# A Boomless Mainsail for a Compac 16/1; A Proposal

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Sailing in a boat with a boomless main is unexpectedly pleasant. Suddenly you no longer need to duck as a metal pole sweeps over your head. You can lower the sail and put it out of the way, to row or scull. A brail line, rove through an eyelet on the leech, allows you to gather the sail against the mast like a roman shade, in a moment. You can do this to gybe in a strong wind or in a squall, or to heave to and fish.

In boats with more than one sail, English fisherman sometimes preferred a sail with a gaff, a nearly vertical leech, and a loose foot. This rig was "kinder to those on deck than a sloping leech or a boom." They could shorten the sail "by brailing as well as reefing." ( Eric McKee, p.142)

The Compac 16/1, built from 1976 to 1983, could have a boomless gaff rig, because the mast has no spreaders. The plan drawn here meets four requirements for such a rig (see Figure 1). First, as John Leather advises for a boomless standing lug, the clew of the sail in a 16 foot boat would "need to be about 2 ft. 6in. forward of the transom, if the sheet is to set well for windward sailing from the lee quarter of a transom of normal breadth" (p.79). Second, as Philip Bolger says, a boomless sail needs "to be sheeted to a point well off the centerline to draw well. Ten degrees from the intersection of the luff of the sail with the deck is the rule of thumb". Third, Bolger adds that a "boomless sail needs a sheet lead that splits the clew angle" (p.8). Fourth, the center of effort of the new boomless gaff rig would need to similar to the standard jib headed main. In the plan, the center of effort of the boomless gaff rig is at similar point on a line from the bow to the stern. The center of effort is higher, since the sail is taller.

One disadvantage of a gaff sail with a short foot occurs when you reef it; the center of effort moves back, causing weather helm. This might be lessened by tuning the rig to keep the mast vertical. After reefing, you might be able to lessen weather helm by using a small working jib, keeping the boat nearly flat, or moving the crew aft. If these measures were not sufficient, perhaps adding a bowsprit would be worth the added expense.

Overall, the advantages of the boomless gaff rig appear greater than the disadvantages; the rig seems to drop into place. However, since I have not sailed a Compac 16, I would be very interested in the comments of those who have.

References,

Bolger, Philip. *100 Small Boat Rigs*. Camden, International Marine Publishing, 1984.
Leather, John. *Spritsails and Lugsails*. Camden, International Marine Publishing, 1979.
McKee, Eric. *Working Boats of Britain*. London, Conway, 1997.

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*Figure 1*. Sail plan for a boomless gaff mainsail for a Compac 16/1.

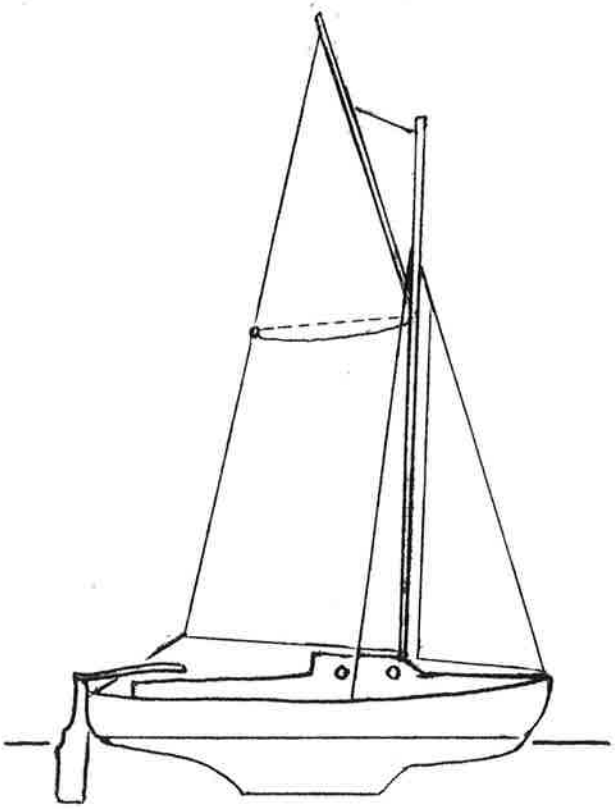


*Figure 2*. Deck plan of a Compac 16, showing the sheeting angle of a boomless gaff mainsail.

