

NORTH SAILS



Setup & Tuning guide

Updated 1st February 07

Boat preparation



Tape a piece of batten to the backstay ram with a calibrated scale drawn on it. This will allow you to reproduce the same backstay settings quickly and accurately.



Mark the bottom spreader with tape to allow fast and accurate reproduction of jib sheet tension whilst racing and also as an easy point of reference when talking to other boats after the race.

To mark the spreaders measure out from the mainsail groove on the back of the mast 785mm, 960mm, 1125mm and mark with tape bands around the spreader each side.

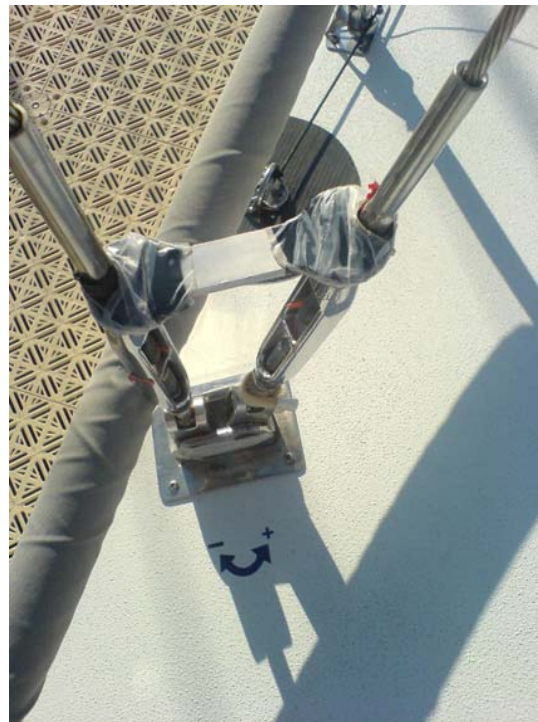
- ➔ Ensure that your boat's bottom has been well wet-sanded and has been dived on the day before or morning of a race day.
- ➔ Before leaving the dock do a quick check down below to ensure all excess gear has been taken off. Encourage all crew to only take what they are going to wear that day on the water. Leave all après clothing back on the dock.
- ➔ Take minimal amount of tools and only the safety gear that is prescribed for the days racing.
- ➔ Leech flake all jibs and fold in thirds for easier stowing down below. They will take up less room allowing you to concentrate their weight better in the center of the boat and also they will not get as crushed when people walk on them.
- ➔ Use North Sails Sydney 38 covers to keep your boat in immaculate shape and for protection from UV. Call the loft for details.



Make sure that you have good marks on the jib cars and all halyards and the main outhaul. This will make it easy to reproduce the correct settings quickly.



To allow faster adjusting of the shrouds unwind the lock nuts all the way out and use cut down split pins with shock cord retainers to stop the shrouds moving whilst racing.



Some boats use a custom made spanner to hold the wire above the rigging screw. This means that only one spanner is need to change the rig speeding up rig adjustments. Clearly mark the deck showing which way to adjust the shrouds.

Base Rig setup 2005-2006 series sails

Mast step



Set the mast butt as far fwd as possible under class rule D5.8.

It should measure 725mm from the top forward face of the first structural floor in the bilge to the bottom of the aft face of the mast.



Check the mast position at the deck as per class rule D5.7 a. It should be as far aft as the rule will allow.

- The aim of the step and J position is to ensure that the mast sets up as stiff as possible so as to maximize the range between rig settings
- Note that the mast position at deck cannot be altered from factory supplied setting

Side to side



Choose a day with no wind and hoist a tape measure to the hounds on the centerline (jib) halyard.

Measure down to the center of the cap shroud pin on each side and check that the rig is in the center of the boat.

Forestay length



Take a tape measure and measure down 1000mm from the gooseneck band. Place a mark at that point on the front face of the mast.



Take the center (Jib) halyard and pull it tight down the front face of the mast. Use a small scale to help you reproduce the same tension. Draw a mark on the halyard which corresponds to the mark you have put on the mast. If you do not have a scale you can use a bucket of water.



Swing the halyard out to the forestay and place a corresponding mark on the head foil even with the mark on the halyard. Use the scale or bucket to get the halyard to the same tension.

Shroud settings



Measure from the mark you have put on the forestay down to the center of the forestay pin. It should be 1620mm. This is the base measurement.



Measure up 1500mm from center of Cap shroud pin and mark with tape. Do the same on the D1. This is now the datum point to attach the Loos gauge.

Fit the gauge to the shroud just below the tape mark. With no load on the D1's and D2's the cap shroud should read 46 units (RT11). Adjust cap shrouds evenly both sides until desired tension is met.

Now tension the D1's evenly both sides until the gauge reads 5. The cap shrouds should now read 48.



Send a person up to the 1st spreader and measure up the D2 1000mm. Place a tape mark at that point. This is now your datum for the D2.

Using the RT10 loos gauge this time set the D2 tension evenly both sides to read 21 units.

This is the base setting for the D2.

After the D2 is tensioned the Cap shroud should read 53 units .

Sight up the mast and check the rig is straight. If not adjust diagonals until it is.



In order to ensure a correct reading for the D2 it is important that the person up the rig reading the gauge is on the Jib halyard (center) and is sitting by the mast. Sitting out on the spreader will cause an incorrect reading.



You are now ready to go out sailing. Try to go out in about 12 –15TWS with full crew weight. This will ensure that the rig is fully loaded .

Do a few tacks checking that the rig is even side to side. You may need to take up or ease off a turn or two on the D1's or 2's to achieve this.



When you are happy that the rig is the same side to side use a small vernier gauge or similar to measure the distance between threads on all the rigging screws.

Write this measurement down on the quick tuning guide. This will ensure that you have a reference to check after sailing everyday and avoided having to re set up the rig if you lose count of the amount of turns that you have put on or taken off.

Upwind setup Light air 0-6 tws



In light air keep the crew leeward and forward, in bump having a few below decks keeps the weight nice and low. Traveler should be up to generate maximum power and leech twisted



Light jib set up 6 TWS.

- Trim is fairly soft with the leech just inside the out side spreader mark
- Forestay is eased right out to it's longest setting



Main set up in 6 TWS.

- Rig is set up to sag slightly to leeward. This makes the main rounder and lets the leech come to windward. Both contribute to increasing power in sail
- Outhaul is soft to increase depth in bottom third
- No backstay
- Cap shrouds are eased 1-2 turns to let mast straighten and compensate for the fore-stay being so soft

Upwind setup Medium air 7-14 tws



Estate Master 2006 National champion 12 TWS

- Traveler in center for max power and height
- Even twist between main and jib
- Top leech ribbon on main flowing 75%
- Crew should be hiking hard



Medium jib set up 12 TWS.

- Trim is firm with the leech just inside the mid spreader mark
- Set up with about 3-4" of inhaul



Main set up in 12 TWS.

- Rig is set up at base setting. No sag to leeward
- Outhaul is medium to provide a small amount of depth in bottom third
- Backstay starting to come on to control depth in head of sail
- Top leech ribbon should be flowing about 75% of time

Sydney 38 Target boatspeeds

Upwind

| TWS | BS | TWA |
|-----|-----|-----|
| 5 | 5 | 48 |
| 6 | 5.6 | 46 |
| 7 | 6.1 | 43 |
| 8 | 6.5 | 40 |
| 10 | 6.8 | 38 |
| 12 | 7 | 36 |
| 14 | 7.1 | 33 |
| 16 | 7.1 | 34 |
| 18 | 7.1 | 34 |
| 20 | 7.1 | 36 |
| 24 | 7.1 | 36 |

Downwind

| TWS | BS | TWA |
|-----|-----|-----|
| 5 | 4.2 | 137 |
| 6 | 4.7 | 140 |
| 7 | 5.4 | 142 |
| 8 | 5.8 | 144 |
| 9 | 6.3 | 147 |
| 10 | 6.8 | 150 |
| 11 | 7 | 153 |
| 12 | 7.3 | 155 |
| 13 | 7.5 | 157 |
| 14 | 7.7 | 160 |
| 16 | 8.1 | 166 |
| 18 | 8.6 | 170 |
| 20 | 9 | 170 |
| 24 | 12 | 156 |



SCIENTIFIC
SAILMAKING



Sydney 38 One Design

| True Wind Speed | Headstay | Cap Shrouds | Lowes (D1) | Upper Diagonal (D2) | Headsail | Spinnaker |
|----------------------------------|----------|-----------------|-----------------|---------------------|-----------------|-----------|
| Base 12 knots | 1620mm | 53 units | 5 units | 21units | Medium | 2S |
| Thread measuremnt@base | | | | | | |
| 5 knots | -12 | -2 | -2 | -2 | Light | 1S |
| 6 Knots | -10 | -2 | -2 | -2 | Light | 1S |
| 8 | -10 | -1 | -2 | -2 | Light or Medium | 1S |
| 10 | -6 | -1 | Base | -1 | Medium | 1S |
| 12 | Base | Base | Base | Base | Medium | 1S or 2S |
| 14 | Base | Base | Base | Base | Medium | 2S |
| 16 | 10 | 1 | 1 | 2 | Medium | 2S |
| 18 | 10 | 2 | 2 | 3 | Heavy | 2S |
| 20 | 12 | 2 | 2 | 4 | Heavy | 2S |
| 22 | 15? | 2 | 2 | 4 | #4 Headsail | 3S |
| 24 | 15? | 2 | 2 | 4 | #4 Headsail | 3S |
| 27 | 15? | 2 | 2 | 4 | #4 Headsail | 3S |
| All measures are turns from base | | Loos RT11 gauge | Loos RT11 gauge | Loos RT10 gauge | | |

To set head stay to correct length

Measure from the top of the goosneck band on the mast down 1000mm and place a mark on the mast.
Swing an arc with the jib halyard from this mark to the forestay and mark the forestay.
Measure from this mark on forestay to center of forestay pin.
Base measurement is 1620mm. Head stay pin to pin = 16520mm

MISC Notes

-Mast Butt set to max fwd as per class rule D5.8, may not be moved during race days
-Set Mast to Class Max "J" dimension=4.500mm
Jib Leech trim marks:
-Lower spreader from sail groove to back of spreader bottom spreader.
= 785mm inner. =960mm middle=1125mm outer

Light air set-up:0-6

Crew leeward/forward/below
Head stay should have slight motion.
Minimal in-haul
Short wrinkles in jib luff
Jib foot touching fwd. stanchion
Loose lowers
V 2 slightly loose
Boom on center, traveller is high

Light Medium set-up: 6-10

Max crew on rail
Minimum heel
Main high on trav. Slight vang Outhaul on.
Jib halyard no wrinkles.
Inhauled slightly 10cm
Leech telltales on main flying 20%
Jib flying 70% of the time.

Winds from 20-28 true:

Rig must be set-up hard enough to prevent leeward side Uppers (Caps), Lower and upper diagonals from being loose.
There should be some, not excessive tension on the leeward side shrouds.
Headsail leads are at back of track.
Outhaul is 100% maxed out.
Backstay until the top 1/2 of main blades out and twists off.
Sail by angle of heel
Keep heel under 24 degrees