

Double Spreader Fractional Rig

Mast Rake

- Mast rake is determined by forestay length. Rake affects helm balance - raking the mast increases weather helm.
- As a starting point, use the designed rake on the sail plan (ask the boat designer, not the mast maker). If no information is available, start at 1:30. (e.g., 50 cm rake on a 15m mast). To measure rake, tension the backstay approximately 60%, then check rake with a weight attached to the main halyard. (Boat must be floating level when you do this!). Adjust forestay as necessary to obtain the desired angle.

Mast Bend

- Check that the mast is upright athwartships in the boat. Use the main halyard to measure from the masthead to the chainplate each side. Adjust upper (cap) shrouds to get identical readings each side (but use minimal tension in the shrouds).
- A certain amount of pre-set mast bend is desirable, to stabilise the middle part of the mast and thus minimise rig pump in a seaway.
- Ensure the lower shrouds are slack. Induce the required amount of pre-bend in the mast by tensioning the backstay. (Make a note of the amount of pre-bend by using the main halyard tensioned down to the foot of the mast and measuring the amount of bend at the spreaders). Tension the cap shrouds equally, a few turns at a time, until the fore and aft bend starts to increase. Check that the mast is still straight athwartships.
- Now tighten the lowers in the same manner as the caps, until the fore and aft bend starts to decrease. At this stage the caps should be tighter than the lowers.
- The procedure so far has been the same as for a single spreader rig, but now we tension the Intermediates: Take the slack out of the intermediate shrouds, but do not tension. Re-check for athwartships straightness; straighten by tensioning one intermediate.
- Now tighten the intermediates equally, a few turns at a time, until lightly tensioned (i.e., prebend is not reduced - Intermediates are the most lightly tensioned span in this rig).
- Release the tension on the backstay (and inner forestay, if fitted); check that you are happy with the fore and aft and sideways bend (there should of course be none of the latter).

Transverse Tune

- Go sailing! Set full sail to windward in smooth water in light winds (10-15 degrees heel to windward).
- Tension the backstay just sufficiently to straighten the forestay.
- Check the leeward rigging tensions, which should be as follows: Cap shrouds and lower shrouds: fairly tight. Intermediates: just going slack. Tighten, if necessary, no

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more than two turns at a time. Go on the opposite tack and tension an identical amount. Tack again and recheck leeward shrouds... Continue until correct tension is achieved. DO NOT OVERTIGHTEN the lee shrouds, as you may bend the boat or break the mast when you tack!

- Back at the dock, check that the mast is still straight athwartships.