

"TUNING THE RIG FOR THE OCEAN RACER"

By courtesy Alspar of Australia

Part II - Mast-head Rig - Single spreader - Deck stepped

This rig is most popular for Division III type yachts - say up to 30ft O.A., where the mast tends to be an intrusion into the fairly restricted accommodation area if keel stepped. In larger yachts, it will generally be found that the necessity for additional structure required to provide support for the deck or cabin top stepped mast will outweigh any other advantages. There are, of course, exceptions such as the case where the mast needs to be lowered frequently for passing under bridges etc.

Setting up a deck stepped spar with this rig is similar to the procedure outlined in Part I (Newsletter No.3) with two major provisos, viz:

1. Great care must be taken to ensure that the mast seating is precisely level in the athwartships direction, and also that the under deck support is provided either by a post or beam on the centreline, or in the case of a bulkhead, one which continues well past the mast, and does not stop at the centreline.

Failure to observe these precautions will almost certainly result in the mast taking up an "S" bend under load, which no amount of rigging adjustment will cure.

2. Because the mast is being supported (athwartships) only by the rigging and not by passing through the deck, less pre-load on the caps and lowers is necessary to attain the correct line of the mast in the athwartships plane.

Apart from these considerations, much the same techniques for setting up the rig as for the keel stepped spar apply, with the same emphasis on the importance of sailing trials.

Part III - Mast-head Rig - Double Spreader

Used generally on yachts from about 45ft O.A., thus taking in most of the larger No.1 Division Ocean Racers. Except in special cases (eg "Starfire of Perth") where tabernacles may be a necessity, spars of this size are almost invariably keel stepped.

- The shroud arrangement for double spreader rig is generally of one of two forms:
1. Both the cap shrouds and the intermediates are led, independently of each other, to the chainplates, or
 2. Both the cap and intermediate shrouds are terminated at link plates at the end of the lower spreaders, from which point a single shroud (with a strength equivalent roughly to the total strengths of the cap & intermediates) leads to the chain plate. This latter system is now the more common, & to be preferred.

It necessitates fitting a rigging screw to the spreader link plates for the adjustment of the intermediate shroud.

The tuning of this rig is carried out initially in almost exactly the same manner as the single spreader, as described in Part I. This is done by completely slacking off the intermediate stays in the early stages and setting up the mast with these stays taking no load. When the spar is holding its desired shape as closely as possible, the intermediates should then be taken up slowly until the spar takes up a single, slight curvature as explained in Part I. It will be found that rigging adjustment is much simplified if this procedure is adopted & in fact the intermediates will probably be only very lightly loaded under most conditions, and may not in fact require any pre-load.

It should also be obvious that, with this form of rig, the lower spreaders will require some degree of movement in the vertical plane, otherwise they will be physically bent during the adjustment of the rigging.

This is generally achieved by either a hinge arrangement or a spreader which is fitted into a socket with compressible packing.