



(Freedom 40 sailing into English Harbour, Antigua, by Alastair Black).

THE FREEDOM OF JUNK

JOHN CAMPBELL compares two self-tending rigs

THE CAT ketch rig is slowly being popularised by Gary Hoyt and his range of Freedom boats. Who better to popularise anything than a long-time advertising executive and sailor extraordinaire such as Gary Hoyt?

Our own boat *Papilio Ruga*, is a thirty-five foot junk-rigged schooner, which we built in England and sailed to

the Virgin Islands. The rig was drawn to the specifications of Jock McLeod. We drew on the experience of six previous ocean crossings and selected the junk rig primarily for its ease of handling. More about that in a moment.

When the sails are furled, our rig does bear a superficial resemblance to a

Freedom rig. Both boats have two unstayed masts, with the forward mast very far forward. Because of this resemblance, scarcely a week goes by without somebody asking us if our boat is a Freedom. When we point out that the basic design of our rig is two thousand years older than Hoyt's, we get questions asking us to compare the

merits of each.

When we got the chance to sail the boat that started it all, the original Freedom 40, Lana and I accepted eagerly, if only to satisfy our own curiosity. This prototype Freedom 40 was called *Stella*, and was enthusiastically owned by Keith Young of Dallas, Texas. She was five years old, still had her original masts and sails, and still did not have an engine.

Perhaps a little of Gary Hoyt's own fanaticism had rubbed off on Keith Young. He rowed over to collect us in a beautifully designed little rowing skiff. No noisy outboard for him. Lana easily rowed the three of us back to *Stella*, reminding us how enjoyable rowing can be with good long oars and well-designed skiff.

Once on board, the dinghy was quickly and easily hoisted aboard in well-designed davits. *Stella* is five feet longer than our boat, and with twelve feet beam, is some eighteen inches wider. While we have a full keel with cutaway forefoot, *Stella's* hull is flat and shallow with a centreboard of around 2000 pounds providing stability and lateral resistance. Some of the later boats have more ballast in the hull and less in the centreboard. Keith lowered the centreboard to its full extent, and we got ready to hoist the sails to sail off the anchor.

The technique to sail off the anchor is similar with the two boats. The after sail is hoisted first. On the Freedom, this is technically the mizzen, but in Freedomese, the two sails unfortunately are becoming known as the backsail and the frontsail.

Each sail is in effect a double sail wrapped around the mast. The sail is hoisted by a single-part halyard on the forward side of the mast. The wrap-around sail creates friction on the mast, so a halyard winch is needed.

On *Stella* the forward end of the wishbone boom is hoisted by the sail, but on some of the other Freedoms, there is a separate halyard for the wishbone. The weight of the boom makes hoisting the last bit of sail a healthy exercise, and does require the use of the self-tailing halyard winch. Once the sail is fully hoisted, the outhaul to the clew has to be tightened.

Our own boat has heavy full-length battens which also make hoisting the sail fairly heavy work. Instead of self-tailing winches, we have a 4:1 purchase. The sail is heavy but has little friction, and needs no other attention apart from hauling on the halyard until the sail is fully hoisted, when two other lines must be adjusted. So far then, the two rigs are pretty even. Hoisting sail is easy on either, with a slight edge to the junk if short handed.

As we hoisted the main on *Stella*, the mizzen was sheeted in hard to stop the boat sailing off before we were ready. The sail did flap about a bit in the breeze, and this would perhaps become a problem in stronger winds. On the junk rig, the full-length battens keep

the flat sail silently feathered in any wind.

We pulled up the anchor, fell off onto a reach, eased sheets and raced out of the bay. Once clear of the land, we hardened up onto a beat and pushed out to sea against a moderate trade-wind. The boat sailed very well, and despite the snubbed bow, she pushed into the waves very comfortably.

Sailing to weather, we felt she went better than our boat. In very calm water, the junk rig is as close-winded as any, and closer than a lot. But into a swell, the flat sails lack the drive to push the boat without falling off a little bit.

As we tacked *Stella*, we marvelled at the ease of tacking. Just a turn of the wheel, and the sails self-tending. In this respect, she is the same as our own boat. How anybody can sail a self-tending rig, then go back to big flapping headsails and gorilla-powered winches is beyond me.

As we settled down on the new tack, the compass showed we had tacked through 90 degrees. On our boat, we would have tacked through 110 degrees under the same conditions. Either is adequate for a cruising boat, but that was a definite edge to the Freedom rig. The sails did flap about, and the booms clattered and banged as we tacked. A junk-rigged boat is uncannily quiet during a tack, as the battens stop the flat sails flapping.

Fast to windward

The Freedoms are unquestionably fast to windward. Last year during Antigua Race Week we were sailing a Morgan 46, rather well we thought. Gary Hoyt, sailing his own Freedom 33, passed us with impudent ease on a long, and for us, tiring beat. However, it is off the wind that they really excel. This, too, is our own boat's best point of sailing.

The Freedoms get their extra speed off the wind by setting a staysail from the top of the mizzen. To give the unstayed mast some support, a running backstay must be set up. The staysail is about the same area as each of the working sails, which in the case of the 40, is about 580 square feet each. There would be nothing to stop a similar sail being set on a junk-rigged boat, but we ourselves have not felt the need for it. Because our sails are so easily reefed, we gave our boat a bit of extra sail area to begin with. We have almost the same working sail area as the 40, which is a much bigger boat.

We discussed at great length with Keith the reliability of his rig. He freely admitted that the reefing of his early model boat was not all that it might be, and since then of course the system has been greatly improved. The reefing on later boats was described on pages 56 and 57 of the August issue.

However, we believe that the legendary ease of the junk's reefing cannot be bettered. Those battens may be heavy to haul up, but they do make the sail

reef when they settle between the lazy jacks.

We have found that our boat can be easily and quickly reefed or unreefed by one person, who does not even need to go on deck. Reefing is just a question of slacking away on the halyard until the required number of panels have folded up, then two other lines need to be tightened, and that's it.

A junk sail will set just about as well reefed as unreefed, and twist in the sail is reduced by the fact that the mainsheet controls the ends of all the battens except one.

Stella, in fact, carries a variety of sails for different conditions, rather than relying on reefing her working sails. She has a smaller mizzen of about two-thirds the size, which is used when the winter trade winds are blowing hard. She also carries small storm sails for use in really heavy conditions. As Keith pointed out, though, changing a sail is not a job to be undertaken lightly. Although a lighter cloth is used for the double sails, there is still twice as much area to be handled. But the builders would say that there is no need to have a second suit of sails, since one of the Freedom's sails can be handed completely and the other double reefed.

Whether extra sails are carried or not, there is no doubt that the junk sail is the more easily able to cope with accidental damage. The quick answer is to isolate the damaged area by tying two battens together, but even that may not be necessary. In China, junk sails are seen under way with holes in their sails, holes which will not rip right across because each batten forms a boundary.

It is worth adding that our junk has proved to be completely free from chafe. We have sailed 6000 miles and have never had to resew a seam.

Our final comparison came with dropping the sails. They came down easily enough while the weight of the wishbone was pulling them down, but after that somebody had to go forward to pull the sail down. On a junk-rigged boat, the sails fall down from the weight of the battens, as soon as the halyard is released. As the sail comes down it is gathered in the lazy jacks, and does not require somebody to go forward.

Having sailed both, now the question is bound to be asked, which is best. Freedom or junk? Alas, as is so often the case in matters relating to boats, there is no 'best'. Each rig is a compromise, with its strong points. We were most impressed with the windward performance of the Freedom — unquestionably better than our junk-rig. Both rigs excel off the wind, often beating much larger so-called 'conventional' boats.

handling and ease of tacking. Why any cruising sailboat is built with a rig that is not self-tending still amazes me. ●

**More details on the Freedom can be found in PHO No. 188, p55.*