



*One Design*

For any question you may have on tuning your Cal 20 for speed, contact our Cal 20 expert listed below:

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## Cal 20 Tuning Guide

The following tuning guide is meant to be a good starting point in setting up your rig and sails. We are trying to achieve a setup that is fast in all conditions. Your new North Sails are designed for all around sailing performance.

### **MAST RAKE AND SHROUD TENSION**

The Cal 20 sails best with one or two degrees aft mast rake. This cannot be measured in the usual way (measuring from the top of the mast to the center of the transom) because the factory stepped the masts in different fore and aft positions. Most boats do not have enough range in their headstay turnbuckle to let their mast rake aft sufficiently. Usually a toggle must be added.

The next step is to make sure the mast is straight sideways. Mark your main halyard and swing it from one side of the hull to the other. Now tighten your jumpers so the tip is straight with no backstay pressure (this requires the jumpers to be tuned fairly tightly).

The side shrouds are adjusted while sailing to windward. The mast should be straight in winds below 3 knots. As the wind increases, it should start moving aft and slightly to leeward in a nice even bend. To achieve this, the aft shrouds should be loose to allow the mast tip to go forward when sailing downwind. The upper shrouds should be tighter to keep the mast in column.

Sighting up the aft mast groove with sail pressure on the rig and making slight adjustments to the turnbuckles is the

easiest way to obtain the results desired.

### **BACKSTAY**

The backstay adjuster should be tightened just enough to keep the headstay from sagging more than  $\frac{3}{4}$ ". This requires constant attention. Too much backstay tension tends to pull the mast tip too far aft.

### **BOOM VANG**

The boom vang bends the lower part of the mast allowing the main to be flattened. Note: Watch to see that the leech of the main has a free exit and is not hooking to windward. Remember to ease the boom vang after rounding the windward mark because considerable stress is put on the middle of the boom when the sheet tension is released.

### **LUFF TENSION**

Both main and jib should have just enough tension to maintain maximum draft position as follows:

**Main** 50% aft of the mast

**Jib** 35% - 40% aft of the headstay

Don't over-stretch the sail! Too much luff tension moves the draft forward, which is very slow.

### **BARBER HAULER – JIB SHEET**

Probably the most controversial adjustment on a Cal 20 is the barber hauler or jib traveler positioning. We have prepared a chart to give you a good starting point for different wind and water conditions. The percentages relate to how far inboard from the outer rail to the hatch

the positioning should be.

Wind	Water Conditions	Barber Hauler Position
0-5	smooth	90% inboard
0-5	rough	75% inboard
6-11	smooth	95% inboard
6-11	rough	85% inboard
12-15	smooth	95% inboard
12-15	rough	85% inboard
16-21	smooth	75% inboard
16-21	rough	50% inboard

### **REMEMBER**

**When in doubt let it out.**

### **MAINSHEET TENSION**

Since a Cal 20 does not have a traveler, we have not been able to use the top batten or the top telltale in the conventional way. (Meaning the top batten parallel to the boom and the top telltale flowing nicely.) A good starting guide:

#### **Very light winds**

boom is 3" in from corner of transom

#### **Light to medium**

boom is 12" in from corner of transom

#### **Medium to medium heavy**

boom is 16" in from corner of transom

Be sure to watch the leech is not hooking to windward due to excessive boom vang or mainsheet tension. Also, mainsheet must be eased when the boat heels more than 15 degrees. A Cal 20 must be sailed "on her feet".

### OUTHHAUL

Since the Cal 20 tack position varies as much as 3", it is impossible to formulate dimensions the clew should be from the band. Generally Cal 20 sailors carry the outhaul too tight in light and medium winds and too loose in heavier breezes.

### Downwind Sail Trim

A few tips that will be helpful:

>> Ease backstay and jib halyard so they match each other. Backstay will have to be tightened before jibing so it will not collide with the boom.

>> Try to balance crew weight so there is a neutral helm.

>> Watch that the boom vang is not on tight enough to hook the leech to windward.

>> Keep crew weight as low as possible to avoid pitching from side to side.

### Sail Care

Rolling your sails is very important, not just because they will last longer, but also to avoid getting permanent wrinkles. Rinse sails with tap water to remove salt and keep out of hot enclosed areas.

Thanks for buying North Sails and we hope that the above hints will help you win more races.

### Contact North Sails

For tuning information and complete details on how to setup your Cal 20 sails contact the North Cal 20 experts listed on the cover of this guide.

### Good Sailing!



### NORTH SAILS ONE DESIGN QUALITY CONTROL CHECK

#### Cal 20

MAINSAIL		JIB		SPINNAKER	
Corners		Corners		Corners	
Cunningham		Leech Cords		Numbers	
Numbers		Luff Hanks		North Logo	
Battens		Foot Line		Bag	
Leech Telltale		Telltales			
Insignia		North Logo			
North Logo		Bag			
Bag					

Checked by: \_\_\_\_\_

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_