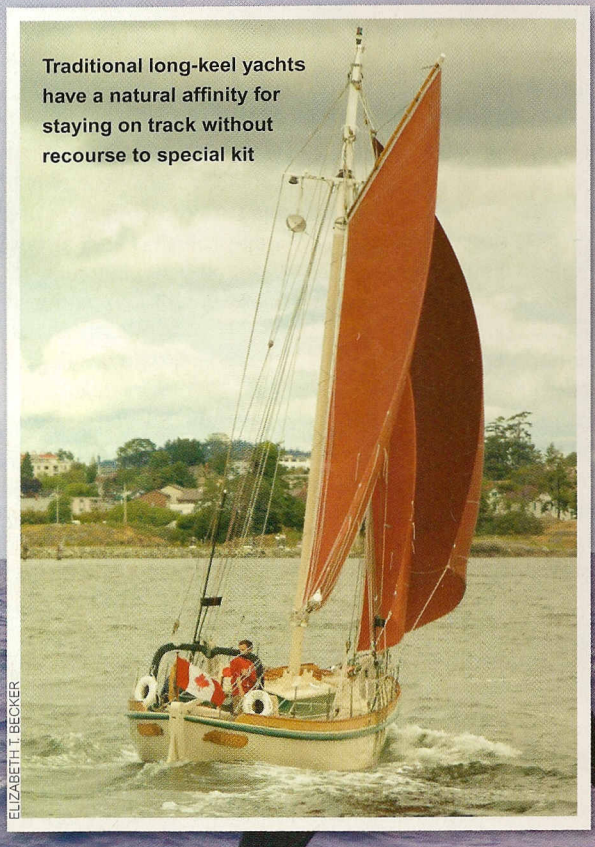
SELF-STEERING WITHOUT A WIND VANE



Traditional long-keel yachts have a natural affinity for staying on track without recourse to special kit

ELIZABETH T. BECKER

Unwilling to spoil his boat's good looks with an expensive, failure-prone wind vane self-steerer, *Bruce Halabisky* decided to follow in the wake of Slocum and the Hiscocks and use the natural abilities of a traditional long-keeler to keep his boat on track

Surgical tubing 'shock cord' damps down over-steering

When looking over the sailing yachts of a crowded marina and imagining which one might take you safely out to 'blue water', there is always one sure sign of an ocean-going yacht: the self-steering device. The benefits of such a mechanism cannot be overstated: relief from the tedium of helming day after day makes a steering vane worth its weight in gold.

When my wife and I were preparing for our first offshore passage we knew we would need some sort of self-steering device. Our boat, *Vixen*, is a double-ended, gaff-rigged cutter designed by John Atkin in 1950 (CB196). She has a prominent bowsprit, long boom and displaces 15 tons.

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The self-steering literature I looked at did not picture boats like *Vixen* but boats with stubby ends, fin keels, short booms and no bowsprits. The stainless-steel bracing seemed to suit them but I cringed at the idea of *Vixen* having such a device. And these things weren't cheap.

Beside these aesthetic and economic issues, it seemed that wind vanes were prone to breakage – right up there with electronics and offshore refrigeration. With these problems in mind, we prepared for our first ocean crossing – Victoria, Canada, to Hilo, Hawaii – a trip of some 2,600 miles (4,815km).

During preparation we cruised the coast of Vancouver Island and noticed that, for better or worse, *Vixen* enjoyed going in a straight line. Like many classics she has a long, straight keel, heavy displacement and a well-balanced sail plan. Even with the tiller unmanned I had time to go below and brew tea without her changing course. I suspected that with a little help *Vixen* might not need any steering aids bolted to her stern.

At this point I was introduced to a slim out-of-print book called *Self-Steering Without a Windvane* by John Letcher. Here was an author confirming my thoughts that classic yachts are natural self-steerers. *Vixen* was not designed to spin around racing buoys but what she can do very well is sail for days, on all points of sail, in a straight line.

I began experimenting with a sheet-to-tiller system described in Letcher's book, taking trips of up to 30 miles (56km) without tending the helm and soon it was decided we would go to Hawaii without a steering vane. Of course, everyone thought we were crazy. Seasoned blue-water sailors shook their heads and spoke of the "tyranny of the tiller", telling tales of broken vanes and crews forced to steer by hand – but these tales came from modern fin-keelers.

Believing our classic boat could steer straight by herself and with thoughts of Joshua Slocum (p70) and the Hiscocks who had done it before us, we set off for Hawaii with just two blocks, some surgical tubing and an extra piece of 3/8in (1cm) line.

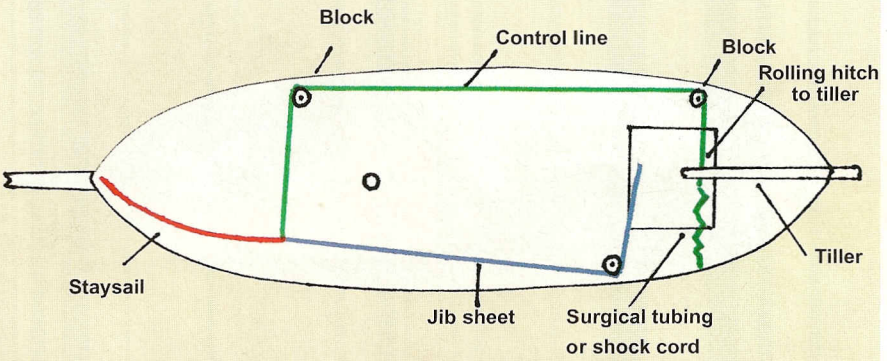
The system we employed (see diagram) was made up of the blocks and line that most boats have on board already.

As we headed into the Strait of Juan de Fuca I tentatively tied off the tiller. Without a fuss *Vixen* struck to her course. A few days later as we headed offshore, passing the Washington and Oregon coasts, the steering was still steady. With a sheet-to-tiller arrangement, *Vixen* navigated even large ocean swells without trouble – from 5 knots to 40 knots of wind and from broad reach to close hauled. Sometimes a large swell would knock her off course and I would watch as *Vixen* sorted herself out and doggedly resumed the proper heading.

Two weeks after leaving Victoria we reached the trade winds – we were home free. We arrived in Hilo on the Big Island of Hawaii after a crossing of 23 days and I was a sheet-to-tiller convert. But when I looked for other boats to tell about my discovery I realised that long keels, and even tillers, are rare on modern yachts.

Since that first crossing we have sailed to Fiji via French Polynesia and used sheet-to-tiller steering for all of the 7,000 miles (13,000km). Other cruisers sometimes ask me if it's difficult to sail such an old gaff-rigger with a tiller and bowsprit. Usually I don't even try to explain, I just smile as if acknowledging their concern. Then I look out to *Vixen* floating peacefully at anchor – a beautiful classic designed for blue-water cruising in a straight line, with nothing but a rudder hanging from her elegant stern.

BRUCE HALABISKY



How to set up a sheet-to-tiller system

There are many variations of sheet-to-tiller self-steering systems and each boat will behave differently. Even owners of boats with auto-helm or windvane may want to practice using a sheet-to-tiller system as a matter of safety.

The basic concept is that as the boat heads to windward, pressure on the headsails increases (before luffing starts). A control line from the clew of a headsail, hauled to the weather side, thereby putting an offset in the sheeting angle, uses this force to pull on the tiller and turn the boat back downwind.

The easiest way to attach the control line to the headsail is to run the line through the eye of the clew with a stop-knot in the end. Otherwise, the control line could be attached to the active sheet using a clove hitch.

Two blocks, hung from stanchions, lead the control line along the windward rail. *Vixen* has blocks and control lines permanently set on both sides so that we can tack without moving the system from one side to another. A rolling hitch around the tiller allows for fine-tuning the amount of pressure on the sheet, while a section of surgical tubing, from the tiller to a leeward point, damps any over-corrections. Variations aboard *Vixen* have included taking the control line directly to the jib's clew or running wing-on-wing with the control line hitched to a portion of the mainsheet.

The key to success lies in minimising the friction in the system, either from the blocks or from the control line dragging on the deck.

The length of surgical tubing should have eyes seized in either end to form a point of attachment. When surgical tubing is scarce any shock cord will work. Fortunately, surgical tubing is used throughout much of the world on spear-fishing guns which makes it fairly readily available.