

# UFO22 Tuning Guide



The key to read this tuning guide is not memorizing it, but to understand it in order to be aware through the boat feeling how the settings will effect speed .

2007 Italian Championships results (1<sup>st</sup>, 4<sup>th</sup>, 6<sup>th</sup> ) are reflecting our commit of leading the one Design and performance sailing.

## Preparation

Your preparation goals should be to ensure:

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

## Hull, keel, and rudder

Everything shall be very clean.

- Make sure keel is not scratching while raising and lowering it.

## Rig

The rig requires only a minimum amount of work:

- Install a Dinghy Model Windex on the mast crane.
- Install a stiff backstay batten on the mast crane.
- Tape the ends of the spreaders to protect the spinnaker.
- Place black tape marks around the spreaders to use as a trimming reference marks.
- Install a short piece of shock cord around the front of the mast, attached to both lower shrouds 15cm below the spreaders to prevent the spinnaker halyard from getting caught during the spinnaker set.
- Polish the mast and track with a coat of silicone-based marine wax.

## Deck layout

There are a few small items that will improve your boat handling:

- Lubricate the spinnaker pole with a dry Teflon;
- Mark the pole extender line for maximum pole extension;
- Shackle the jib tack ring to the furling so that the foot of the sail will fold on the deck 4-5cm in medium/heavy conditions and longer shackle so the sail will stay higher (1-2cm fold on deck) in light conditions.
- Wind the roller furling drum clockwise so the jib will furl counter clockwise. This will prevent the spinnaker sheets from being furled into the jib.
- Adjust lifeline tension so they will extend to the maximum class rule.
- Use tapered Y spinnaker sheets so sheets do not snag on the furled jib during jibes.
- Install a carabiner on the boom at the outhaul block to lead the tail of the spinnaker halyard through to prevent the halyard from cleating on the douse.

## Tuning the Rig

- The goal for rig tuning is for 2 to 4cm of leeward sag in light air to power up the main. In medium air, the tighter rig keeps the mast straighter side-to-side and gives more control over headstay sag. In heavy air, a very tight rig allows the backstay and the vang to be pulled on hard to maximize headstay tension.

Wind strength in knots	0-6	7-11	12-15	16-19	20+
Upper Shroud tension	25	26	27	29	30
Lower Shroud tension	21	22	23	24	25

## Sail Trim

Once your boat is set up properly, 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 backstay 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.

## Mainsail Trim

The mainsail on the UFO22 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 50cm 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 50cm of the top batten should be parallel to the boom or hooked to windward 5 degrees till 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.

## Backstay

The backstay affects headstay tension and mainsail shape. The backstay is left at its loosest setting till the boat begins to be overpowered, usually about 12 knots. In medium air, play the backstay in the puffs and lulls. Remember that when the backstay is pulled on the top of the main twists open so the mainsheet must be trimmed in. More importantly, when the backstay is eased the top of the main will hook to weather, therefore the mainsheet must be eased. In heavy air the backstay should be pulled on hard to tighten the headstay and depower the main. In light to medium air downwind the backstay can be released all of the way to straighten the mast. In heavy air it is a good idea to leave some backstay on to prevent the mast from breaking.

## Bridle

Bridle length should be adjusted as long as possible allowing 4-6cm of over-trimming before mainsheet system gets block to block.

## Boomvang

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 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 4cm from the black band. In every other upwind condition the outhaul should be tight, at the black band. Downwind ease the outhaul so the center of the foot is 12-14cm 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, the backstay tension causes the main draft to move aft so pull the cunningham on very firm to pull the draft forward. Downwind ease the cunningham totally off.

## Jib Trim

The Ullman jib comes with a leech telltale sewn on the leech. This telltale makes trimming the jib really easy. In most conditions trim the sheet hard enough so the telltale is just on the verge of stalling. The skipper can see the telltale through the telltale window in the luff of the mainsail. The times it can be stalled and should not be are in really light air, choppy conditions, out of a tack, off the starting line and when ever you feel slow. When it is really windy the telltale will not stall no matter how hard the jib is sheeted.

· Try to set the leads so the telltales break evenly.

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 UFO22 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.

Wind strength in knots	0-6	7-11	12-15	16-19	20+
Jib Leads (from middle track- 0 point)	3cm forward	2cm forward	0 (middle track)	2 cm backwards	3 cm backwards
Jib Luff Tension	wrinkles	slight wrinkles	no wrinkles	tight	max tight

## Spinnaker Trim

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

Light air: Eased 10cm.

Medium air: Eased 20 to 40cm 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.

Spinnaker Sheet: In all conditions play the sheet constantly. Keep about 8-10cm curl in the luff of the spinnaker. Be extra careful not to over-trim the spinnaker, this is very slow.

## Crew work

It is important to practice and keep the same core crew. 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. Tactician Helper
3. Trimmer / Bow

## Helmsperson

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

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

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

Jibe: Steer, throw mainsheet, help roll and check backstay on main leech.

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

## Tactician-Helper

Upwind: Call tactics and puffs and read compass..

Tacking: Roll the boat.

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

Jibe: Take spinnaker sheet from trimmer. Ease and make sure sheet is free to run. Pull down and overhaul new sheet on inside jibes. Roll the boat.

Leeward Mark: Release spinnaker halyard. Help gather the spinnaker on the douse. Adjust sail controls for upwind. Release jib furler line. Gather spinnaker. Finish stowing spinnaker from weather rail.

### **Trimmer**

Upwind: Trim jib sheet. Check sail trim and monitor speed and pointing compared to other boats. Call waves and traffic control. Adjust sail controls

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

Weather Mark: Help pre-feed tack line. Ease jib 40cm and cleat it. Grab spinnaker sheet during hoist and begin trimming.

Jibe: Hand sheet to Tactician-Helper and grab lazy sheet. 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. Retract the spinnaker pole. Ease spinnaker sheet during douse. Trim jib sheet around mark from weather rail.

## **Sailing the Boat**

### **Upwind**

The UFO22 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 boat should not be pinched unless in heavy air and flat water. In light air, the crew weight should be as low and close together as possible and forward to the shrouds. Promote some leeward heel in super light air. In medium air, the crew is close together from the shroud aft and hiking hard. In heavy air the crew is close together 20-30cm 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 UFO22 should be sailed flat. 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 extreme conditions, one crew may move behind the skipper. 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 as roll tacking upwind.

## **Spinnaker Sets, Jibes & Douses**

### **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 in super light conditions and 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 outside 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.

### **Sets**

There are two types of sets, in front of the shrouds and aft of the shrouds. They are determined by the type of douse. If a windward or Mexican douse is used the sail is set in front of the shrouds. This is also the preferred setting method for the

first set of the race. If a leeward douse is used, then the spinnaker is set aft and around the shrouds.

### Dousing

There are three types of douses, the windward, the Mexican, and the leeward douse. The windward douse is used to douse the spinnaker on the port side when approaching the mark on port to be rounded on port. Well before the mark sail straight downwind and release the sheet while pulling the weather sheet around the headstay and into the boat. Release the halyard, then the pole, then the tack line and stow the spinnaker. The Mexican douse is used to douse the spinnaker on the port side when approaching the mark on starboard to be rounded on port. Overstand the mark slightly so when two boat lengths away you can bear off and jibe. As you are jibing the boat, trim the spinnaker in tight on the port side and do not jibe the spinnaker. As the sail backs into the rig, release the halyard and drop the sail onto the deck. Release the pole and the tack line and stow the spinnaker. The leeward douse is used to douse the spinnaker on the port side when approaching the gate on starboard to be rounded to starboard. Bear off and overtrim the sheet and keep it in. Grab the foot and ease the halyard and gather the spinnaker behind the shrouds, then release the pole, then the tack line and stow.

### Sail Care

After each use, wash the sails with fresh water and dry thoroughly. Roll the mainsail from the head down while keeping the battens parallel. If the main will not be used for a while, release the batten tension. If the boat will not be sailed in a while, also roll the jib from the head down and store in its tube bag. Flake the spinnaker and store in its bag.

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Jib Leads (from 1/2 track)	3cm forward	2 cm forward	1/2 forward	2 cm backwards	3 cm backwards
Jib Luff Tension	wrinkles	slight wrinkles	no wrinkles	tight	max tight
Main Cunningham	wrinkles	wrinkles	slight wrinkles	no wrinkles	tight
Outhaul (inches from band)	1	tight	tight	tight	tight
Upwind Vang Tension	loose	Loose/slack off	medium	max tight	slight ease
Backstay	loose	loose	medium	max	max
Spinnaker Tack Line	Eased 8-10cm	Eased 10-20cm	Eased 10-15cm	tight	tight
Jibe Type	inside	inside	inside	inside	outside