

Hasler-Kingfisher Chinese-Rigged Yachts

SAILING INSTRUCTIONS

by H.G. Hasler

The Chinese Rig is at its best in hard weather, when it will often outsail a Bermudan-rigged sister-ship on all points of sailing. In light or moderate winds it may outsail the Bermudan sloop reaching or downwind until the sloop sets a spinnaker. Going to windward in moderate weather the rig should perform about as well as a gaff cutter. Its weakest point is going to windward in ghosting weather through a lop or swell, although skilled helmsmen have sometimes been able to "fan" along in a surprising way.

2. The rig must be correctly set up. If in doubt, please refer to the following drawings:

H-K 20, 20 Plus, 22	Drgs. CV/24 , CV/25
H-K 26	Drgs. DV/11 , DV/12
H-K 30	
H-K 36	

Functions of Rigging

3. Running Rigging

- (a) Halyard Raises and lowers the yard, and hence the sail. When weathercocking, the whole sail should drop freely under its own weight into the topping lifts when the halyard is let go. If it does not, the halyard has too much friction. Check that it is rove correctly, with the sheave pin of the upper block pointing towards the centre of the mast.
- (b) Yard Hauling Parrel Holds the centre of the yard forward and close to the mast. Works against the Luff Hauling Parrel to peak up the yard and remove creases from the sail.
- (c) Sheet Controls the incidence of the sail to the wind, and the amount of "twist" in the leech. Also holds down the after ends of the sheeted battens when the sail is reefed or furled.

- (d) Topping Lifts Gather and hold the furled part of the sail when reefed, and the whole sail bundle when furled. They should be adjusted so that they are just slack when full sail is hoisted and the tackline is taut. Then when reefed the boom will have dropped about 2 ins. (5cm) and the lifts will automatically have gone taut. When close-reefed the furled bundle is quite heavy and the lifts are taut enough to give some support to the battens on the exposed part of the sail as they lean against the leeward lifts. The furled bundle of sail may be lowered below its reefed position by paying out the topping lifts, preferably both sides together. This is normally done in order to drop the bundle on to a gallows or crutch, where it is secured by lashings or tyers. If sail repair should be needed at sea the bundle may be dropped right down to the deck by letting go the mast lift and then, if necessary, bending on short ropes to lengthen the running ends of topping lifts and halyard.
- (e) Luff Hauling Parrel Pulls the top three battens of the parallelogram part of the sail in towards the mast and downwards. Works against the yard hauling parrel to peak up the yard and remove creases from the sail.
- (f) Burgee Halyard Used for hoisting a burgee and/or courtesy ensign or signal flags. Also possibly as a messenger for passing an emergency halyard or gantline through the masthead fitting, if its eye or block is big enough.

4. Standing Rigging

- (a) Mast Lift Holds the forward end of the furled part of the sail up and close to the mast. The bowline should be adjusted so that the lift has about an inch (2.5cm) of slack when sail is fully set and the tackline taut; it will then take the weight as soon as the halyard is eased.
- (b) Tackline Holds the boom down when the sail is fully hoisted and prevents the sail from being hoisted too far. The sail should not be hoisted so far that the tackline bends the boom downwards; the sail should not set dead flat, but should "scallop" between the battens. The tackline should be adjusted so that the sail hoists to the correct height on the mast and no further. There must be a good distance (drift) between the two halyard blocks in order to avoid wringing the mast when running.
- (c) Batten Parrels Hold the battens close to the mast when on starboard tack, and prevent the forward ends of the battens from getting on the wrong side of the mast when

hoisting or lowering in a seaway. On the port tack they are slack and do nothing, unless she is rolling. Batten parrels should be set up fairly taut, so that the flat hand can just be inserted between parrel and mast.

- (d) Boom Parrel or Tack Parrel Prevents the boom from sliding too far forward, and hence enables the Luff Hauling Parrel to straighten the luff. The diagonal tack parrel which leads from the tack up round the mast to the forward end of No.1 batten automatically allows the boom to slide forward a short distance when the first reef is taken down. This is the preferred system, but is not shown on the older prints of drgs. CV/24 and 25. Either system should be set up so as to hold the tack with the correct amount of overlap on the mast when under full sail.

All standing rigging will require re-adjustment from time to time.

Sail Handling

5. Universal Rule:

The halyard works against the other three hauling ropes (sheet, yard hauling parrel, and luff hauling parrel) which may be referred to collectively as the "downward ropes". If the halyard is let go or eased out, all three downward ropes will go slack and may be hauled in either simultaneously or subsequently. Conversely, when hoisting on the halyard all three downward ropes must normally be let go or eased out.

6. Sequence of Setting Sail on Moorings

- (a) Remove any swifters.
- (b) If sail is stowed in a gallows or crutch, let go any lashings. Ease out and overhaul a little sheet. Heave in both parts of topping lifts to hoist the sail bundle to the correct height for the reefed sail, when it should swing well clear above the gallows or crutch. The hauling parts of the topping lifts may be marked so as to give the correct height. Belay the topping lifts, make up and stow their spare ends.
- (c) Let go the three downward ropes and lay them so as to run out freely. Hoist full sail, watching these ropes run out and finally watching the tackline to indicate when to stop hoisting. Belay the halyard.

- (d) With the sail still "weathercocking" with slack sheets, haul in the yard hauling parrel until the yard slingplate is very close to the mast, but not jammed against it. If in doubt, haul it bar taut and then ease back a few inches. Belay it.
- (e) Set up the luff hauling parrel so as to pull the luff in towards the mast a few inches. For light weather, stop before the boom begins to move aft. For heavy weather, stop when the boom has moved aft several inches (it will move forwards again when sailing). Another method is to watch any creases that may have formed in the sail after completing (d) above, then set up the luff hauling parrel until these disappear, or (for heavy weather) until they begin to reform sloping in the opposite directions.
- (f) Make up the spare ends of halyard, yard hauling parrel and luff hauling parrel so that they are stowed securely but ready to run out again without snarling. This may be done using reels, boxes, or fabric pockets, or more simply by coiling each rope, hitching the coil, and hanging it from its own cleat. Always start coiling from the cleat and work back to the hauling end.
- (g) Let go the mooring, trim the sheet as required, belay it and make up its spare end.

7. Sequence of Handing and Stowing Sail

- (a) In an emergency the whole sail may be crash-furled by letting go the halyard and making sure that it runs out freely, but this may cause trouble with two of the downward ropes: yards of spare sheet may festoon the cockpit, or fall over the side near your propeller, while the luff hauling parrel will probably get a turn round the forward end of a batten, which will need to be cleared before you can re-hoist the sail.
- (b) A more seamanlike method, if you have time, is to lower more slowly while taking in the slack of sheet and luff hauling parrel. If single-handed, it will probably be satisfactory to crash-lower to about halfway, belay the halyard temporarily, take in the slack of sheet and luff hauling parrel, then crash-furl the rest of the way. You can of course continue sailing and manoeuvring while in the halfway stage.
- (c) In the last part of furling, the yard slingplate has to fall aft a long way from the mast, and the yard hauling parrel needs to take back a good deal of rope to permit this. A well-reefed sail cannot be furled without

- letting go the yard hauling parrel; this is the only exception to the Universal Rule stated in 5 above.
- (d) After the sail has been furled and the bundle has been hauled amidships with the sheet, it may be lowered into a gallows or crutch by easing out on both parts of the topping lifts, and secured in place by tyers or lashings. This is the best way of stowing a sail (particularly a large sail) with the bundle firmly secured against rolling and hardly any load on mast, halyard, topping lifts, or sheet.
 - (e) If a gallows or crutch is not used, the furled bundle should be prevented from swinging about and chafing as the boat rolls. The sheet, even if bar taut, is not able to achieve this properly, and either one or two light lashings should be used to guy the after end of the bundle sideways to points near the boat's gunwale.
 - (f) Swifters When the sail is stowed, the mast lift and the fall of the halyard may slat against the mast in a way that will annoy you and your neighbours. This may be cured by using a piece of light line to swift these two ropes aft towards the topping lifts.
8. Weathercocking When swinging about with slack sheets the Chinese sail does not flap or flog, even in a gale of wind, because the full-length battens hold the sail stretched taut from luff to leech. This weathercocking ability is an important asset. With sheets and tiller let go, the boat will lie naturally a-hull, beam-on to the wind with the sail swinging gently at right angles to the hull. This is the ideal attitude for hoisting or lowering sail while under way, particularly with the wind on the starboard side when nearly all the ropes are fully visible from aft.
9. Reefing Ease of reefing and unreefing is the outstanding advantage of the Chinese rig, and the sail may be reefed right down to the top panel if required. Cruising yachtsmen will reef and unreef very frequently as a means of adjusting speed, avoiding stress, and achieving the right compromise between progress and comfort. It is never necessary to reef in deference to the weather forecast, but only in deference to the wind that is actually hitting you. In fresh winds it is customary to reef for entering and leaving restricted anchorages, and for picking up moorings.
10. To set a reefed sail from the furled attitude, proceed as in para. 6 above with the sail weathercocking, but stop hoisting and belay the halyard when the right amount of sail has been exposed - preferably at a stage when the

forward end of a batten is about 6 ins. (15cm) above the furled bundle. Then set up the yard hauling parrel until this batten lies parallel to the bundle and just above it. (Setting up the yard hauling parrel pulls the yard forward and thus lowers the forward ends of the exposed battens and raises their after ends.) The geometry of reefing is such that the yard slingplate should lie progressively further away from the mast as the sail is progressively reefed. It is possible, if desired, to haul in further on the yard hauling parrel so as to bring the slingplate closer to the mast, but this will also raise the leech so that the lowest exposed batten is no longer parallel to the furled bundle, but is raised at its after end giving an untidy appearance to the reefed sail and possibly producing a flapping bit of slack leech below the batten. We prefer the former adjustment.

11. After belaying the yard hauling parrel, the luff hauling parrel should be set up and belayed as in 6(e) above, although its usefulness decreases as the sail is reefed.
12. The sheet may now be hauled in to get her sailing. Note that there is no need to tie down the reefs, except under the circumstances described in 13 and 14 below. At all other times the sheet spans, pulling down on the after ends of the battens, are enough to hold the leech down, and the weight of the battens is enough to hold the luff down with only an acceptable amount of scalloping.
13. When the sail is well reefed, say with less than four panels set, there is a risk of suffering a "fan-up" when gybing. This occurs as the reefed sail swings across the stern, when the sheets go momentarily slack and there is nothing to stop the yard and battens (including the furled battens) from being blown upwards like a fan unfolding. This can result in a difficult snarl-up, with the peak of the yard and the after ends of some battens stuck through the topping lifts. The best preventive is to use a small piece of line as a reef pendant, lashing the after end of the lowest exposed batten down to the furled bundle. Failing this, the sheet should be got hard in before gybing, but this is unattractive in heavy weather.
14. It is in any case necessary to pass a reef pendant if it is desired to sail under one panel only, since the top batten is not held down by the sheeting system. Sailing under one panel is perfectly feasible downwind,

- and indeed in smooth water some boats have successfully made some progress to windward, and tacked, under one panel. The furled bundle itself acts to some extent as a sail, and when hulling or running under bare poles it should be sheeted as a sail.
15. To take in reefs when close-hauled or reaching it is not necessary to get the sail weathercocking first. Simply pay out the halyard by the required amount and the sheet will automatically slacken as the sail comes down. Then set up yard hauling parrel, luff hauling parrel, and sheet in that order, all as in 10, 11, and 12 above.
 16. When running with the sail correctly squared off it is sometimes possible to reef without spilling wind, but the halyard should not be paid out without first, or simultaneously, getting the sheet further in, in order to avoid the situation described in 20 below. In any case, the sail may well refuse to come down when pressed against the lifts, and it is better to start by bringing her up a-hull with the sail weathercocking, as in 8 above.
 17. Similarly, when shaking out a reef while running or broad-reaching it is not permissible to let the sheet go free (para 20 below). It should be kept in check while hoisting, and this involves a lot of friction. Again, it is preferable to start by coming up a-hull and weathercocking.

Adjustment of Sheets

18. When close-hauled, the Chinese sail must be sheeted more like a conventional headsail than a conventional mainsail. The sheet must not be flattened in, but the clew of the sail must lie out over the gunwale, or beyond it. In light or moderate weather the boat must then be sailed appreciably fuller than a Bermudan sloop. Getting the best out of her is not easy and demands close attention to the "feel" of the boat, in the absence of any clear indications from the sail itself. As the breeze hardens it becomes much easier to sail her well, and she can be allowed to claw up much closer to the wind with the sail "feathering" at a fine angle of incidence, but still without flattening the sheets.
19. When reaching in light airs the sheet may be paid out until the burgee shows about 10° of incidence at the head of the sail, but in fresh winds the sheet may be eased further and the rig will then develop a lot of drive with very little heeling moment. When broad-reaching the sheet may be let right out until the sail

is square to the boat, but if the sail is showing twist (as it inevitably will when reefed) then the head of the sail should be square to the boat, with the foot further aft.

20. When running, the sail remains trimmed as for broad-reaching. Be careful not to let out more sheet than this, allowing the head of the sail to sag forward of the square position, because this puts a heavy compression load on the sheeted battens and is a common cause of breakage. If the sheet is accidentally let go too far when running in a hard breeze, do not try to haul it back in without first coming up a-hull and weathercocking.

Tacking

21. Tacking should involve nothing more than putting the helm down. The fact that the sheet anchorage is offset to port should ensure that the offset sail adopts the same incidence on either tack without re-adjustment of the sheets, but the sail will naturally lie bodily further outboard on the starboard tack than on the port tack.
22. Hulls that are slow in stays may sometimes get themselves "in irons" through not having a jib that can be backed to help her round. The remedy may be to pay off and get more speed before tacking, then watch the waves and put her firmly round in a "smooth". In lighter weather it may help to hold the boom out to its original side for a few moments as she comes into the wind. In any case, the single Chinese sail needs a little more time than the Bermudan sloop in which to pick up speed after tacking.
23. It is still open to debate whether the rig sails better to windward on the port tack, or on starboard. Some evidence suggests that this may depend on wind strength.

Gybing

24. Accidental gybes should be very rare, as the squared-off sail will not gybe until the boat is a very long way "by the lee". It is normal to gybe without hauling the sheet in, and this makes for a very soft gybe. Keep the boat spinning fast, and by the time the sail comes over she will be almost reaching on the new gybe, and the sail will tend to stop swinging before the sheets go taut. This soft gybe demands a certain amount of sea room, and some care in preventing the sheets from

wrapping around deck fittings, or people's necks.

25. When sailing up a narrow channel, or gybing close-reefed without a reef pendant (para 13 above) the sheet may be got in before gybing, as with a conventional rig. The resultant gybe demands less sea room but is harder on the gear.

Heaving-To

26. There are two ways of heaving-to:

Either (a) Reef the sail and get the sheet in flatter than the close-hauled attitude. She will then jog very slowly to windward with lashed helm, making appreciable leeway.

Or (b) Ease the sheet and lie a-hull with the sail more or less weathercocking and the helm lashed down (i.e. as if trying to tack her). Playing with the sheet will alter her heading in relation to the wind.

