

Whoever is trimming your halyards needs to pay attention, since you usually have your hands full with the tiller and the sheet.

As the reach broadens, difficulties with twist control rapidly take over and the game changes. The twist in the sail almost never matches the apparent wind in the sail. The bottom third of the sail is constantly stalled, and the top of the sail is near luffing. The trick is to keep as much of the sail properly trimmed and powered up as possible. The high leech telltale should be streaming and easily visible most of the time. The low leech telltale will be constantly hidden behind the leech, stalled like the lowest luff telltale pair.

Running downwind, the large main is stalled and functions as a very flat and inefficient spinnaker. Deepen the draft by easing the boom outhaul and both halyards to improve potential circulation around the sail. Speed test with another boat of your class in various wind and wave conditions to see which is fastest: sailing by the lee, broad reaching or heading dead downwind. Move crew weight to windward and forward to balance the helm in light to moderate air. As the breeze freshens and the rig loads up, move the crew back into the cockpit and keep the boat flat.

The principles of sail trim for a four-sided gaff-rigged sail are no different than those for the more familiar three-sided marconi sail: angle of attack, draft and twist. The biggest difference is the amazing function of the peak halyard to position the draft far forward for power. The greatest drawbacks of the four-sided sail are the lack of an effective vang and the inability to de-power the rig as the wind gets above 15 knots, except by reefing. The four-sided sail is very sensitive to sail controls, so constant fine adjustments are required to get the most from your rig.

If your goal is maximum performance, then I recommend the following:

1. Use low stretch Dacron or Dacron/Spectra braid, in the appropriate size, for all running rigging.
2. Make sure all of your blocks run smoothly and all controls function easily.
3. Increase the purchase on your halyards to improve fine control.
4. Use cam cleats on your halyards and outhaul adjustment.
5. Have telltales on your leech and near the luff, and know how to read them.
6. Add marks on your control lines and adjacent deck for reference to a standard trim condition.
7. Practice with your crew to improve sail trim in all conditions.
8. Speed test with another boat of your class.
9. Spend time in the boat.

In this article the Sandpiper (Marshall 15, [www.marshallcat.com](http://www.marshallcat.com)) catboat is used as an example. It is representative of small, gaff-rigged racing catboats. The trim techniques for four-sided sails shown here should translate to other similar classes. However, each class may have individual variations in trim techniques that may be more successful; consult your sailmaker and national champions in your class, then experiment.