



# Winning in the Ultimate 20

## By

### Ullman Sails

The Ullman Sails tuning guide was written to help you achieve the optimum performance from your Ultimate 20. It represents Ullman's commitment to being the world leader in one design and performance sailing. By following this tuning guide your U20 sailing will be simpler, more successful and most of all more fun. This guide includes measurements and settings which we have found to be fast. Since crew weight, wind and sailing conditions vary, you may find slightly different settings are better for you. If you have any questions or comments about this tuning guide or U20 sailing, please feel free to call, fax or e-mail Charlie Ogletree or Dave Ullman at Ullman Sails. Go fast and have fun!

### Preparation

Your preparation goals should be to ensure that your boat and gear:

- Are safe and strong enough not to fail in any condition.
- Present a clean profile to the wind and water.
- Allow smooth, easy and hazard-free control of all adjustments.

### Hull

The factory finish on a new Ultimate 20 requires little attention. The class rules do not allow fairing so just make sure the bottom is clean.

### Keel and Rudder

Just like the hull, class rules do not allow fairing of the keel and rudder. The rudder preparation is as simple as keeping it in a cover during travel and making sure it is clean. Check the trailing edge of both the rudder and the keel to make sure they are square and smooth. This prevents the blades from humming at high speeds. Since the keel is raised and lowered every time the boat is launched, it can become scratched. It is important to make sure the keel trunk is clean and the plastic shim blocks are sanded smooth so as not to scratch the keel. By using a lubricant such as soap, the keel will raise and lower easier.

When trailering the Ultimate 20, the keel can move around inside the trunk, which leads to keel damage. To prevent this, insert rags or shims into the trunk from the top to wedge the keel into place so it will not move and tie a line from the top of the keel to the mast step to hold it forward.

### Rig

The rig requires only the minimum amount of work as follows:

- Install a Dinghy Model Windex on the mast crane.
- Tape the ends of the spreaders to protect the spinnaker.
- Place black tape marks around the spreaders at 2", 4" and 6" to use as trimming reference marks.
- Install a short piece of shockcord around the front of the mast, attached to both lower shrouds, 8" below the spreaders to prevent the spinnaker halyard from getting caught during the spinnaker set.
- Polish the mast with a coat of silicone-based marine wax.

## Deck Layout

The class rules do not allow modification to the deck layout, but there are a few small items that will improve your boat handling. These are as follows:

- use a maximum length forestay per class rules.
- Install a 6" soft batten or piece of poly tubing to prevent the spinnaker sheets from going under the spinnaker pole during outside jibes.
- Lubricate the spinnaker pole with a dry Teflon.
- Mark the pole extender line for maximum pole extension.
- Install backing plates under the deck for the lifeline stanchions.
- Drill out two holes in the jib tracks between each factory hole.
- Use tapered "Y" spinnaker sheets so sheets do not snag on the furled jib during jibes.

## Tuning the Rig

- To center the rig in the boat, hoist a metal tape measure on the main halyard and lock it in the halyard lock. Measure down to the same spot on the chainplates on each side of the boat. Tighten or loosen the upper shrouds till this number is the same on both sides.
- Tighten the lower shrouds till the middle of the mast is in column with the top of the mast.
- Set the rig up for the "Normal" set up. The Normal set up is for 7 to 11 knots and is the base setting. Rig tension is measured with the numbers on the Loos Model A tension gauge.

### Normal Setting: 7 to 11 knots

Upper Shrouds: 300 lbs.

Lower Shrouds: 150 lbs.

### Light Air: 0 to 6 knots

Upper Shrouds: 250 lbs.

Lower Shrouds: Hand Tight

### Moderate Air: 12 to 15 knots

Upper Shrouds: 400 lbs.

Lower Shrouds: 300 lbs.

### Heavy Air: 16 to 19 Knots

Upper Shrouds: 550 lbs.

Lower Shrouds: 500 lbs.

### Extreme Air: 20 + Knots

Upper Shrouds: 600 lbs.

Lower Shrouds: 500 lbs.

## Sail Trim

Once your boat is set up as outlined above, there are three sail adjustments that will affect your boat speed more than any other while sailing to weather. These are mainsheet tension, jib sheet tension and vang tension. If you feel that you lack speed, there is a 90% chance one of these adjustments is incorrect. By following this trim guide you can spend more time concentrating on tactics while still going fast.

**Jib Luff Tension:** The jib luff tension works like the cunningham on the mainsail; it controls the fore and aft position of the draft. Be careful not over tighten the jib luff because the Ultimate 20 has a headstay that sags a lot and this coupled with a tight jib luff will pull the draft too far forward, making it hard to point.

**Light air:** Slight wrinkles.

**Medium air:** Slight wrinkles to no wrinkles.

**Heavy air:** No wrinkles to very tight.

**Leech Line:** Since there are no battens on the leech of the jib, the leech line becomes important. Always make sure it is as loose as possible without the leech fluttering. Try to avoid hooking the leech to windward, especially in light air. **Always release the leech line after sailing each day!**

## Spinnaker Trim

**Tack Line:** Mark the tack line so the crew can duplicate settings.

**Light air:** Tack to the pole.

**Medium air:** Eased 2' to 3' to help rotate the spinnaker to windward to sail lower. In extreme choppy conditions pull the tack to the pole to stabilize the spinnaker luff.

**Heavy air:** Tack to the pole.

**Reaching:** Tack to the pole.

**Spinnaker Sheet:** In all conditions, play the sheet constantly. Keep about a 6" curl in the luff of the spinnaker. Be extra careful not to overtrim the spinnaker as this is very slow!

## Crew Organization

It is important to practice and keep the same core crew on an Ultimate 20. The boat rewards smooth and organized teamwork. The goals are for each member to have assigned jobs and stick to them, have everyone involved and to keep maximum weight on the rail as long as possible. Moving from the back of the boat forward we label each position:

1. Helmsperson
2. Trimmer
3. Bow

### 1. Helmsperson

**Upwind:** Steer, Mainsheet and traveler adjustment. Dictate cunningham, vang, outhaul, jib sheet and crew weight adjustments.

**Tacking:** Steer and tack traveler. Ease mainsheet in light and heavy air. Help roll the boat.

**Weather Mark:** Call for normal or late hoist, ease mainsheet and call vang trim.

**Jibe:** Steer, throw mainsheet and help roll.

**Leeward Mark:** Pre-set traveler. Call for jib unfurl and spinnaker douse. Trim main.

### 2. Trimmer

**Upwind:** Trim jib sheet. Check sail trim and monitor speed and pointing compared to other boats. Help with tactics.

**Tacking:** Release old jib sheet, help roll, tack jib and fine tune the jib sheet from the weather rail.

**Weather Mark:** Ease jib 3' and cleat it. Pulls out tack line and pole while the bow person is hoisting the spinnaker. Grab spinnaker sheet during hoist and begin and trim the sheet when the spinnaker is fully hoisted.

**Jibe:** Ease spinnaker sheet and rapidly trim lazy/new sheet as boat jibes. Help roll and rapidly ease new sheet when spinnaker fills on new jibe.

**Leeward Mark:** Trim jib sheet to unfurl jib. Ease spinnaker sheet during douse. Release tack line and retract the spinnaker pole. Trim jib sheet around mark from weather rail.

### **3. Bow**

**Upwind:** Call waves and traffic control. Adjust sail controls.

**Tacking:** Roll boat and overhaul old jib sheet.

**Weather Mark:** Feed out spinnaker from bag. Raise the halyard. Furl the jib. Adjust sail controls to downwind marks.

**Jibe:** Pull down and overhaul new sheet on inside jibes. Roll boat.

**Leeward Mark:** Adjust sail controls for upwind. Release jib furler line. Release spinnaker halyard and gather spinnaker. Finish stowing spinnaker from weather rail.

## **Boathandling**

**Upwind:** The Ultimate 20 is most efficient when sailed as flat as possible. Excessive heel causes leeway which is slow. The skipper must work the helm and the sail controls to keep the boat at a constant angle of heel while the crew hikes as hard as possible. In regards to steering, the Ultimate 20 should not be pinched unless in heavy air and/or flat water. As a rule of thumb, err on the footing side to keep the boat moving. In light air, the crew weight should be as low and close together as possible and forward near the shrouds. Promote some leeward heel in super light air. In medium air, the crew is close together, forward against the front stanchion and hiking hard. In heavy air the crew is close together 1' to 2' aft of medium air and hiking hard. In light to medium air, the crew should roll tack hard against the lifeline as one team. This will maximize the crew weight to gain maximum roll.

**Downwind:** Like upwind, the Ultimate 20 should be sailed flat. The crew moves side to side to keep the boat flat. The weight should be low and forward while in displacement mode and gradually move aft as the wind increases to promote planing. In light air, sail a hot angle to keep the boat moving at all times. As the breeze increases, begin to bear off to sail the puffs as low as possible till the boat slows, then head up to regain speed. This should be a constant "S" course. In planing conditions, sail a hot angle again to promote planing. Once planing, bear off till the boat is about to fall off of the plane and then head up again to maintain the plane. The extra distance sailed to plane is easily compensated for by the tremendous gain in speed. In light to medium air, the crew should roll jibe just like roll tacking upwind.

### **Asymmetrical Spinnaker Tricks:**

**Jibing:** There are two type of jibes possible with asymmetrical spinnakers, the inside jibe and the outside jibe. The inside jibe is used in medium air and maximum roll jibe conditions and the outside jibe is used as soon as the water begins to whitecap. The only difference in set up is the sheets need to be long enough to run around the outside of the spinnaker and in how the tack line is attached. For inside jibes, run the tack line from the pole, over the lazy spinnaker sheet, to the clew of the spinnaker. For outside jibes, simply run the tack line under the lazy spinnaker sheet. After that, both jibes are the same. Ease the sheet and trim the new one as rapidly as possible.

## Mainsail Trim

The mainsail on the Ultimate 20 is quite large and requires constant attention. Experiment with the different controls to learn how they affect the main shape and how they interact with each other.

**Top Battens:** Tension the top two battens very tight for light to medium conditions to power up the top of the sail. Use medium tension in heavy air to flatten the main. In over 16 knots, a stiffer top batten will be faster.

**Mainsheet:** The throttle of the boat! In light air, trim the main so the aft 2' of the top batten is parallel to the boom or twisted open 5 to 10 degrees in light air and chop. In medium air, sheet the mainsheet really hard to flatten the main and tighten the headstay to improve pointing. The aft 2' of the top batten should be parallel to the boom or hooked to windward 5 degrees until the boat begins to become overpowered. Once the boat begins to become overpowered, use the mainsheet to control twist and adjust continuously for speed and stability.

**Traveler:** The traveler controls the angle of attack for the main. The Ultimate 20 likes to be sailed as flat as possible. Adjusting the traveler is quicker than adjusting the mainsheet in puffy conditions and it allows for a constant headstay tension as opposed to using the mainsheet which changes the headstay tension every time it is adjusted. The goal is to keep the boom on centerline till the boat becomes overpowered. As the breeze increases, gradually drop the traveler 2" at a time. In heavy wind and wave conditions, center the traveler car, pull on maximum boom vang and play the mainsheet to get over waves and through the puffs. In extreme conditions, when the main is flogging, ease the vang slightly and use the mainsheet. This will twist open the top and allow the bottom of the main to still work.

**Boom Vang:** The vang controls the vertical travel of the boom and induces lower mast bend. In light air, the vang should be completely loose. As the breeze increases and you sheet the main harder, take the slack out of the vang line to keep leech tension if you have to ease the mainsheet in a puff. When it is windy enough to switch to vang sheeting, pull the vang on really hard to flatten the bottom of the main. Downwind, set the vang tension, in all wind conditions, to keep the top batten parallel to the boom. The vang is an important control downwind so it should always be held in the crew's hand.

**Outhaul:** The outhaul controls the depth in the lower third of the mainsail. In light air and chop, the outhaul should be eased 2" from maximum tension. In every other upwind condition the outhaul should be tight. In heavy air, tension the outhaul as tight as possible. Ease the outhaul downwind so the center of the foot is 5" from the boom.

**Cunningham:** The cunningham controls the fore and aft position of the mainsail draft. In light air, the cunningham is totally eased so there are horizontal luff wrinkles in the sail. In medium wind, tighten the cunningham so the wrinkles are just removed. In heavy air pull the cunningham on very firm to pull the draft forward. Downwind ease the cunningham totally off.

## Jib Trim

**Jib Sheet:** The jib sheet requires constant adjustment to keep the boat up to speed. When trying to accelerate after a maneuver, after hitting some waves, at the start or whenever the boat feels slow, ease the jib sheet to open the top leech and allow the jib to "breathe". Trim the sheet in tight when the boat is up to top speed to maximize pointing. In heavy air ease the jib sheet in the large puffs to keep the boat flat when easing the mainsail is not enough.

**Jib Leads:** Try to set the leads so the luff telltales break evenly or the top set breaking slightly ahead of the bottom two sets. In light air move the leads forward and ease the sheet to provide power and twist for acceleration. In medium air set the jib so the leech is even from top to bottom and the jib is sheeted tight for maximum pointing. In heavy air, move the leads aft and sheet hard to flatten the foot and twist the leech to depower the boat. Put Magic Marker marks on the deck to duplicate jib lead settings.