, but turning upwind will slow the boat down and allow the mainsail to luff even when the boom is hauled inboard. Often, in heavy-weather conditions, we will sheet the staysail to weather while we reef. Under this configuration, VIXEN is effectively hove-to. We're slowed down, more stable, and assured that we won't accidentally tack while we're busy reefing.

## 2. Go forward and take up the topping lift.

The topping lift keeps the boom off the deck and out of the water while the peak halyard is eased.

## 3. Ease the peak and throat halyards until the tack reef hook can engage the new tack cringle.

Once the throat halyard is slacked, I'll give the peak halyard another arm's length of slack and make both halyards fast while I hook up the sail's tack and pull down its clew.

## 4. Haul in the clew reefing pendant and secure.

This can take a bit of patience while you wait for the mainsail to luff. Make sure that the mainsheet is not preventing the clew from being tensioned. VIXEN has a small bronze winch under the forward end of her boom for extra leverage to haul down the clew. To prevent chafe, I try to remember to ask Tiffany to check that the reefing pendant is not pinching the sail where it gathers the leech. Both tack and clew must be hauled down firmly, or you risk straining and possibly ripping the sail at the reefpoints. A properly cut sail will have the reefpoints slightly below the reef cringles to help avoid this.

## 5. Tie in the reef points.

Some reefpoints need a slipped reef knot if you ever hope to get them undone, while others work well with a standard reef (or square) knot; it depends on the line's diameter and its material. Whichever knot you use, the sail must not be gathered too tightly and the line must only pass around the sail (not the boom) or the reefpoints could be stressed and rip the mainsail.

## 6. Retension the throat halyard.

To reiterate: The sail should be tensioned from the tack and clew, not the reefpoints. As you tension the throat halyard, keep an eye out for reefpoints that are stressing the sail. If you find any, ease the throat and fix the problem.

## 7. Retension the peak halyard.

It is important to check that the mainsheet is slacked way off when raising the peak. A tight mainsheet prevents the gaff from peaking properly, keeping the sail from setting correctly. There is also a good chance that a long boom will drag in the water in big seas when the sheet is paid out. In addition, insufficient peak tension will allow the gaff jaws to saw into the mast. It is disturbing, to say the least, to find sawdust covering the mast boot.

## 8. Ease the topping lift, then coil and hang the halyards.

Now is the time to look over your work. At night, grab a flashlight and shine it on each corner of the sail. Also check that the mainsheet hasn't fouled itself before you slack it out.

## 9. Reset the sails and resume your course.

Fig. 2

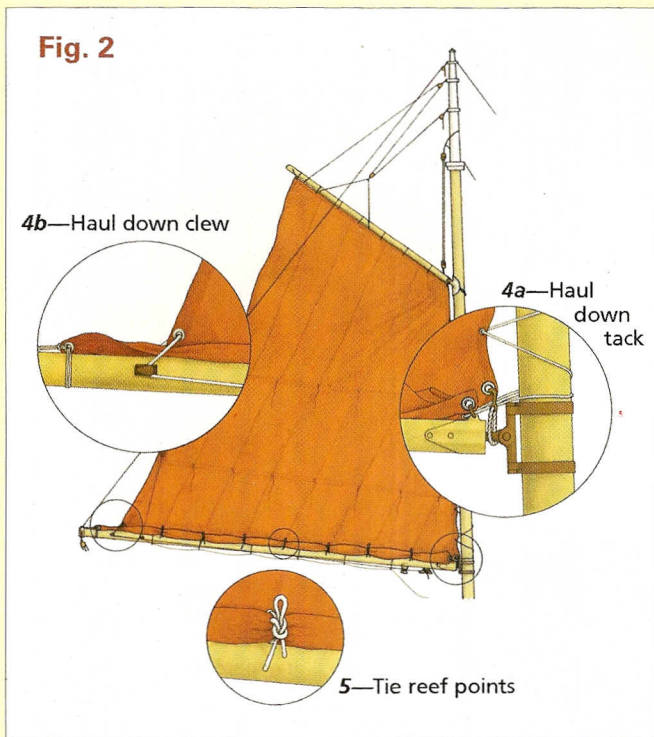
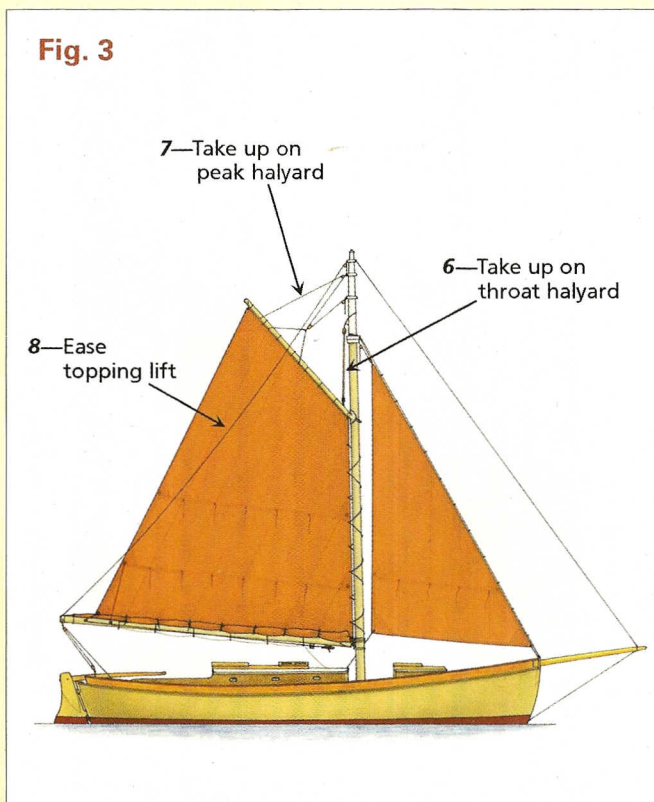


Fig. 3



— TIPS —


- We have two 30-watt deck lights mounted under the spreaders. One is aimed at the foredeck and the other at the cockpit. These draw quite a bit of power, but for the 10 or 20 minutes we need them for night reefing, the power loss is insignificant.
- Even if you're singlehanded, it helps to go through the steps described on the facing page in your mind before venturing forward. In stressful situations, it helps to have already talked yourself through the maneuver to clear up any confusion.
- Practice reefing at anchor on a windless day. You'll be surprised how far you can haul out the clew and peak up the gaff with a slack mainsail. This will give you a benchmark to work toward in heavy winds when the main is snapping like a crocodile.
- For offshore sailing, the reefing pendants must be robust. There is no reason to make them any smaller than the diameter of the mainsheet.
- Take your time at reefing. Traditional heavy-displacement boats with gaff rigs are forgiving; their movements are slow and predictable compared to lightweight marconi sloops. Go about your task calmly despite the fury of the elements.
- Remember to wear a life jacket and safety harness when going forward. The last thing you need on a stormy night is a man overboard.

Onward to Richards Bay

After getting VIXEN reefed down, she settled into an easy motion despite the southwest gale. The wind continued to increase, and around midnight we decided to heave-to and wait for it to abate.

Our greatest concern was shipping, which had increased as we closed the African continent. Tiffany and I kept a careful watch throughout the night trying to keep track of the ships' red and green navigation lights that were frequently obscured by squalls and high waves. By daybreak the wind was easing and had backed to the southeast. It looked like we might be able to shake out a couple of reefs and reach off once more to the safety of Richards Bay.

Solianna, awake after a good night's sleep, appeared at the companionway dressed in her Curious George rain jacket. For a moment she quietly surveyed the frothy waves of the Indian Ocean from horizon to horizon. "Papa," she announced finally with all the gravity a three-year-old can muster (which isn't much), "it's a very blustery day."

"Yes, Solianna, it is," I replied looking up at the triple-reefed mainsail glowing in the morning sunshine. "But VIXEN doesn't mind blustery days." 

*Bruce Halabisky and his young family have sailed their 34' gaff-rigged Atkin cutter VIXEN ([www.vixensvoyage.com](http://www.vixensvoyage.com)) nearly around the world. In the process, they've learned to reef the boat safely and efficiently.*