CSC Handbook for

Windsurfing

CAL SAILING CLUB
May 2007
Revised January 2019

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Getting Started

Welcome to the **Cal Sailing Club Windsurfing Program!** You probably can't wait to get out on a windsurfer, so here are a few steps to help you on your way:

1. Look at Appendix B, it will alert you to some of the things you must know.
2. Read this handbook thoroughly. Pay close attention to the section marked with the novice symbol shown here.
3. Take the open book written test online on the club website.
4. Sign-out your universal, board and sail and take the *self-rescue test*. This test is given by the Dayleader.
5. Begin sailing!
6. Reread this handbook, paying special attention to the section titled *The 10-Step Guide to Windsurfing*.

Lessons for novices are given on Saturday mornings whenever the weather isn't bad in spring summer and fall (March through November), and Sunday mornings in summer (April thru October). Lessons are highly recommended as a pain-free way to get started.

The CSC Windsurfing Program

As with all of the Cal Sailing Club's activities, the object of the windsurfing program is to provide minimum cost access, consistent with safety, to educational and recreational sailing facilities. The cost of participating is far below the cost of taking lessons or renting equipment from a commercial sailboard shop or school. We are able to operate at such a low cost level primarily because the instruction, maintenance, and administration are done by unpaid volunteers.

Except in foul weather, formal lessons are available for novices on Saturdays except in winter, and in summer also on Sundays. After an initial lesson(s) and some time on the water, come back with questions. Most advanced sailors are willing to share their knowledge with the beginner, who has only to ask. Advanced lessons and clinics are scheduled from time to time. In general, learning to windsurf at CSC will require some individual initiative.

Another consequence of our low-cost program is that you are expected to *contribute* to the club through volunteer work. The minimum contribution is only two hours of work per quarter, but most active members find that they enjoy participating in various activities to the extent that they donate many hours of their time. The nature of your contribution is entirely up to you. We always need people to be instructors, to help with (and learn) maintenance, and to assist with administrative jobs.

CSC Windsurfing Ratings

The club's operation is based on a rating system for both the windsurfing and sailing programs. Each program has its own set of ratings and a member's privileges and responsibilities for each is determined by the member's rating within that program. Only club members with appropriate ratings may take out club equipment. Each rating has one or more tests associated with it that a member must pass before being advanced to that rating. A member is eligible to take the test(s) for a particular level any time they feel that their knowledge and skills are adequate to pass the test(s). Members are only eligible to take the test(s) for the level immediately above their current level. (No level skipping is allowed.) The written Novice and Junior tests are online, you have to sign in to the club website. All practical tests are given by club members with a sufficient rating or authorization (described below) or the Dayleader (when appropriate).

There are four ratings in the hierarchy of the windsurfing program: Novice, Junior, Junior Plus, and Senior. With advancement to each new rating, club members are allowed to take out equipment consistent with that rating. Also, the size of the sailing area that each member must stay within is determined by the member's rating. See the club operating rules online for the ratings and the areas, at https://www.cal-sailing.org/images/stories/files/club_docs/CSCOperatingRulesrev072118.pdf

Novice Rating

To obtain the Novice rating you must pass an online written test, a sail-handling test, and an on-the-water self-rescue test. Although the tests may be taken in any order, it is suggested that members take the written test, then sail handling, then the self-rescue test. The Dayleader can give the sail handling and self-rescue tests. In the lessons, the instructor can pass the students on the written test.

The online novice *written test* is based on this handbook. To take it, log in to the club website (don't remember your username and password? you can get them sent to the email you signed up with) and go to Ratings→Written Test→Novice Windsurfer. The test is open book, but you need to know everything on the test. Plan to study the handbook again a few weeks after you pass the test, particularly the information for novices and the 10-Step Guide to windsurfing. This handbook contains a lot of useful information, and you will be surprised how much you missed or forgot.

Some important procedures that Novices must know include the following:

1. In addition to the material in this section, you must know the information in the club operating rules.
2. Your membership must be current to use the equipment.
3. You must separately check out the universal, sail, and board on the equipment sign-out sheet.
4. Novices can only use novice boards which are designated with code (number painted on board) beginning with N. Novices can't use boards designated for Juniors, J+, or Seniors (codes beginning with J, JP (or J+), or S).
5. It's important to check in (write your time of return on the equipment sign-out sheet) so the dayleader does not initiate a rescue needlessly.
6. You must stay in the novice (Inner Sailing) area. Learn your Inner Sailing area boundaries in Appendix A or in club operating rules.
7. Novices must wear a PFD (life jacket). Juniors and above can wear a long-sleeve, full-leg wetsuit AND a harness without a PFD when windsurfing.
8. Never leave a rig (sail/mast/boom) unattended except in the sail racks or on the carpeted area behind the clubhouse. Not on the dock, not by the hoist.
9. You're responsible for putting away all the club equipment you use, promptly after use. Don't leave your board on the dock for more than a few minutes while you're putting away your sail. Rinse and hang up CSC wetsuit and PFD in the PFD area. Put universal back in rack inside clubhouse. Put board back up on rack, and sail back in sail rack.
10. You're responsible for inspecting CSC equipment before and after you use it, and repairing any damage that occurs while you are using it. If you don't know how to fix it, read the Repair section of this manual, ask club members or the dayleader for help, and contact the Second Vice Commodore if necessary. All damage must be recorded in the logbook on the dayleader desk.

The *self-rescue test* consists of leaving the dock with a fully rigged sailboard, jumping into the water and getting the rig ready (See **Self-Rescue Procedure** below), then paddling the board and rig upwind about 100 yards (usually to the small buoy). This is to familiarize you with the procedure for getting back to the dock if you are unable to sail and demonstrate how difficult it is to paddle the board so that you will be motivated to stay in close. There is no minimum wind speed for the self-rescue test.

The *sail handling test* consists of carrying the sail properly from the yard to the dock. The mast should be kept on the upwind side (unless space prohibits, in which case the foot can be upwind), hands on boom and on the mast above the boom, sail not resting on head, and the sail is always kept downwind of all persons, including you, when picking it up or setting it down.

When all tests are complete you are a Novice windsurfer. This enables you to sail in the Inner Daysailing Area which is bounded on the east by a line running south from the third dock and on the south by a line running east from Hs. Lordships restaurant. (See Appendix A.) Novices are allowed to use the boards designated for Novice use, which generally have a centerboard and more buoyancy than Junior and higher level boards.

You must wear a life jacket when windsurfing. Always make sure that your PFD fits tightly or you will find it floating up around your ears. Unless you are immune to freezing water, wear a warm (4/3 mm) wet-suit. The San Francisco Bay is cold enough to cause hypothermia, which is dangerous and can impair your judgment. If you are shivering, return immediately and get warm.

As a beginner, the best progress can be made in steady, mild winds (under 10 MPH). During the summer in Berkeley, these are more typical in the mornings than in the afternoons. The spring and fall seasons are typically not as windy as the summer and are also excellent times for Novices to learn. To avoid being overpowered on windy days, a good idea is to carry or paddle the equipment to the beach on the shore just west of the club and start sailing from there.

The formal instruction offered on Saturdays and (in summer) Sundays is intended primarily for Novices. Anyone with a rating of Junior or higher can give windsurfing lessons for either lesson credit or work credit. The skills demonstrated depend on the skill levels of the people taking the lesson but generally include most or all of the following:

1. Carrying the rig
2. Uphauling the rig
3. Start-up sequence
4. Proper sailing stance
5. Steering up and down wind
6. Tacking
7. Nonplaning jibe
8. Sailing down wind
9. Sailing in higher winds (>10 MPH)

Novices should work to attain their Junior ratings as fast as possible by systematically mastering these skills.

Junior Rating

There are four requirements to advance to the Junior rating: Work credit, online junior written test, basic rigging, and junior sailing test.

You must contribute two hours of *work* to the club, in addition to the normal two hours for the quarter. For ideas on useful work, check the bulletin board in the clubhouse, talk to the dayleader, and ask around at the club. The work hours must be recorded and approved on the club website. You can log in to the club website and enter your volunteer hours (go to Memberships-→Enter Volunteer

Hours), then they must be approved by a Dayleader or a club officer, or you can ask the Dayleader or club officer to enter them and approve them. You can log in to the club website and check your tests and hours (go to Memberships→My White Card) on your "rating and work credit card." Once you have completed the work requirement you can take the *junior sailing test*.

The *online junior written test* is to be taken closed book and includes much of the material in this manual, including some material covered by the Novice written test. To take the test, log in to the club website with your username and password and go to Ratings→Written Test→Junior Windsurfer.

The *basic rigging test* consists of choosing the proper boom for a sail, putting it onto the sail, attaching the uphaul properly, and carrying the gear properly. It can be signed off online by any Junior Plus or Senior Windsurfer.

The *junior sailing test* may be given by any Senior windsurfer. As with all CSC exams, it is the responsibility of the person being tested to arrange the test with a qualified tester. For the test, you use a 160 liter board without a centerboard and a sail that is about one square meter too big for the conditions. You sail into waves in wind of about 10-16 knots, tack up to the restaurant, jibe back down, and return to the dock. Your tacks and jibes do not need to be consistently successful, but you need to demonstrate that you can uphaul in the waves, get upwind, and come back down to the dock. **The tester wants to know if the wind suddenly increases by 10 knots while you are sailing whether you will be able to sail home despite being greatly overpowered.** You should also demonstrate proper care for the equipment, since the Junior equipment is more fragile than the relatively durable novice equipment.

When you get your Junior rating, you are allowed to use the Junior rated boards (as well as the Novice boards). The Junior boards are more fragile and more difficult to sail. Use extra caution when carrying and sailing these boards. The allowable sailing area is also greatly increased. Juniors can sail anywhere in the Junior Daysailing Area unless restricted by the Dayleader. The Dayleader can restrict Juniors to the Inner Area or prohibit any windsurfing for any reason, such as the rescue skiff being non-operational, wind over 20 knots, dense fog, or thunderstorms. Juniors may not sail if there is no dayleader on duty (hint: get trained as a volunteer dayleader!)

The Junior area has four boundaries (see maps in club operating rules):

1. You must stay east of a line running south from the former Hs. Lordships restaurant to the Emeryville Marina
2. You must stay north of a line running straight west from the Ashby Radio Tower.
3. You must stay 100 yards from any downwind shore except to dock.
4. You must stay in sight of the clubhouse.

Windsurfers should be careful not to get too close to the shore because if they have trouble uphauling or waterstarting, they may find themselves washed up on the rocks. Also there are submerged rocks near the shore, which can do severe damage to a fin and board if they are hit.

Also, as a Junior, you are encouraged to wear a windsurfing harness. (Novices can also wear harnesses.) The club has a limited supply of harnesses so you should expect to supply your own. Windsurfing harnesses have foam flotation, and with a full wetsuit (with arms and legs) you have more flotation than if you were wearing just a PFD.

Junior Plus (J+) Rating

The Junior Plus Rating is intended as an introduction to "short board" sailing. To advance to the J+ Rating, you must complete a work requirement, a complete sail rigging test, a board repair, and a sailing test that includes water starting. The work requirement is 2 work hours in addition to the quarterly work and any work required for advancement to other levels. In other words, if you join the club during a particular quarter and advance all the way to J+ in the same quarter (it could happen!), a total of 6 work hours would be required. Once the work hours are approved on your online "White Card" (record of ratings and work credit), you can take the *junior plus sailing test.* The J+ rigging test, board repair requirement, and sailing test may be signed off by any Senior windsurfer.

The *junior plus rigging test* includes complete rigging and derigging of a sail from the bag, including selection of mast and boom and rigging the downhaul and outhaul correctly. You must demonstrate your knowledge of proper procedures to protect sails from damage, and your ability to recognize a properly rigged sail. A good way to acquire these skills is to help seniors and others rig and unrig sails, and tune sails properly.

The *board repair* requirement consists of fixing, with assistance if necessary, one board with fiberglass damage. You can learn these skills by volunteering to assist in the board repair area, where there are usually several boards undergoing various stages of repair from drying out to final painting.

The *junior plus sailing test* will be given in the unsheltered conditions beyond the former Hs. Lordship's restaurant. The test requires you to use a board 135 liters or smaller. The tester will expect you to be able to consistently "water start" in both directions. Other criteria that the tester will judge you on are your ability to control the board during a plane, to plane upwind on both tacks, to get back on the board and into the footstraps, and to use the harness and harness lines effectively. In addition, you must demonstrate a proper dock start and docking technique. The Junior Plus equipment is much more fragile than the Novice/Junior equipment, and you are responsible for damage caused by improper docking. Extra board skills (e.g. being able to carve turns) will also impress the tester and make your chances of passing more likely.

Becoming a Junior Plus does NOT increase the allowable sailing area for a member, but it does give them access to much higher performance equipment. The J+ rating allows you to use boards designated as Junior Plus. The Junior Plus boards have less volume

than the Novice/Junior boards and are difficult to uphaul so you should be confident of your sailing skills before taking them out into the stronger wind and waves.

As a tradeoff of higher performance, the **J+ equipment is much more fragile** than the Novice and Junior equipment. The majority of the damage that occurs to the J+ equipment is through mishandling. Common sense and extra care should always be used with this equipment if we expect to keep it in good operating form. **Indeed, the Junior Plus and Senior equipment is not fully paid for by the membership dues of people using it. In exchange for the privilege of using this equipment, the Junior Plus and Senior ratings carry with them a responsibility to help out above the normal quarterly work requirements if this part of the program is to work. You have a special responsibility to contribute extra time to the club including teaching Novices (both impromptu and on Saturday mornings) and Juniors, keeping the equipment fixed and tidy, or helping in other ways that suit your skills.**

The most common problem with the J+ boards are damaged noses caused by improper docking technique. **The proper docking technique is to get off the board 6 feet from the dock and swim in.** A lot of damage has been done by trying to sail the board all they way to the dock. You are responsible for damage done to the boards by improper docking technique.

Senior Rating

The Senior rating is the highest of the ratings and is proportionately harder to achieve than any of the other windsurfer ratings. The stringency of this rating is due to the leadership responsibilities expected from the Seniors and the extra freedoms granted to them. This rating is achieved by contributing at least 10 hours of work (beyond that required for the Junior Plus tests and the quarterly membership), passing the more difficult senior written test and the very rigorous senior sailing test.

The senior written test is given by the Windsurf Rating Chair and emphasizes safety and common sense. Although some of the questions are taken from the club's handbooks, the majority of the questions can be answered based on the knowledge and experience one gains through a season or two of windsurfing in the club.

The senior sailing test is given in heavy weather (at least 20 knots in big waves) by members of the rating committee or anyone else specifically authorized to give the test. Skills required include planing and nonplaning jibes on a short board, light and high wind waterstarts and sailing overpowered. The emphasis of the test is for the person being tested to demonstrate complete board control and the ability to get back to the dock safely if the conditions were to drastically change.

Once you achieve your Senior rating, you may sail anywhere in the Senior Dinghy and Windsurfing Area. (See the CSC Operating Rules Handbook for the area definition.) Seniors may use any of the Senior-rated boards, but otherwise use the same sails and other equipment as other sailors. Several of the boards available to the Seniors are "sinkers" and can only be sailed in high winds. Since these boards are not uphaulable, awareness of the current and expected wind is important before taking out these boards.

Seniors are allowed to sail anytime during daylight hours, i.e. even when the skiff is not available or the club isn't open. (Seniors are eligible to obtain a "Senior Key" to allow them access to the club at any time.) However, members should be aware that in these cases, they are "on their own" to get back to the club if the wind suddenly decreases or a piece of their equipment breaks. As with the Junior Plus rating, the Senior rating carries with it an expectation of greater responsibility of service within the club.

Foiling Rating

The Foiling rating allows Junior Plus and Senior Windsurfers to use the club's foiling windsurf boards. It requires passing an online written test and contributing an additional two hours work. The foiling boards may not be taken out if the tide is falling unless the water depth at the end of the dock is more than 4 feet. If the tide is rising, the foiling boards may not be taken out before the water depth at the end of the dock reaches 3 feet.

Club Rules and Procedures

Signing In / Out

Before using the equipment you must separately sign out a universal, a board, and a sail. The equipment must be signed out on the equipment sign-out sheet on the dayleader desk in the clubhouse. You must write your first and last name, membership number, and expiry LEGIBLY. (The dayleader can look up your membership number and expiry if you've forgotten.) On the sign-out sheet, be sure to record the code of the board, universal, and the size or code of the sail. Indicate the time you leave. When you return, be sure to sign in, as this is the only way for the Dayleader to know that you have safely returned and you are not washed up on the rocks. You are responsible for all equipment that you sign out. If you take over a sail that someone else has already rigged, be sure to check for damage, and that it is rigged properly before taking it out.

Sailing Hours

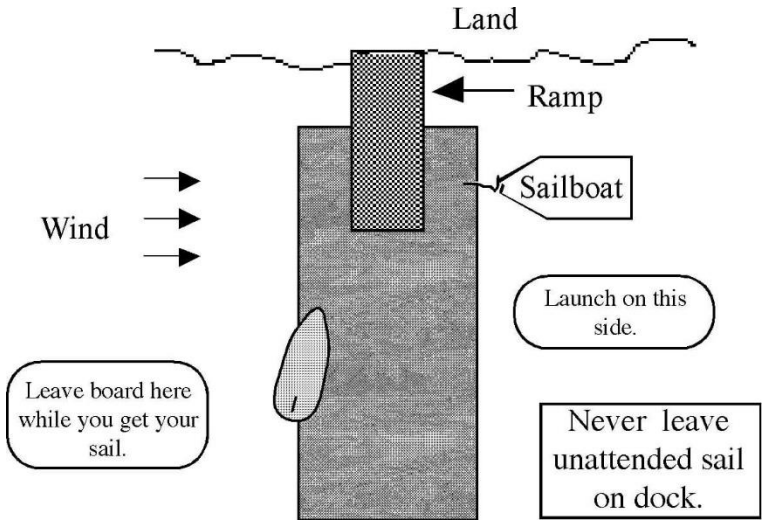
Novices, Juniors and Junior Pluses are only allowed to sail during hours when the club is open and a Dayleader is on duty and is not prohibiting sailing or windsurfing. The Dayleader may restrict or prohibit sailing or windsurfing for any reason, including low tide, high wind, dense fog, etc. Club hours are generally weekday afternoons (12 noon to sunset) and weekends all day (9 am to sunset). Novices, Juniors, and J+'s must return to the dock before the docktime posted on the bulletin board inside the clubhouse; if they stay out on the water beyond that time, they have to buy the Dayleader dinner for a week.

Launching/Safety

After checking out your equipment and changing into your wet suit and PFD and/or harness, first carry your board (with universal) and place it on the upwind side of the dock, fin (aka skeg) over the edge and pointed down. Then get your sail. Always launch and return to the downwind side of the dock (same side as the sailboats are tied up on). Never launch from the upwind side of the dock. Never leave your sail on the dock unattended, even for a few minutes. It is courteous to try to leave the end of the dock for short board sailors.

Return to the downwind side of the dock. Pull your board and rig on the dock. Move the board over to the upwind side of the dock. Return your sail to the sail rack. Rinse it off if it's muddy. Do not leave a sail unattended by the hose (near the boat hoist).

Don't forget to check your equipment.



Time Limits

Since the club has an ample stock of equipment, there are no longer time limits on use of equipment. However, on peak days, the dayleader will curtail sailing by anyone who has been out more than 60-minutes. On warm summer weekday afternoons, members should return to the clubhouse after an hour of windsurfing. If no one is waiting for equipment, they can check out their equipment again.

Damage Responsibility

Members are responsible for any damage or loss that occurs while the equipment is signed out to them. In the instance of damage, the member must repair the damage or do an equivalent amount of work as determined by the Second Vice Commodore (Windsurfing Chairperson). Until the repair is completed, you may not sail a Club boat or sailboard without the permission of the Dayleader or any Club Officer. All damage and repairs must be noted in the Dayleader logbook which is kept in the dayleader desk in the clubhouse.

Specific instructions for repairing equipment can be found later in this handbook. If you can't fix it, ask other members, and if you still can't, then email the Second Vice Commodore.

If damage or loss to equipment resulted through negligence or disregard for CSC rules (as determined by the Executive Committee), the member may be liable for up to $100. Seniors can be liable for up to $250.

Sail Rigging

The proper rigging of a windsurfer sail is both an art and science. . A small change in the rigging can make a huge difference in how easy it is to sail. Different sails have different rigging and derigging procedures. Furthermore, guidelines for rigging change as sails change. If you are not sure if a sail is well-rigged, ask a more advanced sailor. The guidelines here are general guidelines that apply to most sails when this handbook was written.

• Boom Height. The majority of sailors are most comfortable with the boom at shoulder height when on the board and sailing. A boom that is too low will cause you to sail poorly with your butt hanging out!

• There shouldn't be a lot of space between the outhaul and the sail or the downhaul and the sail. A few cm is the maximum. The end of the outhaul should not flop around, but be tied to the boom.

• There should be considerable downhaul so that at least the top 1/4 of the leach is "floppy."
• The outhaul should be so that the batten above the boom overlaps with about 1/3 to 1/2 the diameter of the mast as shown here.

Other rules and guidelines that should always be followed when rigging or handling the sails are:

• Always beware of sources of puncture wounds. Examples are sharp skegs, boat trailers, and the barbed wire on top of the fence.
• Never stand on the sail - always walk around it.
• Don't scrape the sail against the ground. The batten straps and mast caps chafe easily and this is one of the most common repairs we have to make.
• Never fold or crinkle a sail.
• Do not stand a rolled sail on its clew end.
• Never carry the sail between you and the wind and use extra caution the dock.
• Always enter and leave the water on the **downwind** side of the dock (as shown in the figure above).

Self-Rescue Procedure

As a beginning windsurfer you may find that you have trouble making your board move in the direction that you want it to. Indeed, at some point you will probably find yourself drifting out of the Inner Area (the area that Novices are restricted to). If you are getting blown downwind past the third dock, you should **paddle** to the third dock and carry your equipment back. Usually at this point downwind, further attempts at sailing upwind will only exhaust you and make it more difficult to get back. Even if you can't make it to the third dock, you should paddle to the shore adjacent to the dock (or to the access road to the Marina). Do not let yourself get blown down to the rocks at the east end, by the frontage road near the freeway. It is very difficult to spot sailors in trouble in that area and the result can be dangerous.

Sailing in the novice area will not be the only time that you will need to know how to self-rescue (paddle) on a windsurfer. Even as a Junior or Senior with improved sailing skills, you may be forced to swim the equipment back if something breaks while you are on the water. For these reasons, it is mandatory to know how to self-rescue.

There is some debate on the *best* method to self-rescue. Obviously, the method you choose will depend on the distance to travel and the current conditions. In general, if you are on a board that has a centerboard, lowering it will help you stay on course and up wind.

Suggested Self-Rescue methods:

No wind, or paddling directly upwind for some distance: Balance the boom on the back of the board so the sail is out of the water, lay on the sail and board, put your feet under the sail to keep it from sliding off into the water, and paddle with your arms and hands. This is the preferred method for your self-rescue test.

Short distance to travel: Let the sail drag in the water at the side of the board, lay on the board, and paddle. The sail should trail behind the board, and the mast next to the board, as shown below.

Some wind, long distance to travel (Method 1): Untie the extra downhaul line. Remove mast from universal and slide the sail onto the back of the board. The sail and half the boom should be above the board and the other half of the boom should be in the water below the board up against the fin. Tie the loose downhaul around the universal in order to keep the rig in position. Climb on top of the board lying face down and paddle.

Some wind, long distance to travel (Method 2): Derig sail, roll it up and tie it to the boom. Lash the boom, mast and sail together (mast still attached to the board), lay on the board and paddle.

Extremely high wind, life and safety in danger: Jettison the rig, lay on board and paddle. Never leave your board, it is your life raft.

Safety

It is a good idea to carry safety equipment with you while windsurfing. A good quality wetsuit will be well worth the investment as the bay can be very cold and hypothermia can set in a matter of minutes. Many windsurfers carry a length of rope to make on the water repairs, and as your rating advances, you may think it valuable to carry a VHF radio, a small whistle, or perhaps even a waterproof flare.

Broken Equipment

Members should never take out any equipment that is broken or damaged in any way. This includes things such as ripped sails, cracked boards, broken battens, etc. It is not only dangerous to use broken equipment but also, it is usually the case that more significant damage will result from further use. If you find a sail that has a problem or if some damage occurs while you are sailing, take the appropriate action according to the following guidelines.

You must report any damage you find: Make a note in the logbook on the Dayleader desk in the clubhouse. Include your name and contact info (email or phone) as well as the number/letters for the equipment, the nature of the damage, whether you fixed it, and where you left it. Write legibly!

Things You Can (and SHOULD) Repair:

Small Tears (< 4") in the Main Body of the Sail - To repair small tears in a sail, get supplies from the "boom room"—the windsurf parts area by the small novice sails rack. You'll need: denatured alcohol, paper towel or clean rag, sail repair tape (white Dacron for rips in colored fabric, clear for rips in windows), and scissors. Using a paper towel or clean rag soaked in alcohol, clean an area extending at least an inch from the rip on both sides of the sail. Dry with another paper towel or clean rag. Cut a piece of tape to fit the cleaned area on one side and stick it on. Flip sail, tape other side.

Torn Footstraps: Get a new footstrap and a fat (#3) cross-head screwdriver from the boom room. Do not overtighten screws!

Dinged Board: Before repairing a fiberglass board, the board must be rinsed and thoroughly dried for several days. After rinsing, label the board with blue tape next to the damage. Make a note on the blue tape stating the damage and the date. Set the board on one of the racks by the windsurf board repair area. After several days, check the ding carefully to make sure there is no water below the hole. Clean an area extending at least 3" around the ding with denatured alcohol. Sand the area with 80 grit sandpaper. Clean again. Epoxy resin, hardener, filler, fiberglass cloth, mix cups, stirrers, small paintbrushes, scissors, squeegees, and other supplies and tools are all kept in the windsurf board repair area. Mix resin and hardener thoroughly or they won't set. Paint area around ding with resin/hardener mix. If it bubbles, stop and dry board for several more days, there's water in the ding. Mix filler into resin/hardener mix to consistency of heavy whipping cream. Cut fiberglass cloth to fit area and squeegee resin/hardener/filler mix into cloth on laminating board. Stick onto board and push out any bubbles with paintbrush and/or squeegee. Cut smaller pieces of fiberglass cloth if needed to repair shattered areas of board, squeegee in more mixture on laminating board, and apply to ding. If additional filling is needed, mix in more filler to epoxy resin/hardener/filler mixture to obtain a peanut butter consistency, and apply to ding with squeegee. Allow to harden one day and scrub off surface with alcohol and scrubbing pad. Then sand to shape. Apply spray paint so epoxy resin isn't damaged by UV.

For major sail rips, batten pocket failure, etc., follow this procedure:

1. Rinse and dry the sail.
2. Carefully inspect the sail for other damage.
3. Roll up the sail and place it in the dead sail pile (corner of board hospital).
4. Fill out a repair tag that includes a) the sail number, b) the damage and its precise location, c) your name and the current date. Attach the tag to the sail.

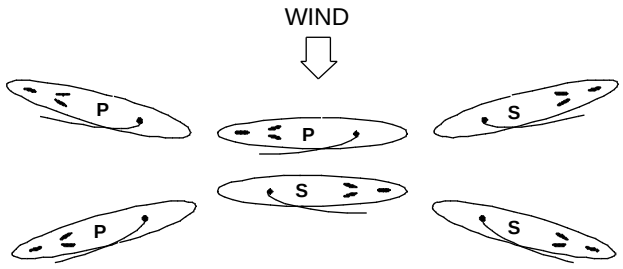
All equipment should be repaired in a manner approved by the Second Vice Commodore. If you have any questions about a repair, feel free to ask any Senior windsurfer or the Second Vice Commodore for advice.

General Sailing Information

Port and Starboard Tacks

When windsurfing, if your right hand is forward on the boom, you are on starboard tack, when your left hand is forward, you are on port tack. On a sail boat, if the wind is coming from the right side of the boat (right facing forward) you are on a starboard tack, if the wind is coming from the left side, you are on a port tack. Knowing which tack you are one is important for knowing which boat (or windsurfer) has the right-of-way when they are on a collision course.

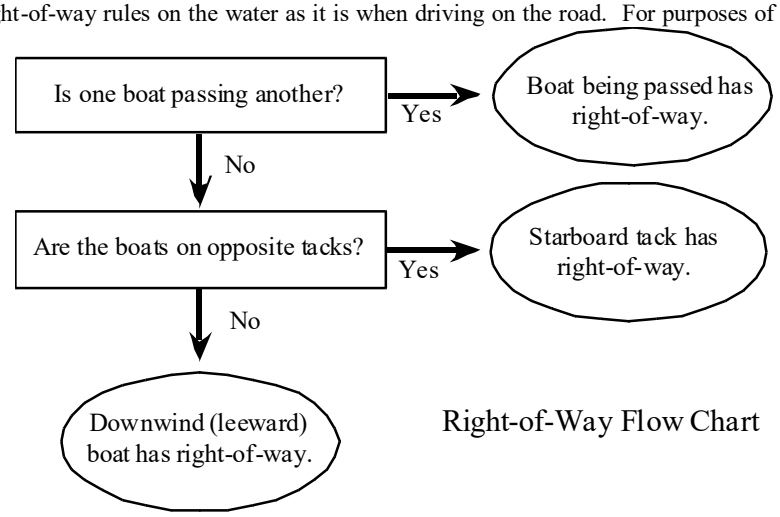
In the figure at right, the boards marked with a "P" are on port tack and those marked with an "S" are on starboard tack.



Right-of-Way Rules

It is just as important to observe the universal right-of-way rules on the water as it is when driving on the road. For purposes of right-of-way, a windsurfer (or kiteboarder) is the same as a sailboat. Right-of-way can always be determined by applying the following four rules:

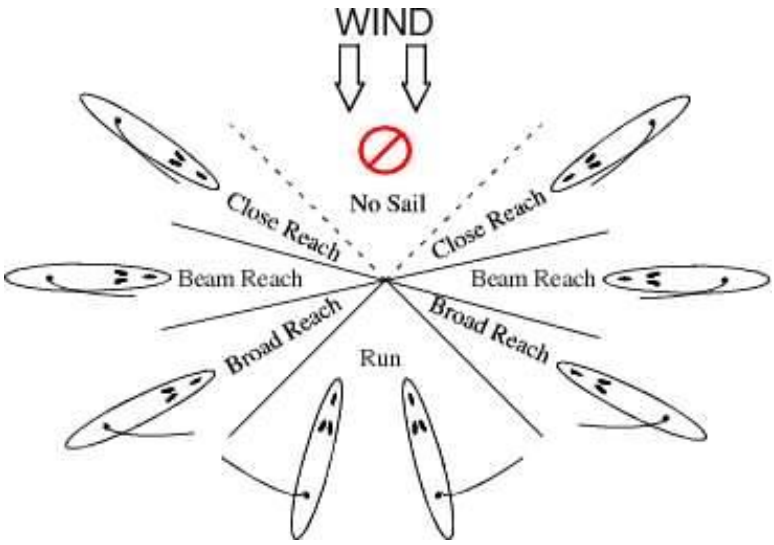
1. A boat overtaking another boat shall keep clear of the boat being overtaken.
2. A boat on port tack shall keep clear of a boat on starboard tack. In other words, if your right hand is forward you are on starboard tack and have right of way over a port tack vessel (Right is right!)
3. When two boats are on the same tack, the boat to windward shall keep clear of the boat to leeward.
4. A boat that is towing a boat or windsurfer has the right-of-way.



Right-of-Way Flow Chart

Points of Sail

The direction of a boat's travel relative to the direction of the wind is called its *point of sail*. The closest angle to the wind that can be achieved when sailing is about 45 degrees. Sailing between 45 and 135 degrees from the direction of the wind is called *reaching*. This angle is further subdivided into *close reaching* (45 to 80 degrees), *beam reaching* (80 to 100 degrees) and *broad reaching* (100 to 135 degrees). Sailing between 130 and 180 degrees off the wind is called *running* or sailing "on a run." These terms are important to know because they are used in teaching windsurfing.



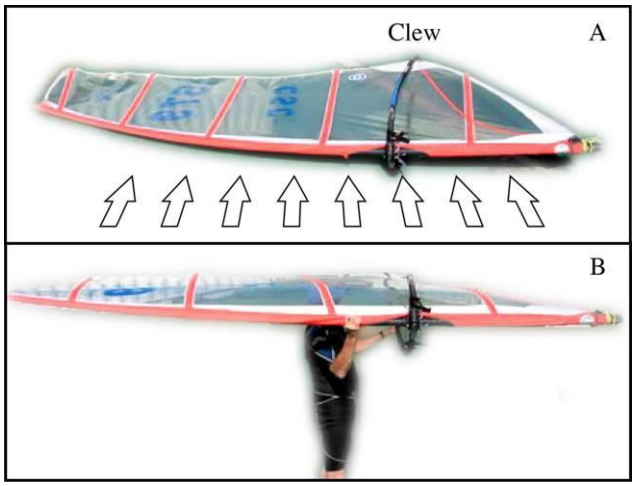
The 10 Step Guide to Windsurfing

By Bill Prinzmetal

This guide was written to help you get your Junior Windsurfer rating at CSC. It's organized around 10 steps (including one for fun, for advanced windsurfers) that should help you learn to enjoy windsurfing and get your Junior rating. Some of the steps are difficult to describe, as you'll find out when you read this. If you haven't already tried to do the things described in this guide, it will probably seem even more incomprehensible than it actually is. So if you haven't gotten wet yet, perhaps now is a good time to put this down, put on a wet suit, and go windsurfing. But one last word of advice for those leaving now: relax, try not to get frustrated (you'll tire yourself out needlessly), and concentrate on enjoying the wind and water.

OK, a few more introductory notes. This guide assumes you know some of the salty talk and windy concepts associated with sailing. If you don't know what a broad reach is, read the *General Sailing Information* section in this handbook. If you have trouble figuring out where the wind is coming from, you might find it instructive to take a sailboat lesson and learn some of these basics in a situation where you don't have to also balance on a sailboard. Also, I've included some miscellaneous stuff that isn't strictly introductory, but may become useful as you get more advanced. There are also some safety hints that I hope you'll heed, since I learned some the hard way, and being safe on the water will make you more comfortable and increase your enjoyment. Finally, a caution: windsurfing is addictive. It can harm your social relationships, hinder your career, and keep you from ever making a useful contribution to society. In short, it's fun.

1. Carrying the Rig



Carry the board down to the dock first, and leave it with its skeg (fin) hanging over the windward side of the dock, so it doesn't get in the way of launching or landing on the leeward side of the dock. Take the sail down only when you're ready to sail, since it can easily get airborne on its own in a gust. Do not leave your board on the dock for more than a few minutes. Never leave your sail on the dock unattended.

Lay the sail on the ground and orient it so that the mast is perpendicular to the wind, with the clew of the sail away from the wind (A in the figure). Stand upwind of the sail. Grab the mast and lift it over your head. Rest the sail LIGHTLY on your head where there is a batten (B), but do not let the whole weight of the sail rest on your head (that will put a dent in the sail. If it's very windy, move the sail back and forth a bit to find the balance point in the wind. The wind will hold the sail up.

When you walk, it is important to keep the sail oriented in the same angle relative to the wind. If you turn around, the sail should stay in the same orientation in relation to the wind. The mast should always be upwind of the rest of the sail, unless space prevents that—for example, when passing through a gate or going by a sailboat. In that case, try to keep the foot of the sail upwind.

2. Uphauling The Sail

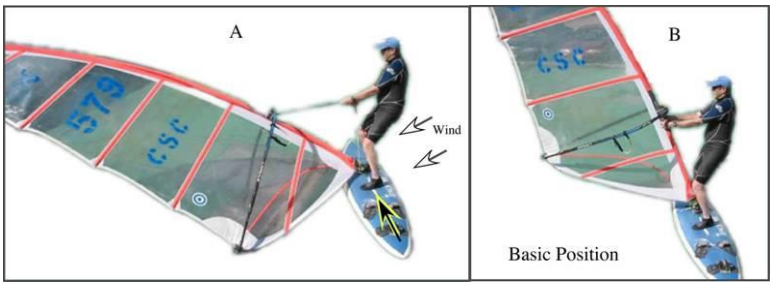
At the dock, set the rig down flat, downwind of you (ALWAYS PICK UP AND SET DOWN THE SAIL SO THAT NO ONE IS DOWNWIND OF THE SAIL), with the mast base by the board's universal. Move the board so that its fin is now hanging over the downwind side of the dock in a location where you can safely launch the board and rig.

To attach the rig to the board, tip the board on its side, make sure the uphaul's bottom end is attached to the mast base, and slide the mast base onto the universal so that the universal's silver buttons click into the two holes in the mast base.

Once the rig is attache to the board, set the board flat, then slide the board into the water, fin first, on the downwind side of the dock. Get a foot onto the board. Hold onto the sail by the uphaul, then release the sail so it lands in the water downwind of the board.

Now get both feet on the board, while sitting on the dock. Swing the centerboard down by pushing its handle towards the tail of the board.

Get on the board, lay down, and paddle it a few feet away from the dock before trying to stand up and uphaul (lift) the sail. Get



clear of the boats and dock before you try to stand up. Begin with the board approximately at a right angle to the wind, and the sail on the downwind side of the board (Figure A). Take the uphaul in your hands and stand up slowly, keeping your weight over the centerline of the board. Foot placement is important. Your feet should straddle the mast base, about shoulder width apart, with the front foot (the one closest to the board's bow) right by the mast base and the rear foot about a foot from the mast base. Your feet must be on the centerline of the board, shown as the arrow on the board in Figure A. Keep your knees slightly bent, and your weight on the balls of your feet.

Slowly, lift the sail with the uphaul. Don't pull hard until the water drains off the sail. As you lift the sail, keep the mast (which is pointing downwind) at a right angle to the board. Keep your arms straight, you should pull in a hand-over-hand manner, until the sail is completely out of the water.

The following are the key points:

- Keep your feet on the centerline (tip to tail) of the board
- Keep the mast at a right angle to the board
- Keep your knees bent
- Keep your arms straight
- Lift the sail slowly out of the water

Choosing the right size of sail *The wrong sail size, whether too big or too small, will make sailing difficult. Only two factors matter for the correct sail size: (1) your weight; (2) the wind strength. The wind strength will change from day to day. If the wind is 10 knots and you are having fun on a 5.0, then next time out when the wind is 10 knots, use the same size sail if you can. However, if the wind is lighter next time (5 kts) use a bigger sail; if it is stronger (15 kts) use a smaller sail. We have excellent starter sails, but you probably should switch to a regular sail after about your 4th or 5th time out.*

Continue uphauling until the sail is completely out of the water and you can grab the mast, below the boom, with both hands.

It is common to fall backward. If you are falling backward, it's probably because your feet are not on the center of the board or your arms are bent at the elbows.

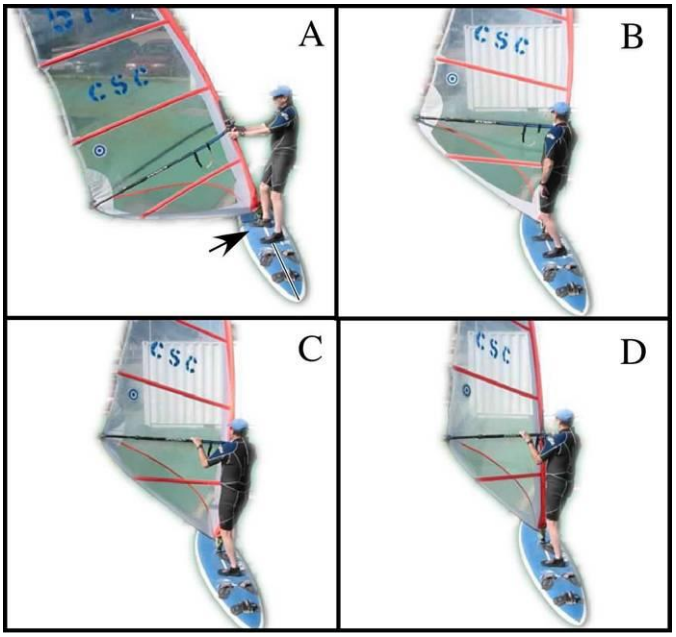
When you succeed in getting the sail out of the water, rest for a second before proceeding. You should have arms straight, sail out of water, knees slightly bent, sail at right angle to the board. This is the **basic position** it's very stable. You could read War and Peace, or do your taxes in this position.

With the mast held at a right angle to the board, the board will stay at a right angle to the wind (beam reach). If the wind is very light and you can't tell exactly where the wind is coming from, hold the sail in this position and the board will swing around to a right angle to the wind (i.e., wind at your back - a beam reach).

If you want to turn a bit, swing the mast toward the front of the board to go downwind, back of the board to go upwind. Return the mast to the center (right angle to the board) before you begin the startup sequence.

Here is a safety hint. If you are upwind of where you want to be and for some reason have trouble sailing downwind, hold the sail in the basic position and just stand there (knees bent, arms straight). You will drift downwind slowly, and also sail forward to some extent.

3. Startup Sequence



OK, you've finished War and Peace, now is the time to get moving. You're in the basic position. Your feet are on the centerline of the board, straddling the mast base, your knees are slightly bent, your arms are straight, and you are holding the mast with both hands below the boom.

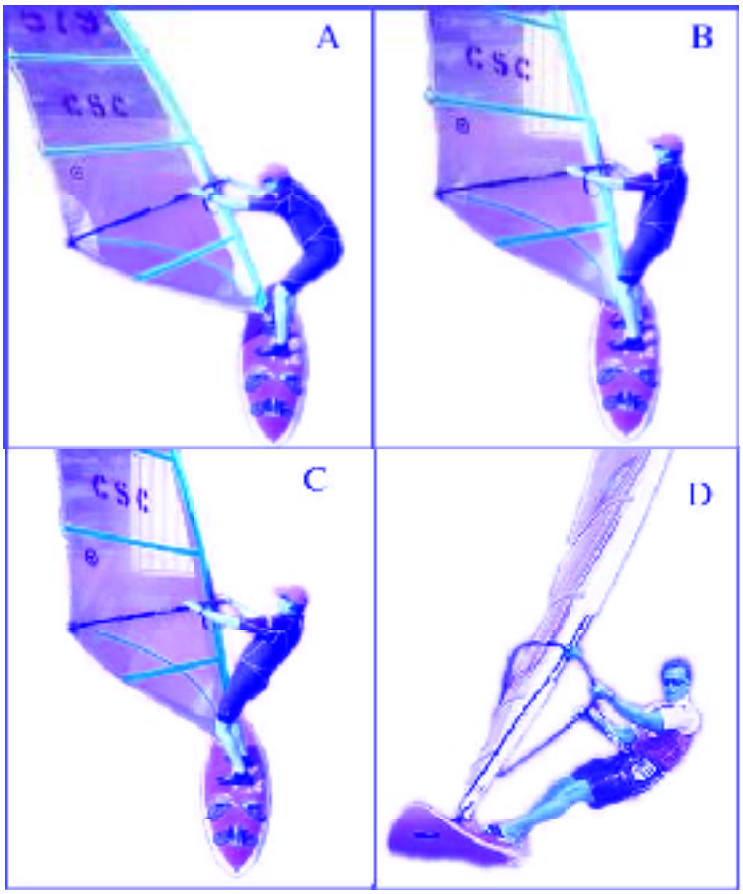
First move your feet behind the mast (A in the figure at right). Next, with your front hand (which is holding the mast) move the mast and sail in front of you and across the board (B). Now grab the boom with first your back hand and then your front hand, but keep the sail parallel to the wind (C). Finally, slowly bring in the sail with your backhand (D), in order to "sheet-in the sail".

Think of the sail as a door. With your back hand not pulling on the sail, the sail is out, parallel to the wind, and the wind passes by the door through the doorway. To catch the wind, move your back hand in (D in figure at right) to partly close the door and catch the wind. Congratulations, you have just gotten your first ride. You are now officially a windsurfer.

Resist the temptation to panic and drop the sail. If you think that the wind is too strong, gently let out with your back hand and let some wind out the door. As you feel more comfortable, pull in harder with your backhand. You will have to **lean back** to counter the pull of the sail. On light wind days, be careful **not to pull in too hard** with your backhand. That will "stall" the sail and you will just go sideways. A little wind always has to be let out the door.

4. Sailing Stance

Having the right sailing stance will make your sailing effortless and you will rarely fall. A (on the figure below) is the stance to avoid: sail is leaning over to the side, your butt is hanging out, and you are bent at the waist. If you get in this horrible stance, let the sail out with your backhand, bend your knees, and tuck in your butt.



B in the figure at right is a good stance. The mast is more or less vertical. Knees are bent, your derriere discretely tucked in, and your back is straight. When the wind is light, to keep the mast vertical, your elbows (particularly your front arm elbow) should be bent and pointing down. When the wind is strong, you will need to lean way back to counteract the wind in the sail and therefore your arms will be straight. Both feet will be behind the mast, about shoulder width apart. If you are a heavier person and you notice the tail of the board sinking, move forward. If the bow is sinking, move backward. As the wind gets stronger, you will have to more back on the board to keep the bow from purling under the waves. For now, it is important that your knees are slightly bent and your feet on the center line.

In higher winds, try C in the figure at right. You should have a slight "pelvic thrust." Like a paper straw, the fewer bends in your body, the stronger your stance. D in the figure at right is a high wind stance. You will not use this stance for a while, but it's the stance you will ultimately aim for as you become an advance sailor. In the high wind stance, your arms are straight, and your body is straight. Most of your body is over the water and you are hanging your weight off of your harness lines. (By the time you are a junior, you should be using a harness.) As you get into high winds, you will move your feet into the footstraps on the windward side of the board.

Centerboard Position

For now, your centerboard should always be down (the handle should be back, towards the tail of the board). You only need to raise it when you reach high speeds at which point the centerboard causes instability. You can sail upwind without a centerboard if you dig in (partially sink) one of the edges of the board to keep it from slipping sideways. Remember that when you graduate to higher performance boards that don't have centerboards, and the wind drops to a few piddly knots, you can make better progress upwind by digging in the upwind edge of your board to act like a centerboard.

If you can't sail upwind

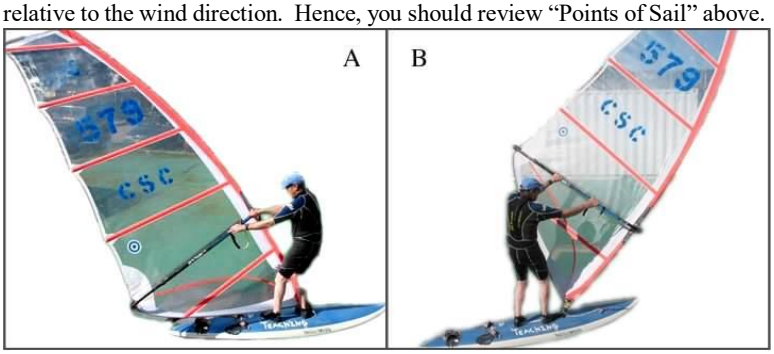
When you first start to windsurf it is common to get blown downwind. If you find yourself in this predicament, and get carried down to the third dock (the edge of the Inner Area for Novice Windsurfers), you should try to get to that dock and land, so you can carry your rig and board back up to CSC.

It is easier to carry your board home on land than swim your board back to the dock against the wind in the water. Also, if the tide is low, it's usually easier to walk your board home in the water than swim it home. If all else fails, and you need a rescue from the skiff, sit on the board and wave your hands in the air to signal for help.

One last hint that will save lots of energy. If you are beginning to be over powered, let go with your back hand and try never to let go with your front hand. If you let go with your front hand, the sail will drop in the water and you will have to uphaul the sail – ug!

5. Steering

Before learning how to steer, you have got to have an idea of where you should be heading! You are always changing your course relative to the wind direction. Hence, you should review "Points of Sail" above. You should always start sailing on a beam reach. Note that you cannot sail directly into the wind (the No Sail area on the diagram in the Points of Sail section, page 10). When you get close to the "No Sail" area (dashed lines) you will slow down and start to drift sideways. Hence, then you have to head away from the wind. So how do you steer without a steering wheel? It's easy!



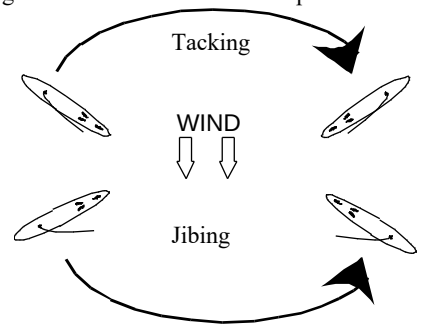
To get the board to turn upwind, move the sail back and over the rear of the board (A in the figure at left). The foot of the sail may actually touch the deck of the board. Hold this position until the board changes direction, then move the sail back to the neutral position. If you are having trouble making the board head up wind, you are not moving the sail far enough back and far enough over the board. The lighter the wind, the more you have to exaggerate this move. Be careful that you do not head up into the wind too much and get caught in the No Sail area. It's best to first get the board moving then try to turn upwind slightly, and if the board slows down, turn downwind slightly until you regain most of your previous speed, then try again to turn upwind, but not so far this time, eh?

Many sailors (especially the boaty type sailors) have more trouble turning downwind (away from the wind). Move the sail forward and across the front of the board (B in the figure above). If the wind is light, it may be necessary to move your hands back on the boom. In stronger wind, **be sure to step back first** so you can lean against the sail's force, and point your forward foot toward the front of the board to resist the sail launching you forward. This is where many boaty types have a problem—they're used to just sitting there, so they don't get that they need to move back when they turn downwind in strong wind.

If you have trouble getting the board to turn downwind, you may be doing one of two things wrong: (1) You do not have the sail leaning far enough forward and across the front of the board, and/or (2) You are not sheeting in and therefore do not have power in the sail.

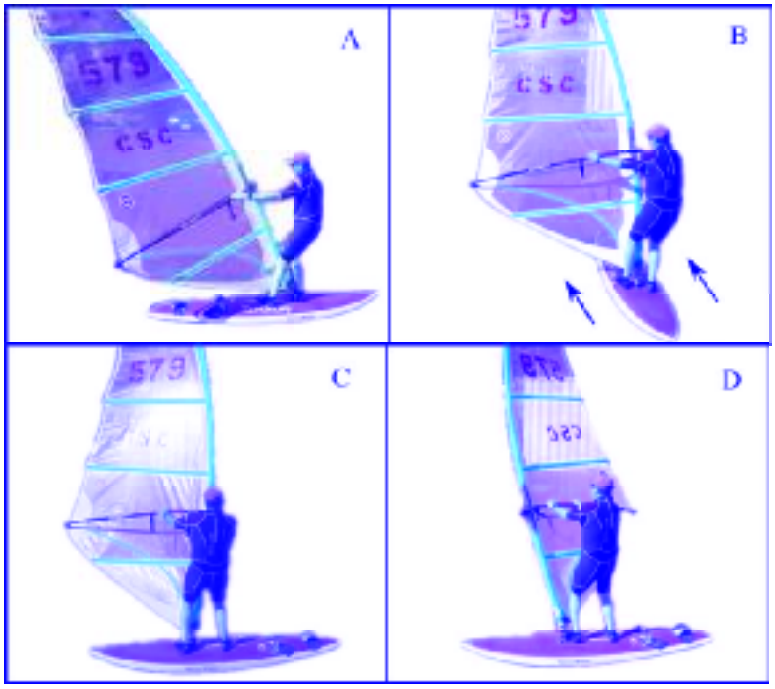
6. Tacking (aka coming about)

In both tacking and jibing, you change direction so the wind comes from the opposite side of the board. In tacking, you turn toward the wind; in jibing, you turn away from the wind. Hence tack when you want to move in the direction toward the wind. Jibe when you want to move away from the wind.



There are several different ways to tack. This is a method similar to one taught at ABK Windsurfing clinics. It works well where the water is rough (Berkeley).

Before starting to tack, you must do three things. (1) Look over your shoulder. Are you about to turn into someone's path? (2) Drop your front hand to the mast just below the boom. (3) Move your front foot to just in front of the mast (A in the figure at right).



Now begin to turn into the wind by moving the sail to the back of the board and across the board, just as in the "Steering Step" above. (A in the figure at right) Keep your arms straight, knees bent, and take a lot of little steps.

Keep force in the sail; that force is what turns you. As the board points into the wind, swing your body in front of the mast. Keep pushing the board around with your feet, and keep pulling on the sail with your rear hand. Keep force in the sail. Note that the sail is "backed" until you are all the way around—you're actually pulling the sail against the wind, and it's not creating lift, but instead drag—the wind on the backed sail is pushing the board backwards. You use the force of the backed sail to allow you to push the board harder with your feet, to turn the board onto the new tack.

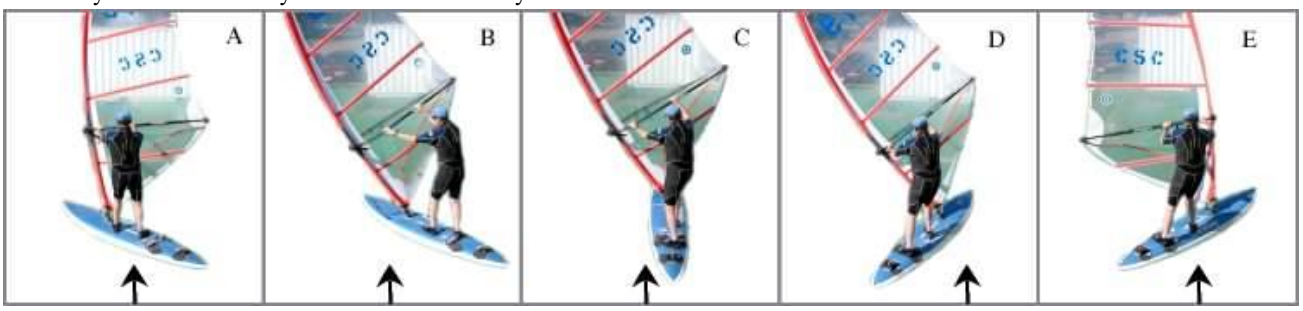
When the board has turned all the way onto the new tack, move to the new basic sailing position and start up as usual, and get the board moving on the new tack (D in the figure at right).

The important principle in the tack described above is that you keep pulling the sail against the wind for as much of the turn as possible. This gives you something to lean against, and will help you avoid falling in. You can speed your tack by doing the following. Before beginning the tack, when you move your front foot just before the mast, also move your back foot a few inches back on the board (so that you have a wider stance). Having a wider stance will give your back foot more pushing power.

7. Non-planing Jibe

To prepare for jibing do the following: (1) head off on a **broad reach** (A in the figure below; note the arrow indicates the wind direction)**;** (2) move your hands back on the boom. The lighter the wind, the further back on the boom you will need to move your hands. In addition, prepare to jibe by moving your back foot further back on the board. The further back on the board you are, the snappier your jibes will be. Keep those knees bent! Finally, look before you initiate the turn so that you do not turn into the path of an oncoming sailor.

To initiate the turn swing the sail to windward across the front of the board (B in the figure below). Keep this position until you turn past a dead run (C). The wind will be blowing directly from behind. This is the time to switch your feet so that your front foot becomes your back foot and your back foot becomes your front foot.



To start to head upwind, turn to face the side of the board and bring the sail toward the back of the board (D in the figure above). Note that the sail is still "clew first" (backwards).

When you are on a broad reach on the new tack, flip the sail to the new position (E in the figure above). To flip the sail, first slide your front hand forward on the boom all the way to the mast. Then let go with your back hand and the sail will flip itself. Grasp the boom on the new side step forward to a normal sailing position, and sail off. You might have to move the sail to the back of the board to head up higher.

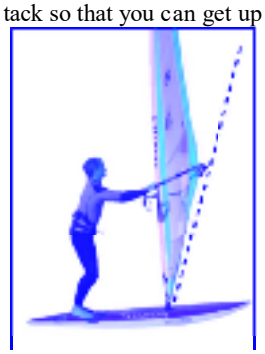
Note that to get the board to turn downwind, you have to move both of your hands back on the boom. But just before you flip the sail for the jibe, you must slide your front hand forward all the way to the mast.

In the sequence shown in the figure on the previous page, you flip the sail after you are well onto the new tack (a broad reach or higher). The only exception to this method is if the wind is very light, your turn will stop when you are pointed directly downwind. If this happens, flip the sail and muscle it onto the correct side and to the back of the board to finish the turn.

You can do several things to make your jibe snappier. First, after you move both feet to the back of the board, put more weight on the windward rail than the leeward rail (note: this works only if the centerboard is down). Second, step further back on the board. I find that most boards have a "sweet spot" way in the back of the board. If I put my weight on this spot, I can turn on a dime. If you're familiar with skateboarding, this is like kick-turning vs leaning to turn. Note that the sequence for handling the sail and switching your feet on this jibe is the same as you will use when you learn a planing step jibe.

8. Sailing Downwind

By downwind sailing, I mean sailing on a "run" with the wind directly behind you. Sailing on a run requires having the sail in a different position than in normal sailing and it takes some concentration. On the plus side, it looks cool, and if your destination is downwind, it will get you there quickly. Of course, before sailing downwind, you must be able to steer and tack so that you can get up wind.



Before taking the downwind sail position, you must be on a broad reach. Now is a good time to reread the Steering step. Do not attempt to turn on to a run directly from a beam reach or higher, it will not work. To go into the run position, first move your hands back on the boom, and swing the sail across the front of your board as you did when you turned downwind (see Steering) or initiating a jibe. If you were successful in turning the board, you will be in the position shown in the figure at right. If you did not turn the board downwind you (1) did not move your hands far enough back on the boom; (2) you did not lean the sail far enough across the front of the board.

In the downwind position (1) the sail is square in front of you at a 90 degree angle to the board, (2) your knees should be bent, (3) your heels are together on the centerline of the board, with your toes pointed out. Make sure that the mast is not leaning forward (dashed line in figure). As the wind gets stronger, move back on the board.

In the downwind position, the board may seem very "tippy," one rail will want to sink and the board then will want to turn in the opposite direction. To avoid sinking one rail or the other, you must be light on your feet. Bend your knees and aggressively press your weight down on the boom. Pressing down on the boom will transfer your weight from your feet to the boom and mast.

To steer while sailing in the downwind position, move the sail to one side of the board, and the board will steer in the direction opposite the side to which the sail is tilted. Tilt the sail to the right, and the board will steer to the left. Try to steer directly downwind by making side-to-side steering corrections with the sail. When you are finished sailing downwind, steer back up to a broad reach, and move one foot forward to resume the normal sailing position.

9. High Wind Sailing

There are a few tricks to sailing in higher winds. The first and most important trick is to do everything you been taught so far, but more so. Follow the instructions for up hauling, startup procedure, and stance exactly. Do not skip any steps. For example, on flat water, it doesn't matter too much if your knees are bent, but in bumpy water if your knees aren't bent when you are starting, you will surely fall. The word in higher wind is think, think, think.

Second, when you do the startup procedure in higher wind, there is a natural tendency for the board to round up and end up pointing upwind. If the board rounds up head-to-wind you will fall. To avoid rounding up, when you do your startup, be sure that you are bringing the mast across the front of the board. This action will help keep the nose of the board from turning upwind. If you are still rounding up when you startup, try the following. Have the front of the board pointing slightly downwind (broad reach) before you start. To point the front of the board slightly downwind from the heave-to position, hold the mast forward (not at right angles to the board).

When you first sheet in, you will feel a strong pull on your arms. When you first feel the pull, resist the temptation to let go of the rig. Lean back and hold on. The force will dissipate as you board starts moving forward. If you must let the sail out, let out with your back hand, or let go with your back hand. **Do not let go with your front hand**.

Lean back with your arms straight. You do not have to hold the force of the sail with the strength of your arms. Rather, your arms should be straight and you should hang your body weight from the boom. If your arms are getting tired, it might be because you are trying to hold the sail with your arms bent at the elbow. Straighten your arms and hang from the boom.

The pull on your arms should be equal. If your front arm is getting tired, but your back arm is not, then move both your hands forward on the boom. If your back are is getting tired, but your front arm is not, move both hands back on the boom.

As you move faster through the water, you will have to move further back on the board to keep the board level. More of the front of the board will come out of the water.

As you gain speed, the centerboard will generate so much lift that you will feel the board rock from side to side. It is as if the centerboard wants to pop out of the water. Now is the time to raise the centerboard. You can move it part way up. If the centerboard still wants to pop out of the water, you can move it all of the way up. On a board with round rails, you want to keep the centerboard

down longer than a board with sharp rails.

It is important to watch the water in front of you to be prepared for gusts and lulls. In particular, when you see a gust of wind approaching, prepare to put your weight on your back foot and lean back.

If you have done all of the above, and the wind is still too strong, there are several additional things you can do. First, get a smaller sail. Second, you can rig your sail flatter by giving it considerably more downhaul and a little more outhaul. Third, heel the sail to windward (lean against it while sheeting out a little) to reduce the area of the sail exposed to the wind, and to use your weight more effectively against the sail force.

Start practicing with a harness. The use of a harness is not covered in this manual, so get someone around the club to give you pointers. Modern windsurfing in high winds (such as Berkeley has in the afternoon) is impossible without a harness. Start practicing with a harness. There are two kinds of harnesses: seat and waist harnesses. For a first timer, a seat harness is recommended because it tends to help you adopt a better body position.

Get used to higher winds in stages. Don't go from an 8 knot day to a 25 knot day. If you get used to higher winds in stages, you will feel more comfortable on the water. Remember however, higher wind requires the tricks that I have listed above. Soon, you too will be hit by the high wind bug: When you hear that the wind is blowing 25 MPH, your heart will race.

10. Free Style

You might ask why should anyone spend time learning free style tricks. There are three reasons: (1) Free style tricks help you get a better feel for your board and rig; (2) Some free style maneuvers become important in later sailing (e.g., water start, sailing clew first, duck jibe); (3) It's fun. Here are some easy tricks to get started.

Sail Clew First. The easiest way to get into this position is to not flip the sail after jibing. A more interesting way is as follows: While sailing on a reach, first move both hands back on the boom. Reach your front hand back across your backhand to the end of the boom. Flip the back of the boom forward and reach over on the other side of the boom. This maneuver will help you learn how to duck jibe.

Sail Downwind Tail First. Come head to wind as if you are tacking. Move in front of the mast and pull the sail perpendicular to the board (in the downwind position). Move out to the bow of the board in the sailing downwind position. The trick is to move far out on the bow of the board so that the skeg is out of the water. This maneuver is great practice that will help you do nonplaning jibes going the other way.

Pirouette. (you spin, the board and sail don't) Sail on a beam reach in light wind. Move the sail across the board in front of the mast base (the same position as when you started up, step 2). There is a position where the sail will almost balance on itself. After you find that position, let go of the boom, pivot on the balls of your feet (spin around 360 degrees), and quickly grab the boom.

Sail 360's. (you and the sail spin, the board doesn't) Begin as in the pirouette by finding the balance point of the sail and then do the following: Swing tip of the mast toward the wind. Step forward of the mast on the leeward side of the mast, pushing the clew in front of you. Continue pushing the clew around and follow it until you have circled the mast. You must be quick!

Helitack. (you spin the sail while the board turns through a come about) Start out as you are doing a normal tack. When the board is pointing directly into the wind, instead of moving in front of the mast, push the clew forward and through the eye of the wind. In other words, you tack, but you stay behind the mast and the sail goes in front of it.

Head Dip. On a beam reach in strong wind, lean way back with your arms straight. Bend your knees as when you do the limbo and dip your head in the water.

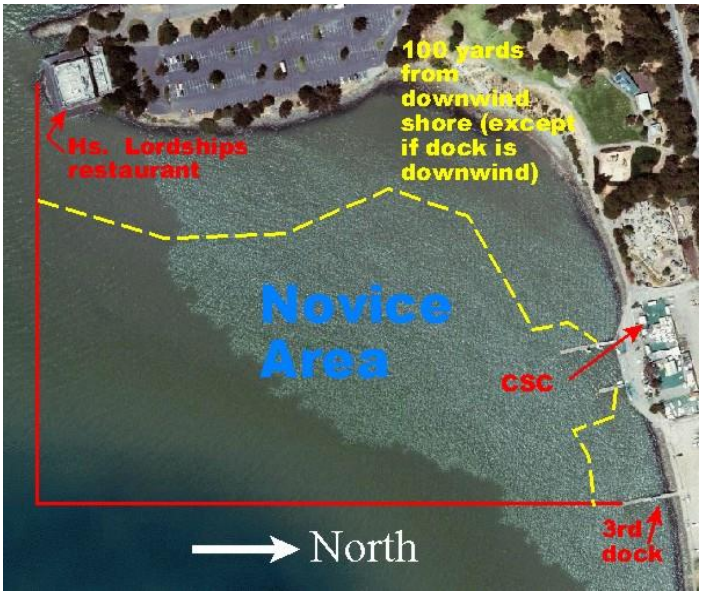
Splits. This trick is one even Robby Naish couldn't do. Stretch out on shore. It helps to have your booms rigged lower than usual. Sail on a beam reach in a light wind and go for it. Rhonda Smith won the world championship many years ago by doing the splits while sailing on a rail.

Rail Ride (Robby's trick). This trick won the most famous windsurfer of all time, Robby Naish, the North American Championship held in Berkeley, when Robby was 14 years old. You flip the board on its side, and sail standing on the edge of the rail!

Appendices

A. Sailing Boundaries.

1. Novice Windsurfing Area



100 yards from any downwind shore (note: usually the shores in the Novice area aren't downwind, they're upwind or sidewind, because the wind is from the west, but in south or east wind there can be downwind shores),
North of Hs Lordships restaurant, and
West of 3rd dock

2. Junior and Junior Plus Area

Within sight of clubhouse, 100 yards from any downwind shore except to dock, north of Ashby Ave, and east of a line from the Emeryville Peninsula to Hs Lordships restaurant.

3. Senior Windsurf Area

North of a line from the southwest corner of the Emeryville Peninsula to the north end of Treasure Island, east of a line from the east end of the Bay Bridge to X buoy, and south of a line from X buoy to the northwest tip of Cesar Chavez Park.

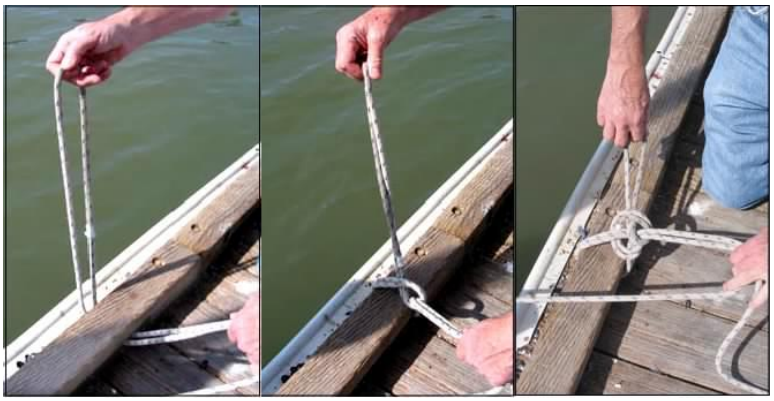
B. 16 Things Novices Should know

1. Under what conditions can Novices go windsurfing.
2. What must you do to become a novice windsurfer at Cal Sailing Club
3. How should your sail be oriented in relation to the wind to carry your sail?
4. When do Novice Windsurfers have to wear a life jacket?
5. How should a rigged sail look as far as the relation between the middle batten and the mast?
6. What is the time limit on use of equipment when there is no other equipment of that type available for other club members to use?
7. If you have trouble windsurfing, and find yourself being drifting out of the Inner Area, past the third dock (the easternmost dock), what is the best thing to try first?
8. When you carry your board to the dock, where's the best place to leave your board while you get your sail?
9. Where is the best place to enter and leave the water when windsurfing?
10. When you are not sailing, where is the best place to leave your sail?
11. In extremely high wind, if nothing else works, what should you do to self-rescue?
12. What windsurfer equipment can novice windsurfers use?
13. If equipment you've signed out breaks, what should you do?
14. When you've finished windsurfing, what should you do?
15. Where are novice windsurfers allowed to sail?
16. What is the minimum work requirement for CSC members?

C. Knots.

Some of the more useful knots for windsurfing are as follows:

Triple half hitch on a bight (loop).

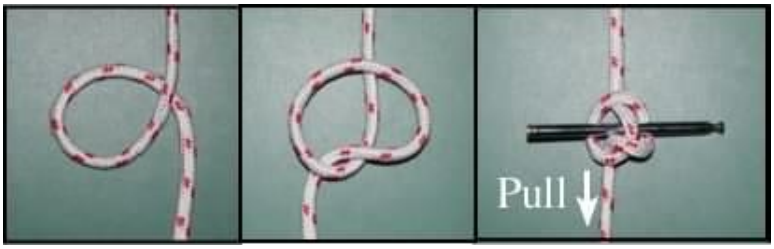


This is not a windsurfing knot at all, but if you are around Cal Sailing Club, it is a knot you need to know. It is the knot used to tie boats to the dock. You will be often called on the help move boats around the dock, and this is the knot you should use

Make a loop (bight) of rope about 2 feet long. Tie one half hitch (middle panel) and then a second half hitch (right panel), and finish up with a third half hitch, just to be super sure.

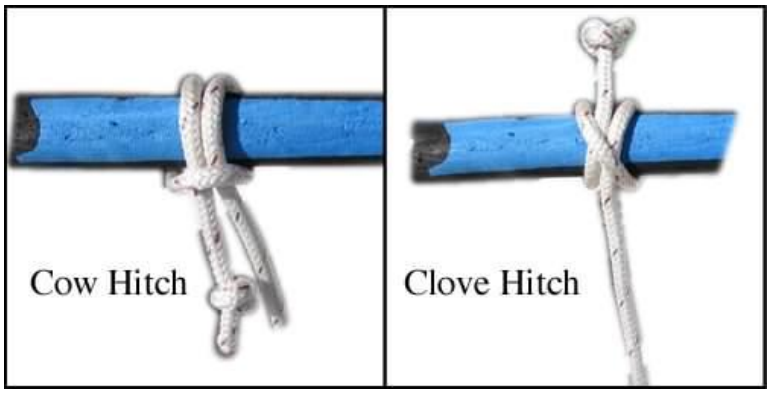
Marlinspike hitch.

This knot is very handy when you rig a windsurfing sail. Use it to tie a stout stick to the downhaul line, with a foot on the mast extension so that you can pull the downhaul with both hands.



Clove hitch and Cow Hitch.

There are two knots that are useful if you just want to use a piece of rope for a harness line. For example, if you can not find a boom with harness lines the length you want, make your own. The clove hitch is more secure, the cow hitch is easier to adjust on the water.



D. Glossary.

Windsurfing is full of terminology. Knowing the terms makes learning to sail easier. For example, if someone frantically yells to you, "fall-off," they do not mean to gracelessly dismount your board. The following terms are used frequently and all windsurfers should know them.

Apparent wind. The wind that the sailor feels which is the combination of the true wind and the wind caused by the sailor's motion.

Battens. Flexible strips or tubes placed in pockets in the sail to help maintain the sail's rigid shape.

Beam. Widest part of a boat. The point half way between the bow (front) and stern (rear) of a sailboard.

Beam reach. Sailing with the wind coming directly over the beam. Sailing between 80 and 100 degrees from the direction of the wind.

Bear off. Same as fall off.

Beat. To sail to windward.

Board Hospital: The building at the North East Corner of the yard, where damaged windsurfing equipment gets repaired. Some senior boards are stored here.

Bow. The front of the board; nose.

Broad Reach. Sailing with the wind just aft of the beam. Sailing between 100 and 135 degrees from the direction of the wind.

Camber. The curved part or pocket of a properly rigged sail. In general, sails rigged with more camber will have more power but less speed than those with less camber.

Camber induced sail. A sail with one or more camber inducers.

Camber inducers. Plastic devices that hold the sail away from the mast so that there is a smooth flow of air across the mast to the sail on both the windward and leeward sides of the sail.

Centerboard. A retractable device in the center of the board that, when down, changes the center of resistance in order to make it easier to sail upwind. The Club's Novice boards have centerboards. The centerboard also steadies the board and makes balancing easier.

Center of Effort (CE). Point at which all of the force of the wind can be thought to be concentrated.

Center of Lateral Resistance (CLR). Point at which all of the force of the water on the board may be thought to be concentrated. On the novice boards, the CR is approximately at the centerboard.

Close-hauled. Sailing as close to the direction that the wind is coming from as possible (approximately 45 degrees from the wind's direction).

Close reach. Sailing with the wind just forward of the beam. Sailing between 45 and 80 degrees from the direction of the wind.

Come about. Same as tack (2).

Downhaul. 1. Line that is used to put tension on the sail in the direction parallel to the mast. 2. To tighten the downhaul.

Draft. The deepest part of the sail.

Eye of the wind. Direction from which the wind is blowing.

Fall off. To change direction so as to point further away from where the wind is coming from. To turn downwind. (This does **not** mean to jump off your board.)

Fin. A small fluke or appendage in the water at the stern of the board that provides the lateral force required to keep the board going straight.

Jibe. Same as jibe.

Head up. To change direction so as to point closer to where the wind is coming from.

Jibe. To change tack (so that the sail is flown on the opposite side of the board) by *turning away from the wind*.*Leeward.* Direction opposite from which the wind is coming.

Outhaul. 1. Line that is used to attach the sail to the end of the boom. Used to put tension on the sail in the direction perpendicular to the mast during the rigging process. 2. To tighten the outhaul.

Port. The left side of the board as you are facing forward.

Port Tack. Sailing a course such that the wind is coming from the port side of the board. In the normal sailing stance, the left hand will be in front on a port tack.

Rig. 1. The process of mounting the sail on the mast and boom and preparing it to sail. 2. A fully rigged sail, mast and boom combination.

Rotating Asymmetrical Foil (RAF) sails. Sails without camber inducers. On these sails the batten tucks part way behind the mast so that there is a smooth airflow on the leeward side of the sail.

Running. Sailing directly downwind.

Sheet in. Rotate the back of the sail towards the wind by pulling in with the back hand.

Sheet out. Rotate the back of the sail away from the wind. The opposite of sheet in.

Sinker. A sailboard that doesn't have the buoyancy to support a sailor of average weight. Some of the Club's Senior boards are sinkers.

Skeg. Same as fin.

Starboard. The right side of the board as you are facing forward.

Starboard Tack. Sailing a course such that the wind is coming from the starboard side of the board. In the normal sailing stance, the right hand will be in front on a starboard tack.

Stern. The back of the board; tail.

Tack. 1. Direction with which you are sailing relative to the wind (either port or starboard). 2. To change tack (so that the sail is flown in the opposite side of the board) by *turning toward the wind*.

Universal. The joint that connects the mast to the board.

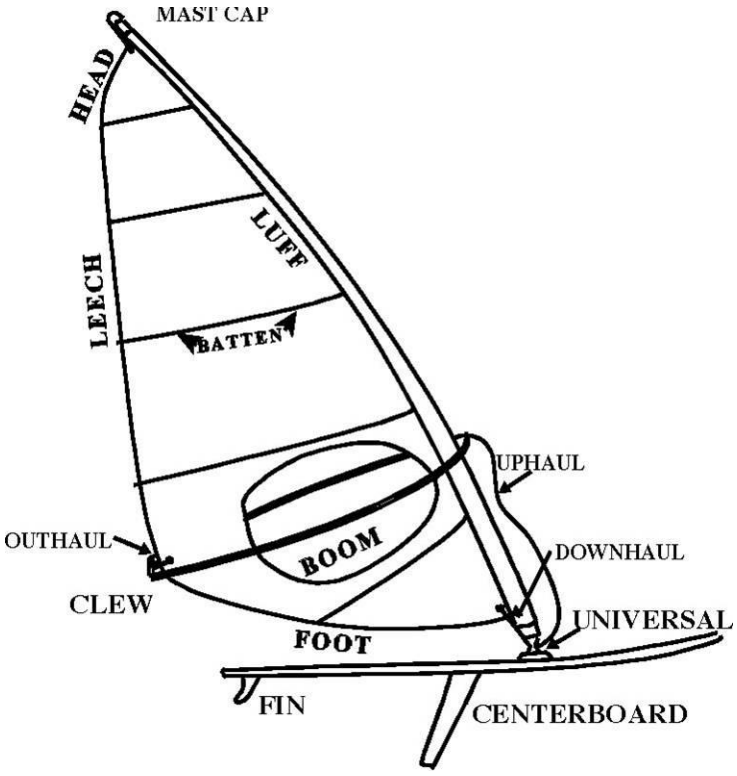
Uphaul. 1. Pull the sail out of the water using the uphaul. 2. The line that is used to pull the sail out of the water.

Water-Start. An advanced method of getting the sail and yourself out of the water by using the wind to pull the sail up.

Windsurfing Trailer (Locker). Metal container in which most of the windsurfing sails, masts, booms, Junior Plus and some of the Senior boards are kept. It is located on the southeast corner of the CSC yard.

Windward. Direction from which the wind is coming.

F. Parts of the Rig.



E. Revision History

(Partial list)
November 1982: Paul Kamen and Gordon Stout
Spring 1994: Bill Prinzmetal and Tony Phillips
Spring 1997: Bill Moseley, Peter Kuhn, and Bill Prinzmetal.
Spring, 2007, Bill Prinzmetal, photos by Rob Weinberg
Spring, 2009 Bill Pinzmetal; Peter Kuhn, Rob Miller (minor edits)
January 2019: Stella changes to club since 2009