

# Competitive X-99 Boat Handling

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# *Competitive X-99 Boathandling*

## **Chalk Talk Notes:**

### ***Introduction to Team Responsibilities***

#### **The Driver**

- Helm
- Focuses on boat speed related issues
- Eases the mainsheet on set
- Communicate needs for weight-trim and sailtrim

#### **A note on styles:**

It's the driver's job to guide the boat through the race, but it's not enough to simply hold the tiller or wheel and push it back and forth. The driver has to be good at communicating what he or she needs from the crew to accomplish what is necessary in the helm. Open and honest dialogue is the only way to excel here. Many people can hold the tiller, but few can truly engage the crew to assist in the process of driving the boat.

#### **The Main Trimmer**

- Main sheet
- Traveler
- Running backstays
- Assists with the spinnaker halyard on set

#### **A note on styles:**

Many prefer to place the tactician in the Main Trimming role because of the proximity to the driver. That way the two can communicate easily. This team member has to develop a feel for the boat's speed and ability to point so that he or she can make judgments that compliment or stay a step ahead of the driver in terms of understanding when the boat should be in acceleration, fine-tune or point mode on the racecourse.

## **The Headsail Trimmers**

- Jib/genoa sheets
- Spinnaker sheets
- Assists with running-backs and
- Check-stays
- Twing lines for spinnaker sheets
- Calls out wind, waves and overall fleet info

### **A note on styles:**

Some prefer to place the tactician in the Secondary Trimmer role because of the freedom this role has to look around off the boat on the upwind leg. These trimmers often have to understand what the boat feels like to drive in helping the driver sail the optimal downwind course with communication about pressure on the sheet. Our demonstrations use a primary/secondary trimmer arrangement while some teams dedicate trimmers to respective sides. The choice of how to separate the roles is often based in juggling the best attributes of those resources. For instance, one team may use the most experienced member as the secondary trimmer so that he can coach the other trimmers and driver while monitoring fleet situations tactically. Another team may choose the Primary trimmer as the most experienced trimmer to bring the secondary up to speed as a new crewmember. This would require the Main trimmer to be the tactician, though, because the primary trimmer would be very occupied.

## **The Pit (Piano man)**

- Adjusts halyards
- Boom vang (kicking strap)
- Outhaul
- Topping lift
- Foreguy
- Helps the spinnaker out of the bag on the set

- **Gathers the spinnaker on the douse**
- **Aggressively balances the boat**
- **Organizes lines whenever possible**

### **A note on styles:**

The Pit often contributes heavily to the organization of the team by eyeing and fixing problems before they happen. Teams without a figure in this role who has a strong feeling for prevention often find themselves with knotted halyards or sheets and the critical problems that result from that. Frequently the difference between the winning losing boats is depth of knowledge and prevention into roles such as this rather than only the helmsman and tactician.

## **The Bowman**

- **Aggressively balances the boat**
- **Cunningham**
- **Spinnaker pole**
- **Jumping the spinnaker halyard**
- **Keeps an eye on the check-stays**
- **Helps call out wind and waves**

### **A note on styles:**

This role requires rigid discipline in manipulating the spinnaker pole, and he or she has to have a strong eye for organization and a specific methodology to maintain consistency and organization. In addition, he or she has to have a strong fundamental grasp of boathandling from a driver's perspective to assist in gear shifting and anticipating the snags that can develop at mark roundings. Most exceptional bowmen have a "not on my shift" attitude about problems motivating them to push the team to make crucial decisions when they see necessary for maintaining top performance.

# *Competitive X-99 Boathandling*

## **Chalk Talk Notes: Characteristics of the Boat**

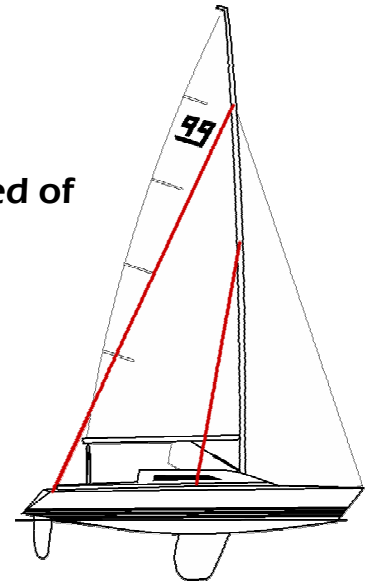
### **Dominant Characteristics**

1. Basic handling of fine-tune adjustment
2. Organization of zones of responsibility
3. Tender balance of the boat

### **Handling the fine-tunes**

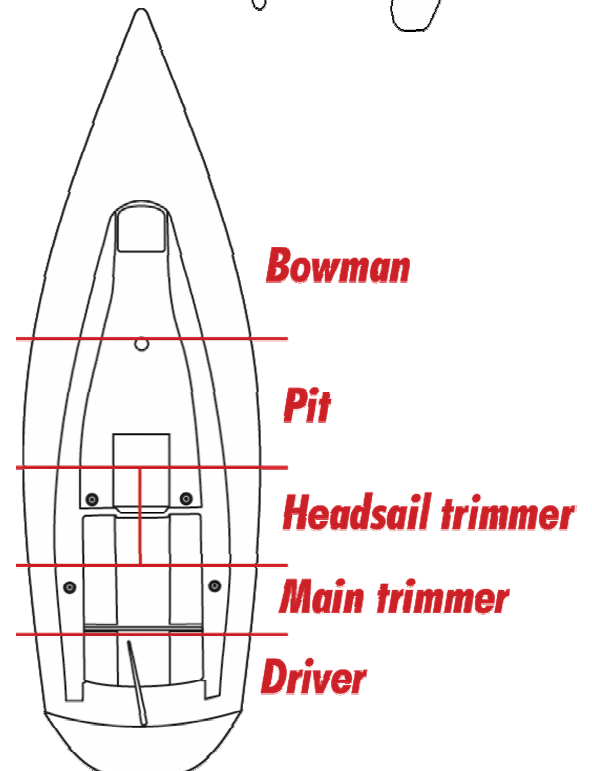
While these devices are meant to extend the top-end speed of the boat, manipulation of them tends to dominate some aspects of boathandling.

- Running backstays
- Check-stays



### **Organizing Zones of Responsibility**

- Matching individuals with the right roles
- Evenly distributing jobs across the team to maintain organized work-spaces

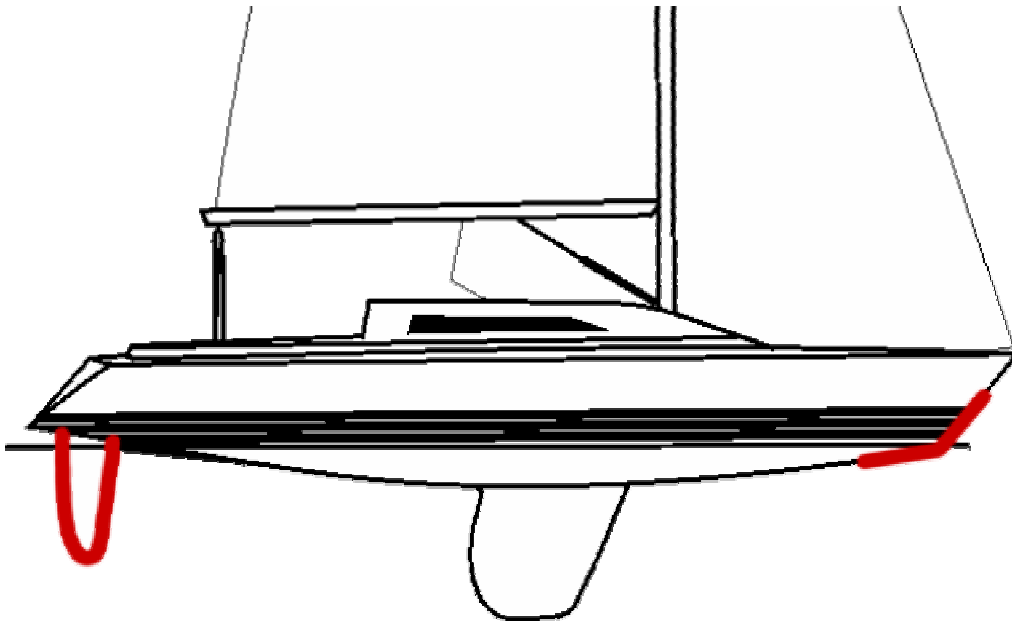


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## Tender Balance

- The boat has a heavy forefoot or knuckle on the bow that tends to act as an additional rudder, which is great if the boat is beginning to point in the right direction, but if it isn't such as when sliding down the front of a wave, the boat may follow the bow as it digs in (awgerring) and carves its own way
- The small rudder on the boat has a difficult time overcoming the balance of the boat. In heavy air downwind, the team usually crowds the back of the boat to keep the rudder in the water and to lift the bow out of the water
- The One-design size spinnaker has over-sized shoulders compared to a comparable "handicap" spinnaker which can contribute to the boat's tender reaction if the boat is unruly.



# *Competitive X-99 Boathandling*

## **Chalk Talk Notes: Spinnaker Sets**

### **Big Picture Goals**

The big picture goals are to:

- Keep the sail from getting trapped behind foot of jib (results from too much genoa sheet ease)
- Preventing the genoa from grabbing the spinnaker as one drops and the other raises

### **General Process**

1. Setting the spinnaker pole
2. Prefeeding the spinnaker
3. Bearing away at the mark
4. Hoisting the spinnaker
5. Dropping the genoa
6. Trimming the spinnaker
7. Adjusting weight
8. Assessing tactical opportunities

### **The Driver**

Procedure:

1. Moves in to get a perspective on the mark while still viewing the telltales
2. Communicates the hoist while bearing away
3. Eases the main while he turns
4. Finds the new downwind course with the trimmers

## **The Main Trimmer**

### **Procedure:**

- 1. Eases the traveler or mainsheet for control before bearing away at the windward mark**
- 2. Secures the traveler**
- 3. Makes sure the mainsheet is uncled**
- 4. Hands uncled mainsheet to driver for the ease**
- 5. Tails the spinnaker halyard on the hoist**

## **The Headsail Trimmer**

### **Procedure:**

#### **Primary Trimmer**

- 1. Drops off the rail just before the Windward mark**
- 2. Eases the genoa/jib slightly to round mark cleating the sheet in the sheave in the process to unload the winch**
- 3. Loads the spinnaker on the primary as the spinnaker is hoisted**
- 4. Trims the spinnaker once up and begins to find the new optimal downwind course**

#### **Secondary Trimmer**

- 1. Prefeeds the guy**
- 2. Trims the windward twing-line on**
- 3. Trims the guy on as the sail is set**
- 4. Begins communication about boat speed and course**



## **The Pit**

### **Procedure:**

- 1. Stays on the rail hiking when others need to work in the boat**
- 2. Eases the vang if necessary (preferably from the rail hiking)**
- 3. Hops into the companionway to help the spinnaker out of the bag**
- 4. Hands the tail of the spinnaker halyard to the main trimmer for the hoist**
- 5. Releases the genoa halyard as the spinnaker reaches full hoist**
- 6. Organizes lines in the boat before optimizing weight placement**

## **The Bowman**

### **Procedure:**

- 1. Hops into the boat to set the spinnaker pole**
- 2. Helps prefeed the guy**
- 3. Jumps the halyard at the mast**
- 4. Gathers the genoa onto the foredeck**
- 5. Adjusts weight to maximize speed**
- 6. Eyes lines and organization with thoughts of the next stage in the race (gybe or douse)**

# *Competitive X-99 Boathandling*

## **Chalk Talk Notes: Gybing Techniques**

### **Big Picture Goal**

The big picture goal is to keep the boat going fast through the entire gybe. To do that well, choosing the right wave or puff is crucial to good execution.

### **The Driver**

Tries to stay dialed into the boat's "feel" in order to duplicate the same results on the other gybe.

### **Procedure:**

1. Bears away slowly
2. Finishes with a faster turn

### **A note on styles:**

The driver has to pay attention to the progress of the trimmers when gybing. The driver should be pushing the trimmers a bit, but frequently a bad gybe is the result of a driver ignoring the progress of the trimmers. Constant communication flow of the right elements helps a team navigate their way to the fastest course quickly.

### **The Main Trimmer**

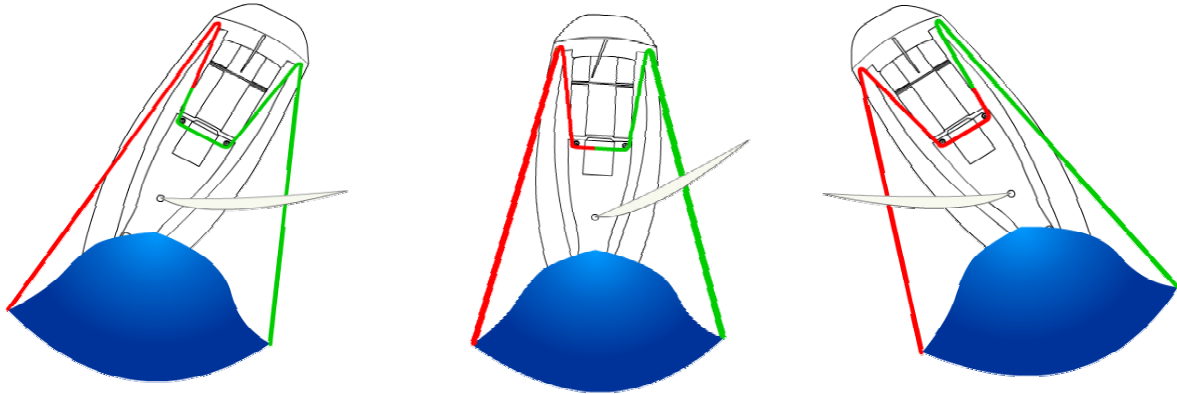
#### **Procedure:**

1. Centers the traveler
2. Loads the new running backstay onto the winch
3. Pulls the main across as the boat passes dead-downwind (DDW)
4. Releases the old runner at the same time

## 5. Trims the new runner on for the new tack

### The Headsail Trimmers

**As one eases the other trims!**



#### Procedure:

1. Trim the guy to windward as the boat turns
2. Eases the sheet the same amount simultaneously
3. Ease the twing-line on the old guy as the boom crosses
4. Trim the new twing on the new guy after the boom has crossed

### The Pit

The mastman can take on several different roles, which each contribute to the gybe in different conditions.

#### Light air:

- Moving weight to help roll the boat and adding communication about the fleet

#### Medium air:

- **Helping clear the sheet around the boat**

### **Heavy air:**

- **Acting as a secondary trimmer for the mainsheet as weight is shifted aft in the boat and the loads on the sheets require more help**

### **A note on styles:**

Because the Pit may need to do two or even three of these roles on a single downwind leg, his or her ability to recognize the prevailing need for the conditions in either maintaining hull balance by keeping weight aft or rotating the spinnaker by over hauling or clearing sheets gives a team a strong edge in shifting gears quickly in the gybes and straight lines.

## **The Bowman**

### **Procedure:**

- 1. Steps up to the spinnaker pole**
- 2. Plants both feet solidly**
- 3. Releases the pole from the mast**
- 4. Releases from the guy**
- 5. Grabs the new guy placing it directly into the jaws of the pole**
- 6. Slides the pole forward and away when attaching to the mast**

### **A note on styles:**

Three keys to watch for in a successful gybe are

- **Releasing the pole from both the mast and guy to allow the trimmers full control of the sail's rotation particularly in light air**

- Keeping the pole parallel to the horizon because the end of the pole may not have released the old guy or may catch it when manipulating the pole, the result of this can be something that resembles a “kayak-stroke” that shakes the sheet and the spinnaker disrupting airflow across the sail
- Sliding the pole forward and away from you when attaching it to the mast allowing the pole to follow the guy naturally to the clew rather than “poking” the pole out to the side of the boat which will also shake the spinnaker and disrupt airflow

**Good bow technique doesn't require brute force. A good bowman learns to spot the opportunities when the boat's motions can work to his advantage and seizes those opportunities.**

# *Competitive X-99 Boathandling*

## **Chalk Talk Notes: Spinnaker Douses**

### **Three Different Types**

#### **1. Leeward Douse**

Happens when the boat is approaching a leeward mark on Starboard Tack

#### **2. Windward Douse**

Happens when the boat is approaching a mark on Port Tack

All mark roundings can have two distinguishing stages that are necessary for good execution of a tactical rounding:

- The Set-up where the spinnaker comes down
  - The rounding where the actual turn is executed
- Proper preparation in the Set-up stage is necessary for good execution in the Rounding stage.*

### **General Process**

- 1. Raise the genoa**
- 2. Stow the spinnaker pole**
- 3. Bear away enough to control the spinnaker (if necessary)**
- 4. Trim the port spinnaker sheet around**
- 5. Release the starboard spinnaker sheet**
- 6. Release the halyard**
- 7. Gather the spinnaker into the hatch**

- 8. Head up around the mark**
- 9. Trim the jib and main and hike out**

## **The Driver**

### **Procedure:**

- 1. Communicate overlap with other boats**
- 2. Bear away for control of the spinnaker (if necessary in higher winds)**
- 3. Take a last look at options for the windward leg**
- 4. Communicate the rate of the turn and sheeting necessary**

### **A note on the finer points:**

Start thinking and acting on the rounding early. Generally the last third of the leeward leg is spent considering how to set up for the best rounding. This also helps insure an inside position at the mark. While the best teams have crew members that understand how time, speed and distance are inter-related in the process, the driver may need to push the crew in starting the process early enough to execute at the rounding.

## **The Main Trimmer**

### **Procedure:**

- 1. Prepares the running backs for the turn**
- 2. Takes a last look around for opportunities on the coming windward leg**
- 3. Grabs the main sheet to trim during the rounding**
- 4. Fine tunes the traveler, running backstay and checkstay**

## **The Headsail Trimmer**

The choreography between the positions depends on who is trimming the Port-side when the spinnaker needs to come down

### **Port-side trimmer:**

- 1. Hands the spinnaker sheet to the starboard-side trimmer**
- 2. Runs forward the grab the port spinnaker clew**
- 3. Pulls the spinnaker back to the pit person**
- 4. Helps stuff the spinnaker into the bag**
- 5. Grabs the tail of the jib sheet to trim for the rounding if necessary**
- 6. Hikes out**

### **Starboard-side trimmer:**

- 1. Takes both sheets the trim for the final moment**
- 2. Releases the starboard sheet**
- 3. Unloads the spinnaker sheet from the starboard winch**
- 4. Loads jib/genoa sheet onto the winch**
- 5. Trims headsail for the rounding**
- 6. Reloads the leeward running backstay for the main trimmer**
- 7. Clears the windward winch**
- 8. Loads the lazy jib sheet onto the windward winch to prepare for the next tack**
- 9. Hikes out**



## **The Pit**

### **Procedure:**

- 1. Presets the outhaul**
- 2. Hops in the companionway**
- 3. Raises the genoa**
- 4. Releases the spinnaker halyard**
- 5. Gathers the spinnaker in the bag**
- 6. Goes for the rail to hike out**

## **The Bowman**

### **Procedure:**

- 1. Stows the spinnaker pole on the boom**
- 2. Makes sure the spinnaker halyard is uncleated**
- 3. Grabs the starboard spinnaker sheet to overhaul if necessary**
- 4. Skirts the genoa**
- 5. Hikes out for the rounding**

# *Competitive X-99 Boathandling*

## **Chalk Talk Notes: Tacking Techniques**

### **The Driver**

The best drivers execute the turn in three phases that account for the boat's priorities at each stage. The guideline most often used to describe the turn is "slow-fast-slow". This allows for the boat to retain as much speed as possible into the tack and accelerate well out of the tack.

#### **Procedure:**

1. Drives, keeping his or her body stable
2. Shifts weight with the crew

#### **A note on styles:**

Mads Christensen has a special technique for standing during the tack so that he can get a good view over the crew during the tack. He executes this style well because he has a good feel for the balance of the boat and the way that he can use the helm to keep the boat balanced when moving, but even Mads finds it difficult to stand in some conditions.

### **The Main Trimmer**

#### **Procedure:**

1. Trims the main in to help turn the boat
2. Trims the traveler across to the new side
3. Eases the old running backstay
4. Trims the new running backstay on
5. Shifts weight with the crew
6. Eases main to accelerate on the new tack

### **A note on styles:**

The Main Trimmer has to have a strong grasp of boat speed and the feel of the boat to understand when shifting gears between accelerate, fine-tune and point modes is necessary to allow the driver to focus more on driving.

## **The Headsail Trimmers**

### **Procedure:**

- 1. Primary trimmer steps into the boat before the turn to ready the winch**
- 2. Primary hands sheet off to the Secondary to release**
- 3. Primary readies the new winch**
- 4. Cueing off the turn of the boat and the break of the sail, the secondary trimmer releases**
- 5. Primary trimmer trims the new sheet on while Secondary releases**
- 6. Both trimmers adjust weight for speed**
- 7. Primary trimmer reloads the leeward running back to prepare for the next tack**

### **A note on styles:**

The Headsail Trimmers can get away with very little winching with good technique and an eye for when to release the sail. This also means methodically pulling the slack out of the lazy sheet before the tack and taking extra wraps off the working winch. To perfect this routine, the team of trimmers need to develop the release of the genoa to suit the conditions. Light air may require the entire genoa to “backwind” to aid in turning the bow through the wind while heavy air may damage the genoa if the spreader pokes into it too hard so very little backwind is desired before the release.

## **The Pit**

### **Procedure:**

- 1. Focuses on balancing the boat**
- 2. Keeping an eye on fleet situations while the Tactician is occupied**
- 3. Helps the genoa around**
- 4. Sprints for the new rail across the cabin-top**

### **A note on styles:**

Sometimes they say it takes an entire team to tack the genoa properly on a boat, and this is certainly the case on the X-99. The Pit can aid in trimming the new genoa sheet in when sailing in light air or give a good overhaul to the released sheet when crossing the cabin top in breezier conditions to be sure the sail speeds around the rig clean.

## **The Bowman**

### **Procedure:**

- 1. Also focuses on balancing the boat**
- 2. Watches for any problems inside the boat that can be fixed in the sprint to the new rail**
- 3. Crosses under the boom**
- 4. May need to “duck-dive” the genoa crossing in front of the mast when racing with a 7-person team**

### **A note on styles:**

The Bowman is in a crucial position to spot problems inside the boat, and a tack may be the only opportunity off the rail to quickly fix them. His or her attention to the organization of lines in the boat can prevent serious mistakes at the corners. Further, the Bowman may need to remain flexible to crossing in front of the mast when racing with seven and under the boom when racing with six.