



## Santana 20 Sailing Guide

### Boat Preparation

The goal here is to have a boat that is fast, easy to sail and will not fail. Make sure the keel, rudder and bottom are smooth and fair. This will ensure good underwater flow. Set up the deck layout so it is comfortable, functional and as simple as possible. This will eliminate broken or poorly placed hardware that hinders the crew. This is very important to ensure the crew can concentrate on the race and not the boat.

Make sure the mast and rigging are in good working order and are as light, clean and streamlined as possible. This will prevent failure and increase speed. And finally, make sure your sails are the current designs and not so worn that their designed shape is no longer functional.

### Sailing Guide

#### Upwind Mainsail Trim

##### Light Air: 0-5 Knots

The goal in these conditions is to keep the boat moving as fast as possible at all times. Speed is more important than pointing. Set the adjustable aft lower shrouds so the mast is perfectly straight with a slight bit of backstay tension. Trim the mainsheet until the top batten hooks 5 degrees to weather of centerline, and then pull enough backstay on to twist the top batten until it is parallel with the boom. Set the traveler so the boom is on the centerline of the boat. There should be no boom vang tension in these conditions. Ease the outhaul 1-2" from its maximum tight setting – 1" in flat water and 2" in choppy water. Set the cunningham so there are slight horizontal wrinkles along the luff of the main. Adjust the traveler and mainsheet to keep the boat moving fast at all times.

##### Light to Medium Air: 6-12 Knots

These are efficient and maximum power conditions. The boat should be sailed flat and powered up to maximize speed and pointing. Tension the aft lowers to invert the mast 1-2". Set the mainsheet and backstay the same way as you would in light air conditions. Set the cunningham so it is max loose like above. Play the traveler in the puffs and lulls to keep the boat flat. The crew should hike hard in the puffs!

##### Medium to Heavy Air: 13-18 Knots

The Santana 20 begins to become overpowered in these conditions and the goal here is to keep the boat flat and reduce leeway. Set the aft lowers with 3-4" of inverse bend. Trim the main really hard and tighten the backstay until the top batten twists 10-15 degrees from parallel to the boom. Tighten the outhaul to its maximum setting and tighten the cunningham to remove all luff wrinkles. Take all of the slack out of the boom vang to hold down the boom. Continue to play the traveler to keep the boat flat and hike!

### **Heavy Air: 19+ Knots**

As above, the goal is to keep the boat on its feet and to reduce leeway. The mainsail should be as flat as possible. Set the aft lowers to their maximum setting of 4" of inverse bend. Trim the mainsheet and backstay so there is 15-20 degrees of twist. The outhaul should be set at maximum tension and the cunningham is tight. Tighten the boom vang to flatten the bottom of the main and keep the leech in control. Drop the traveler to keep the boat as flat as possible and hike!

## **Upwind Genoa Trim**

### **Light Air: 0-5 Knots**

The goal in such light air is boat speed, so keep it moving forward. Set the genoa halyard so the luff is just smooth to provide a wider steering groove. The foot of the genoa is trimmed 3-4" from the shroud turnbuckles and the genoa leech is trimmed 2-3" from the spreader tip. Adjust the leads to achieve this set up. Make sure the leech and foot lines in the sail are completely eased. Trim the sheet in the puffs and ease in the lulls.

### **Light to Medium Air: 6-12 Knots**

These conditions are maximum power and pointing conditions. Ease the halyard so there are slight luff wrinkles to increase pointing. Set the leads so the genoa foot is 1-2" from the shroud turnbuckle and the leech is 2-3" from the spreader tip. Trim the sheet in the puffs and ease in the lulls.

### **Medium to Heavy Air: 13-18 Knots**

These conditions are approaching the top of the genoa's effective range. Tighten the halyard to move the draft forward and flatten the upper leech. Set the leads so the foot is tight against the shroud turnbuckles and the leech is 4-6" from the spreader tip. Play the sheet to keep the boat flat. In the big puffs, easing the sheet a couple of inches is more effective than luffing the mainsail. Just remember to trim it back in as soon as the puff ends.

### **Heavy Air: 19+**

For most crews, this is small-jib wind. The only reason to have the genoa up here is if the waves are larger than the wind speed, and if your crew weight is very heavy. If this is the case, set up is the same as medium to heavy air settings.

We recommend using the new inboard class jib tracks for the small jib. The tighter sheeting angle and smaller jib increases pointing and improves crew work. These two items far outweigh the small loss in sail size of the old style 110% jibs. Tighten the jib halyard just enough to remove the wrinkles. Set the leads so the top telltales break slightly before the bottom telltales. You can also use the leech battens as a guide. The top batten should twist open 5-10 degrees and the middle batten should be twisted 0-5 degrees. As a trim reference, place tape marks on the spreaders to help line up the leech of the jib. Trim the jib 3-5" in from the outboard end of the spreader. If the water is rough and the wind is at the bottom of the jib range, you may have to power up the mainsail to keep the boat moving fast.

## Downwind Mainsail Trim

The goal for downwind main trim is to keep a full sail and on the verge of luffing at all times. Ease the aft lowers all the way forward and ease the backstay so the mast is raked forward. Ease the outhaul about 2-3" – just enough to open up the foot, but not so much as to lose projected area. Ease the cunningham all of the way off and play the vang so the top batten is parallel to the boom. Play the mainsheet constantly to keep the main flowing.

## Spinnaker Trim

The Santana 20 is a blast to sail downwind and rewards its crew for good spinnaker trim and crew work. The halyard should be raised as high as possible to stabilize the spinnaker and increase projected sail area. Play the pole height and trim constantly. Set the pole height so the spinnaker curls on the luff just above the half-height. This is in the top third of the sail where the top of the horizontal panel meets the bottom of the radial panels. If the pole is too high, the curl will be too low in the spinnaker and if the pole is too low the curl will be too high in the spinnaker. It is not as important – but if it is easy – adjust the inboard end of the pole to keep the pole 90 degrees to the mast. Play the guy and the sheet to keep the spinnaker on the verge of collapsing with a slight luff curl. Remember an under-trimmed spinnaker is faster than an over-trimmed spinnaker.

The trimmer and the skipper should be in constant communication, talking about wind pressure in the spinnaker. In the puffs, the skipper bears off and the trimmer squares the pole back and eases the sheet. As the pressure eases or the wind lightens, the skipper heads up and the trimmer eases the pole forward while trimming the sheet. This should be a constant "S" course to maximize VMG downwind. The foredeck crew should be looking aft and helping the skipper keep the boat in the most wind velocity and clear air.

## Crew Weight Placement

### Upwind

We recommend sailing with a combined crew weight of 490-600 lbs. The crew should sit as close together as possible. This concentrates the weight and reduces the pitching of the boat. The skipper should straddle the traveler bar and use it to hook his/her feet under it for balance. The middle and forward crew should sit together just forward of the skipper at the widest part of the boat. They should hike with their legs over the side when on a tack for a long time, and face in during close quarters or when tacking a lot. Use your crew weight to roll tack the boat. In light air, especially in waves, it is fast to have the foredeck crew sit below deck to lower the weight, reduce windage and increase the visibility of the skipper.

### Downwind

The skipper should sit wherever he/she is comfortable and can see, but near the traveler bar. The trimmer needs to be to weather to see the spinnaker. The foredeck sits on the leeward side just aft of the cabin and moves side-to-side, and fore and aft to keep the boat balanced. In light air, the foredeck can stand in the companionway. Use your crew weight to steer the boat to reduce rudder movement. Heel the boat to leeward to head up and to weather to bear off. A roll to weather in the jibe helps steer the boat and rotate the spinnaker.

## **Crew Work**

The Santana 20 is a crew-sensitive boat. Practice and good crew work produce good race results and make sailing more fun.

### **Skipper**

The skipper's job is to steer the boat as fast as possible at all times. The skipper is responsible for main trim, the backstay, traveler and calling the boom vang and outhaul adjustments. The Ullman mainsail has a spreader window in the luff of the main, so the skipper can call the distance the genoa leech is from the spreader tip. The skipper should help with strategy before the start, but leave the tactics to the crew during the race except for the close quarter boat tactics and mark roundings.

### **Middle Crew**

Upwind, the main job is to help with tactics and call boat speed relative to other boats. During tacks, he/she trims in the headsail and hands it off to the forward crew to cross sheet on the windward winch. The middle crew can sometimes help the skipper with the backstay adjustment. Downwind, the middle crew trims the spinnaker and does the twings in the jibes. On the spinnaker douse, he/she releases the spinnaker halyard and trims the headsail around the leeward mark.

### **Forward Crew**

The upwind job is to call puffs, waves and crossing situations with other boats. He/she also fine-tunes the headsail sheet after the tacks, adjusts the boom vang, outhaul, cunningham and the aft lower shrouds. At mark roundings, he/she must set the pole, hoist the spinnaker, stow the pole and gather the spinnaker. The downwind job is to jibe the pole and keep the boat in the most velocity on the race course. The foredeck job is the hardest on the boat and requires the most practice and crew support. The better you get at it, the better your boat handling will be. This will lead to better results and give you the pleasure of passing people at mark roundings.

## **Summary**

The key to this tuning guide is not just memorizing these settings and recommendations, but understanding how they work and how they influence each other. The goal is to be able to notice that something is wrong and have the knowledge to quickly fix the problem to keep the boat moving fast. We design Ullman sails so that they are easy to trim and very forgiving, allowing you to concentrate on race tactics and strategy rather than on sail trim.

If you have any further questions or would like to order new sails please contact Ullman Sails.