

NORTH SAILS



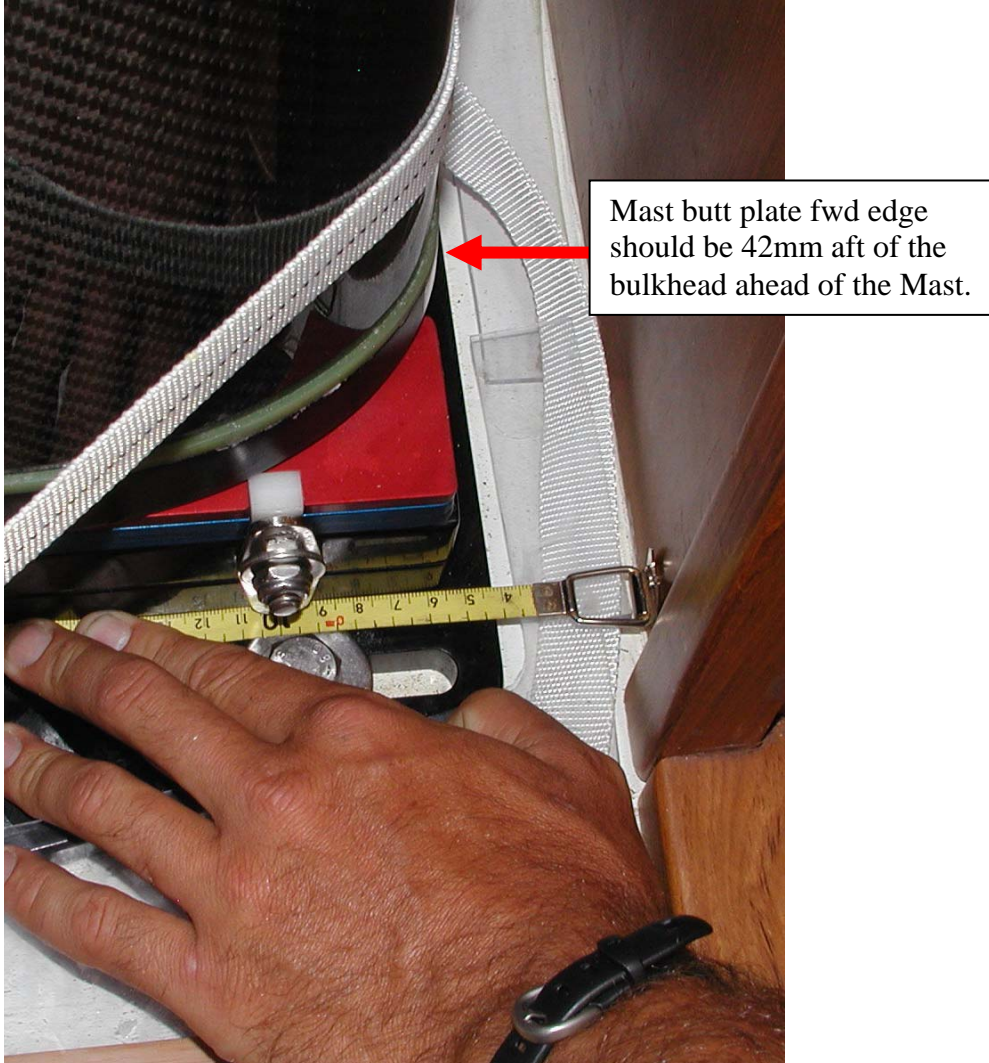
Club Swan 42 Tuning Guide 2008



*The information in this guide applies to *North 3DL Swan 42 Class sails* only.

Before going sailing:

1-Step mast with mast butt 4.2 cm aft of the bulkhead. Set mast at deck level to be Class Max of 5.00M from the centerline of the headstay.



2-Set Shrouds at deck such that all std. plates are in place (2 large black/2 red/2 blue.) Upper shroud (Caps) should be 71.

Lower diagonal (D1) should be 40

Upper diagonal (D2) 40

Jack pressure should be 350

3-Center the mast by equalizing the distance between the upper Cap shrouds. Pour "Spar Tite" to keep mast permanently centered.

4-Set Headstay Arc to be 1.70 meters

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#4 Continued



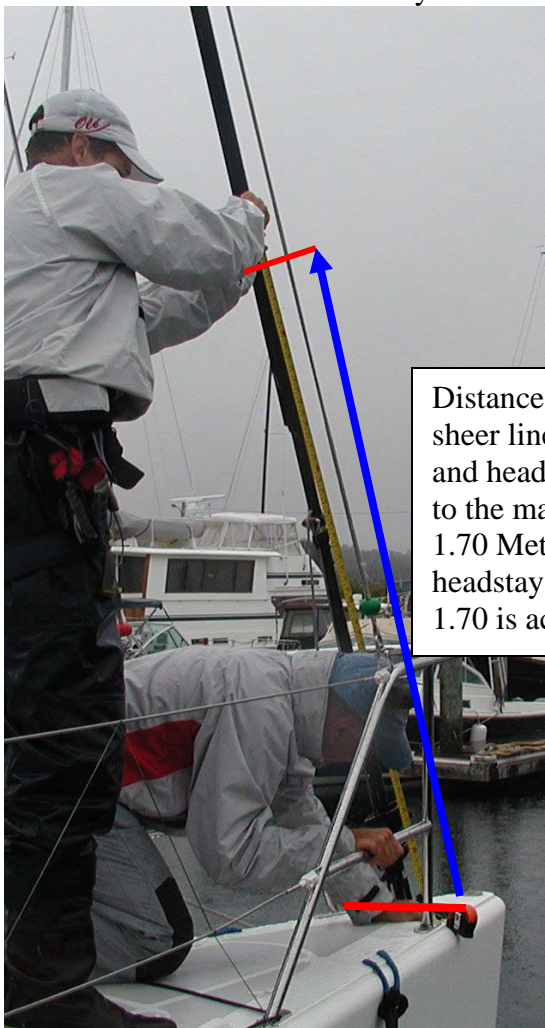
Measure down from Gooseneck band “A” 1.00 meter and make a mark on the mast sidewall with a marker at “B”.

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#5 the Headstay Arc

-Take the highest hoist Jib halyard to the mark "B". Swing the halyard to the Headstay and make a mark on the headstay like the image below.



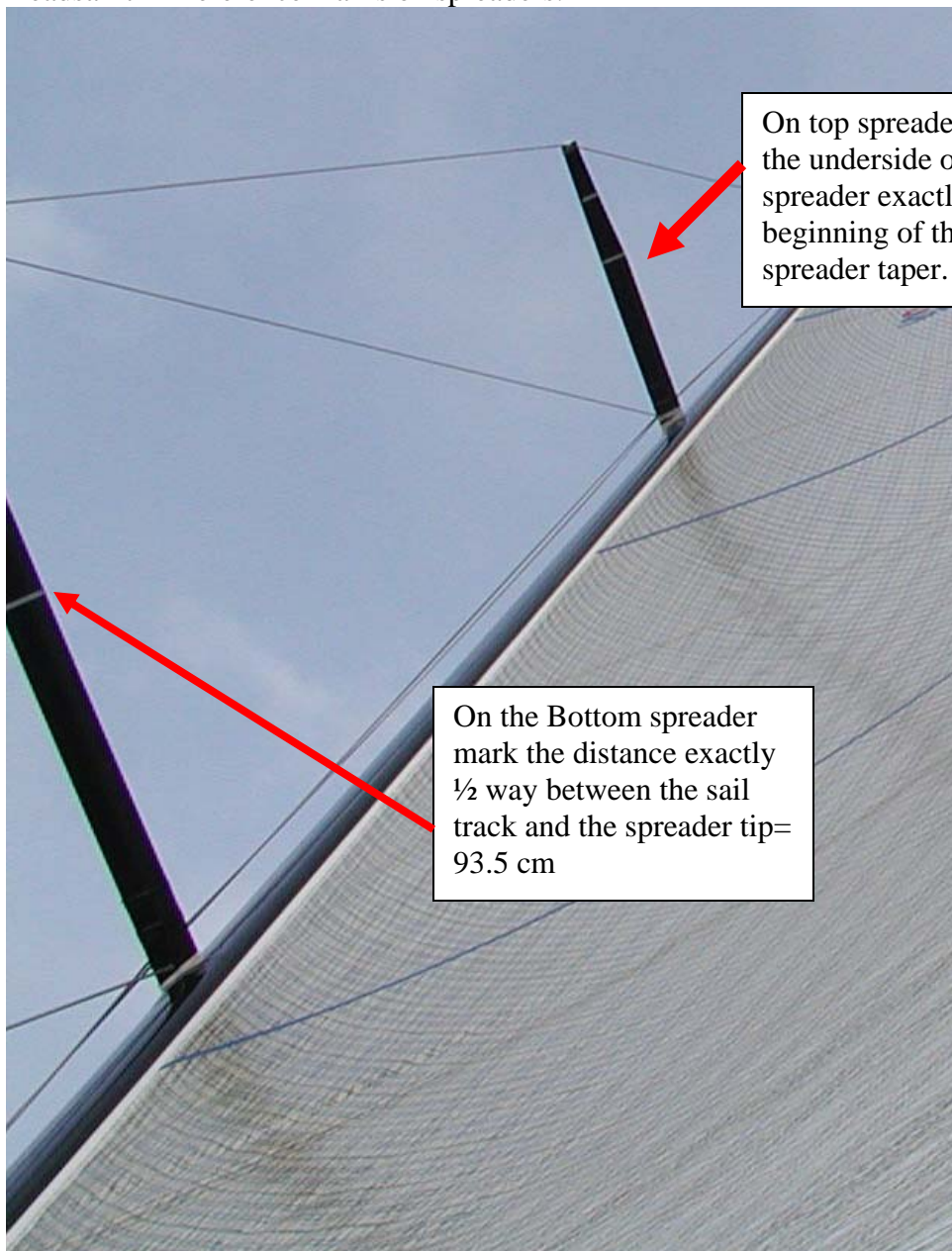
Distance from the sheer line at the deck and headstay intersect to the mark should be 1.70 Meters. Adjust headstay length until 1.70 is achieved.

-Adjust headstay length until the distance between the sheer line and mark "C" is 1.70 meters. This is a good base setting. For light wind use 1.71 and for strong wind use 1.69m

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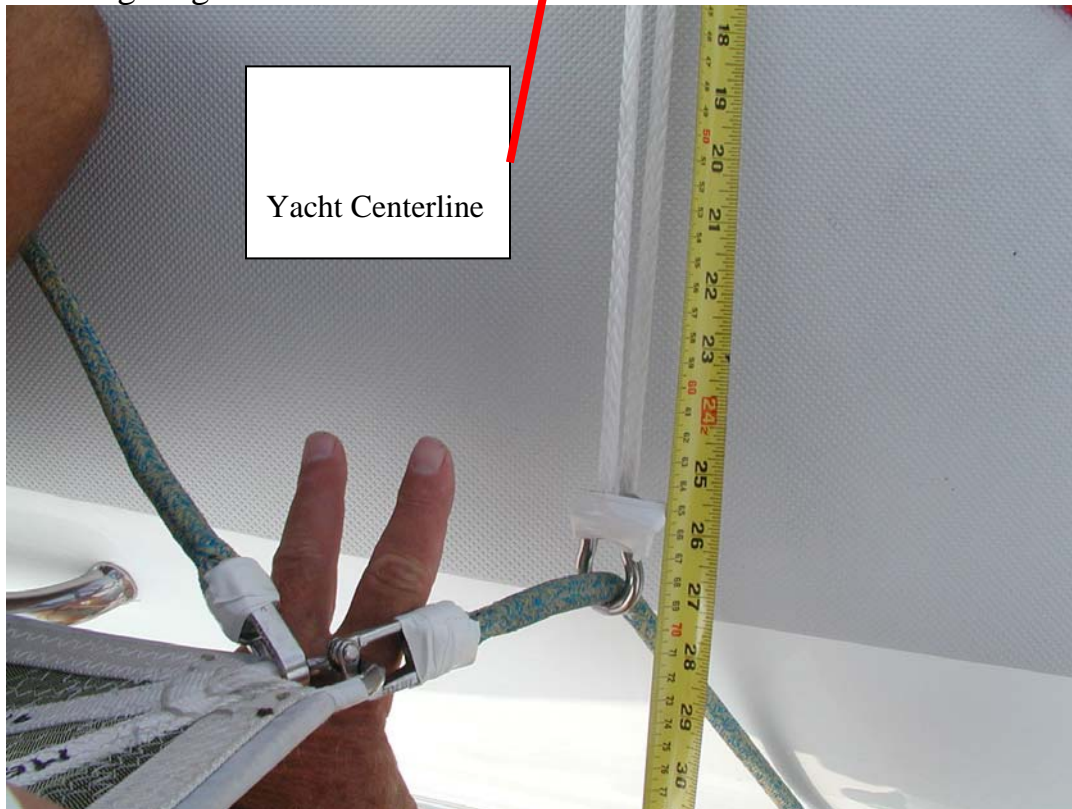
Headsail trim reference marks on spreaders:



On top spreader mark the underside of the spreader exactly at the beginning of the spreader taper.

On the Bottom spreader mark the distance exactly $\frac{1}{2}$ way between the sail track and the spreader tip= 93.5 cm

Sheeting Angle reference marks:



Using a metric tape measure apply marks to the deck to control jib inhaul position.
Jib Track= 10.7° this is good at top of heavy in rough water
 8° is 76 cm from Centerline-good average position
 7° is 66 cm from Centerline-high point flat water 10 vt.
 6° is 57 cm from Centerline-unlikely setting.

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Essential items to tune a Swan 42

- Vernier calipers to measure turnbuckle thread distance
- Lanacote to apply to turnbuckle threads to prevent thread damage.
- Excel spreadsheet to record fast settings as they are developed.
- Steel Metric tape measure 30 meters long.
- Loos Gauge RT-10 for upper diagonal shroud (D_2) and RT-11 for Upper shroud and

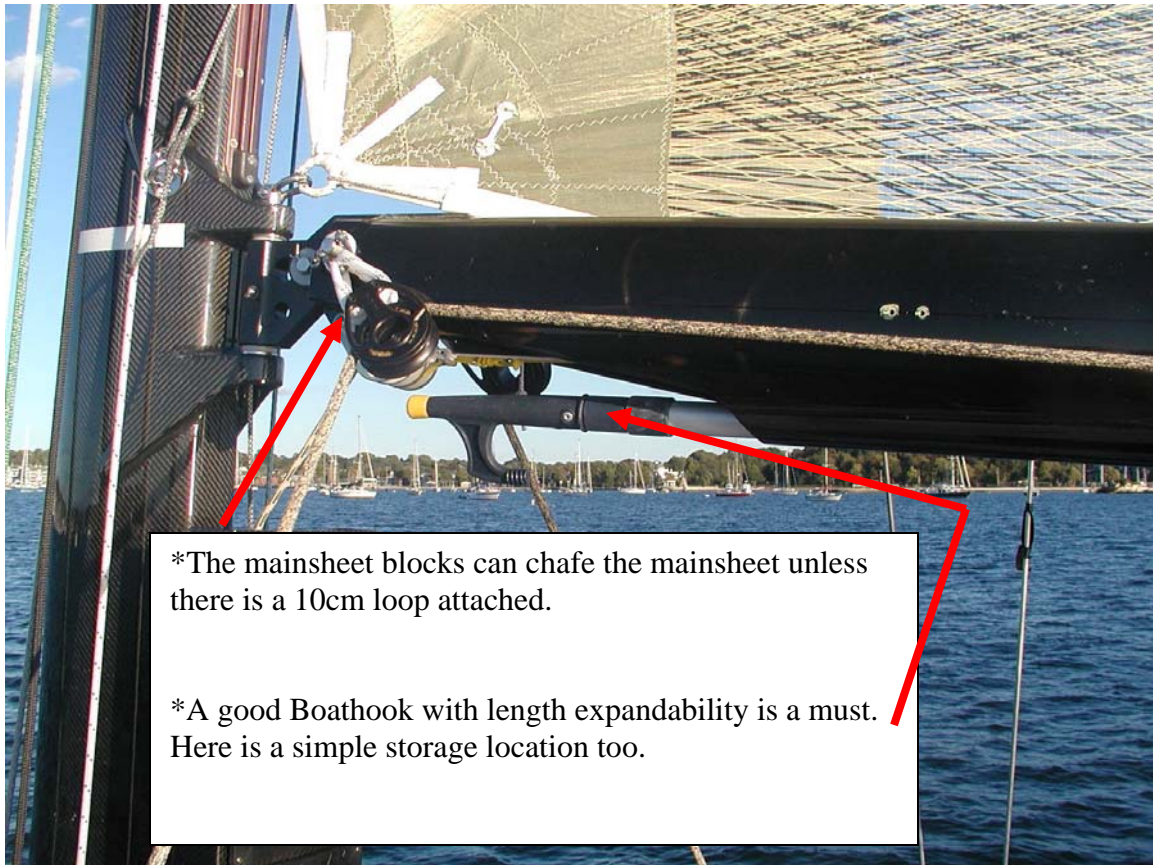


lower diagonal (D_1)

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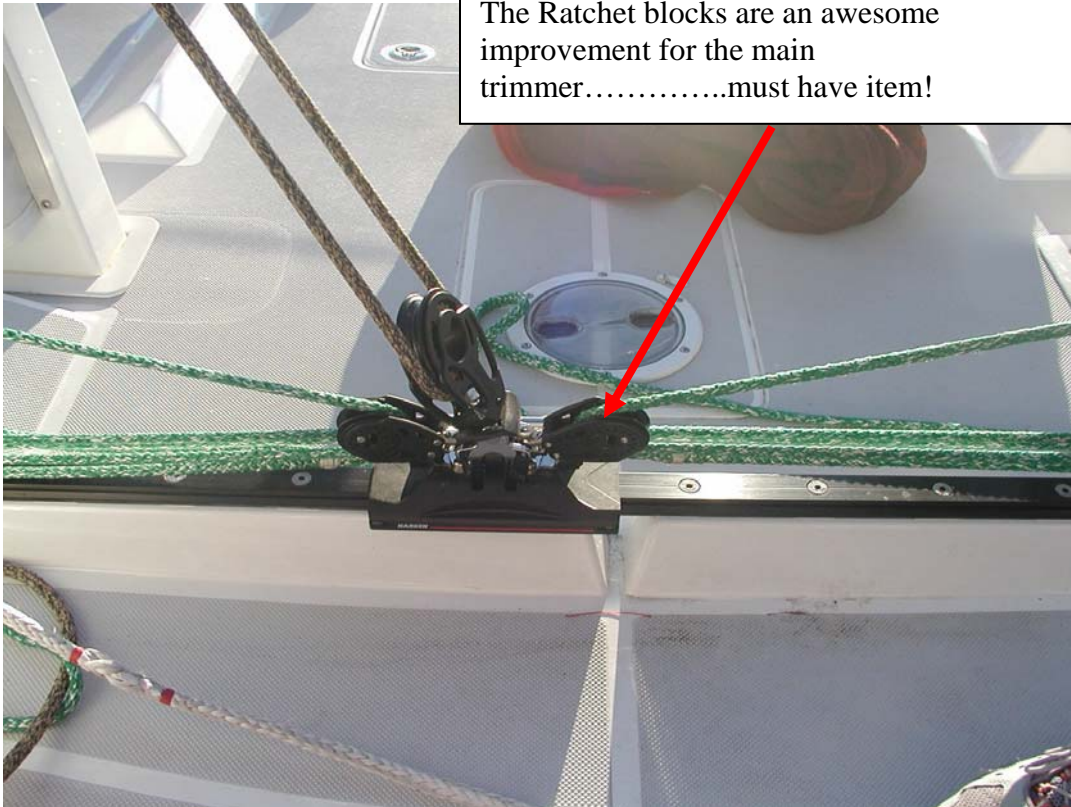
Other cool things to make your boat faster:



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The Ratchet blocks are an awesome improvement for the main trimmer.....must have item!





On the water tuning, before starting: **Overview**

In light air from 4 knots to 9 knots.

-Headstay should be 1.71 M

-D₁ should be loose enough to allow mast to sag to leeward at the lower spreader by 15mm.

-Caps or upper shroud should be loose enough to allow mast to sag to leeward by 2cm at second spreader. Note this is a good test of the D₂ tension. If D₂ is too tight the mast will not sag evenly on a lateral plane.

-Leeward Cap should be tight enough to be stable but loose enough to be wiggled slightly by one hand.

This set-up allows the maximum mast bend with minimum headstay tension easily absorbing extra the luff curve which must be in the main for strong winds. This set-up is excellent when used with the light or Code 1 headsail.

Theme....."Induce headstay sag to make the jib powerful without compromising main shape"

In medium wind from 8 knots to 15 knots:

-Headstay should be 1.70 M

-D₁ should be tight enough to set mast without any lateral sag.

-Caps or upper shroud should be tight enough to prevent lateral sag.

-Leeward Cap should be tight enough to be stable in a seaway but loose enough to be wiggled slightly by one hand.

This set-up allows the main to be set optimally and still have enough headstay tension to make the medium or Code 2 headsail to operate in a wide range.

Theme....."maximum flexibility in sail shape"

In fresh wind from 14-20 knots:

-Headstay should be set to 1.69M.

- D₁ is adjusted to be tight enough to ensure a straight mast with perhaps a slight windward projection.

-Caps are adjusted to be hard enough to keep mast straight laterally. Leeward Cap can still be wiggled by one had but is not moving in a seaway.

- D₂ is tight enough to allow the second spreader have 1-2mm of windward projection.

Note: When sighting mast for lateral sag, do so from behind the mast looking up the sail track at deck level.

Theme..... "As wind strength builds headstay tension must also in order to permit sails to be twisted"

In strong winds above 23 knots:

-Headstay should be set to 1.68M

-Caps are adjusted to keep slight tension on the leeward shroud even in a typical 23 knot Seaway.

- D_1 is tight enough to bring mast to windward by 15mm at the bottom spreader. The leeward side D_1 does not move while sailing upwind.

- D_2 is automatically tight enough to bring the second spreader to windward by 15mm also.

-This set-up is great for use with the ORC #4 Headsail.

Note: In order to adjust the shroud tension safely without the use of the Mast Jack, it is recommended the turnbuckles have Lanacote applied and tension the backstay to maximum before making any shroud adjustments.

Theme..... “The headstay must be reasonably tight to permit the sails to be twisted without over-bending the mast and without inverting the mainsail.

Conclusion:

The North Sails Swan 42 Tuning System is designed and Regatta proven at International events to produce terrific boat speed in all conditions, without any D_2 adjustment throughout the full wind range from 0-35 knots. Please consult the North Sails Excel Tuning sheet to more detailed numerical explanation.

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