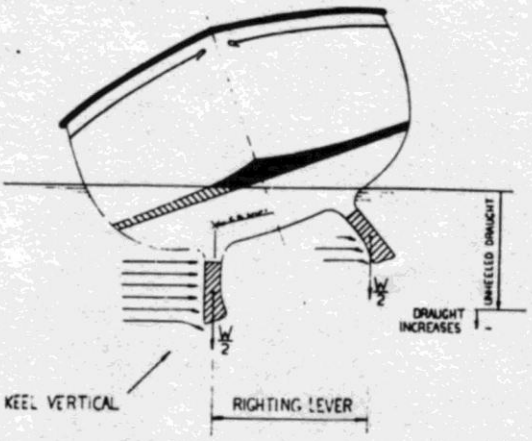
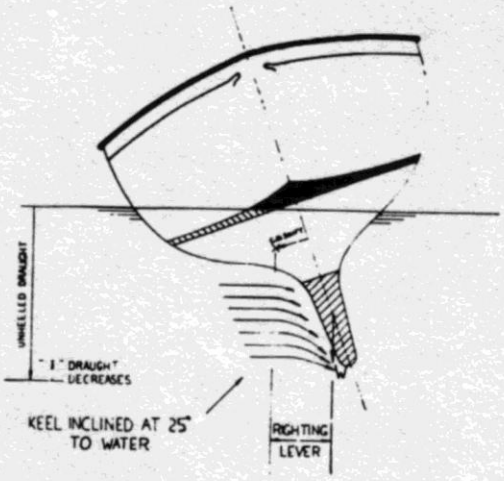
WESTERLY NEWS

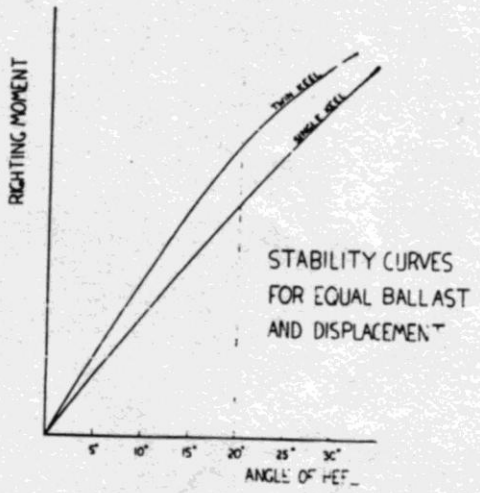
WESTERLY 22. Our 4½ Ton Four-berth Family Cruiser.





WESTERLY 25. Our 5 Ton Cruiser Racer with four berths.

Demonstrations of both boats at Gosport by appointment.



LET US HAVE IT RIGHT—ONCE AND FOR ALL

Or shall we say as "right" as possible? There are so many variables inherent in the design of a yacht that it is not possible to compare one type of hull with another unless certain premises have first been assumed. In the above example the hulls are of equal ballast and displacement and the single keeled boat is assumed to have her keel carried aft to the transom. At 20° heel the boat with twin keels has 25% more stability than the single keel. At any angle below 60° the single keel could never be given the stability of the twin keel boat unless she were to be re-designed with a shorter and deeper keel. The displacement saved by discarding the after part of the profile could then be used to increase the firmness of her bilges. While this would give her a more powerful hull, it might not be so easily steered in a seaway. So, length for length, single keeled boats have to be given a greater displacement (about 10%) and for this they must either pay by accepting a greater wetted area (again about 10%) with increased resistance, or they may retain the lighter displacement and make do with less sail area than that carried by their twin-keeled sisters.

What happens to the stability curves at angles greater than those plotted? If both boats are flush-decked the two curves will come together at about 60°, and from there to 120° the single keel will have some advantage. Beyond 120° the twin keels again show a better figure and this they will hold right over to 180°. In practice, however, the hulls behave differently as soon as the covering board is immersed. Thereafter stability is governed to quite a large extent by the shape of the cabin top. Thus the Westerly 22, whose top is carried out to the ship's side, receives a very great increment in stability. Indeed, we have never been able to press her beyond 51°—an angle only with difficulty achieved when we were trying to see if we could carry away any of the standard gear. Then, although the rain was being blown up the inclined mainsail, she was still handling well.

But stability (and hence sail carrying capacity) is not the whole of the story. It will be seen that as both boats are heeled the twin keel boat increases her draught, whereas the single keeled boat reduces hers until at 45° she will be floating on her bilge and actually drawing six inches less water while at the same time presenting a greatly inferior shape to counteract leeway.

What of the behaviour of the third type of craft—the boat with a central ballasted keel and bilge plates? If we again assume equal displacement and ballast, her curve up to 30° heel will be very similar to that of the single keeled boat but definitely less than one with her ballast on two keels. Three keels are, however, most generally given to boats of very light displacement where the risk of hydrodynamic interference between the keels has been accepted in order to simplify construction and keep the weight (and hence cost) as low as possible. Provided her crew are prepared to aid her stability by using their own weight to advantage, there is no reason why her performance should not be adequate for she, too, should gain in draught as she heels.