SABRE 34 OWNERS MANUAL
STANDING RIGGING ADJUSTMENT

The following procedure should be used to adjust the standing rigging on the Sabre 34 to obtain optimum performance and to assure the structural integrity of the rig.

1. Install the mast in the boat after checking that all mast splice bolts are tightly secured. All stays should have a medium degree of tension before the start of the mast tuning procedure.

2. The upper shroud turnbuckles should be adjusted to obtain a reasonable degree of tension in the shrouds of about 3000 to 3500 lbs. maximum. The correct tension can later be verified as the tension that will allow the leeward shroud to be reasonably slack without appreciable tension with the boat sailing at a 25° angle of heel, so that the leeward shroud moves back and forth a little in the breeze. It is a common error to tighten the shrouds excessively, which can lead to distortion of the hull shape and possible structural damage.

3. The vertical side-to-side position of the mast is adjusted by using the main halyard to measure that the distance from the masthead is equidistant to both hull toerails. It may be necessary to add a short piece of rope to the shackle end of the halyard to reach first one toerail and then the other. Adjust the upper shroud turnbuckles to correct any lean of the mast relative to the hull.

4. The forestay and backstay should next be adjusted to be reasonably tight, but without overloading the hull which could cause structural damage to the hull. While sailing at a 25° angle of heel the correct tension of about 3000 to 3500 lbs. will allow the forestay to sag about 6" to 8" aft at mid height. All sails are cut to allow for this amount of sag in the forestay. Equal adjustment of the forestay and backstay turnbuckles should result in between 6" to 12" of rake aft at the masthead, which is normal.

5. The mast partner side chocks between the sides of the mast and the mast collar should be securely installed to provide a straight mast from the deck upwards. First the lower shrouds should be slackened completely so that they do not restrict the movement of the mast at the spreaders. Next, the side chocks should be adjusted to provide a straight mast, which is verified by sighting up the mast track from the gooseneck to the top of the mast. Note that normal tolerances in the construction of the boat, and of the mast splice, can result in the mast being located up to about 1/4" to one side or the other in the mast partner.(i.e.: 1/4" space on one side and 3/4" space on the other side) to achieve a straight mast.

6. The forward and aft lower shrouds should next be adjusted to provide the following slight curves in the mast with the boat sailing at a 25° angle of heel.

   a) A very slight sideways curve in the mast of about 1 1/2" to weather at the spreaders. This slight sideways curve is necessary due to the fact that normal stretching of the shrouds under load will cause the masthead to fall off from 4" to 6". The slight curve to weather at the spreaders is necessary to provide a smooth curve from the mast step, up through the partners to the spreaders and on to the top of the mast. Lower shrouds that are too loose will result in an "S" curve in the mast from top to bottom. Lower shrouds that are too tight will result in a straight mast up to the spreaders, with a sharp fall-off to leeward above the spreaders.

   b) A slight forward curve in the mast of about 3" forward at the spreaders. If excessive "pumping" of the mast is noted in a seaway (fore and aft movement at the spreaders) then the shrouds should be adjusted to increase this forward curve to about 4" to 6" maximum. This slight forward curve is necessary to pretension the forward lower shrouds a little more than the aft lowers to reduce the tendency of the mast to "pump" in a seaway.

   A smooth even curve in the mast from top to bottom indicates the correct lateral adjustment of the lower shrouds. The lower shrouds will be considerably looser than the upper shrouds, with the forward lowers a little tighter than the aft lowers.

7. The mast partner fore-and-aft chocks should be installed between the front and back of the mast, and the mast collar, after the mast turning is completed to remove all slack. Also, check to see that the side chocks are secure.

8. Be sure that all turnbuckles, toggles and clevis pins are secured with cotter pins that are properly bent back and taped.

9. CAUTION: The majority of mast failures are cuased by improperly adjusted rigging that allows the mast to bend more than 3" sideways, or 8" fore-and-aft at mid height (putting the mast out of column), and by improperly placed or missing cotter pins.