

Santa Barbara Sea Shell Association
P. O. Box 3075
Santa Barbara, California 93130

SANTA BARBARA SEA SHELL ASSOCIATION BEGINNING SAILING NOTES

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BRIEF HISTORY

In 1948 Mr. Ray Kieding was trying to find a small sailboat for his boys which could be adapted to the Santa Barbara Harbor. They investigated a number of designs and finally had two Sea Shells shipped here in kit form from the Haggerty Company, Choasset, Mass. These first two Sea Shells cost \$95 for each complete kit. Mr. Kieding numbered them 51 and 52. Within a year there were close to a dozen boats, and competition began. The Sea Shell is a nationally recognized class of sailing pram, with fleets in various parts of the country. At one time the Santa Barbara Sea Shell Association (SBSSA) boasted one of the largest Sea Shell fleets in the United States.

The "John C. Grim" and "Sea Shell" perpetual trophies were awarded for the first time in 1950. The first races of record occurred in 1951. The initial Seamanship Contest was conducted on the 8th of September, 1951.

Membership in the organization has ranged from 15 to over 100 skippers. Originally the sailing members were mixed ages, with the older skippers in the majority. In the years 1957 through 1960, these skippers were for the most part between the ages of eleven and sixteen. Beginning in 1961, there was an increase of younger skippers joining the fleet. Interest and participation among the parents has also been on the increase.

Around 1967, interest in out-of-town racing brought Sea Shell visits to Channel Island Harbor, the Ventura Harbor and then Westlake. In 1972 Sea Shells settled on its current format, with a one day trip to Ventura or Westlake, a Mission Bay Regatta and a campout at Lake Lopez. These have provided skippers and parents alike with an exciting change of scenery.

The wooden Sea Shells were typically built by a few local craftsmen. In 1990, following the death of long-time builder-craftsman Charlie Eldridge, the Association searched for a commercially available sailboat, similar to the Sea Shell, that could assure the availability of boats for the youth sailing program. In 1991 the Association selected the US Sabot as an additional one-design class racer to be raced by Sea Shell skippers.

YOUR DUTIES AS A MEMBER

1. To display good sportsmanship to others, whether as a winner or a loser.
2. To attempt to fully understand the basic rules of sailing, in order to become a better sailor.
3. To have your boat rigged and ready to start promptly at 1:00 p.m. unless otherwise notified, and to have a parent or guardian on the beach to assist.
4. To register with the race secretary for each day of racing and have your boat equipped with a bailer, sponge, life jacket, whistle, paddle and a painter of at least 6 feet.
5. To participate in the sailing program and attend all of the general meetings.
6. To train or assist a novice sailor before being assigned class "A" skipper rank.
7. To aid and promote the objectives of your association by explaining them to others and encouraging prospective members to join.

(Please feel free to invite your friends who are interested in sailing to be your guest at any general meeting, or to observe the sailing on race days.)

INTRODUCTION

The small craft sailing program conducted by the Santa Barbara Sea Shell Association, Inc. (SBSSA) is intended to provide an opportunity for individuals to become acquainted with the safe and enjoyable handling of small boats. The following notes are intended to aid in the water-work part of the training. The following books are recommended for concurrent reading:

1. American Red Cross Sailing Book
2. USYRU Rule Book (current)

Few, if any, recreational activities contribute more to the character development of its participants than does sailing. Sailing is an activity through which a sailor can combine his knowledge and skill to successfully harness the forces of nature to his advantage for fun and recreation. Combining these skills with the excitement of competitive racing further increases this enjoyment value while fostering the spirit of sportsmanship, patience, thoroughness, and attention to detail.

The SBSSA provides in addition to this training, an ambitious program of races held both in the Santa Barbara harbor and in several out-of-town series. Racing is the best way for a beginner to measure how well he is learning to sail. Trophies for races, and for overall season performance are provided by the SBSSA as incentives for skipper improvements at any level of development. Trophies for adult races also are provided as an incentive for parent participation. The association is organized and conducted as a family oriented activity -- not a "babysitting" service!

Since 1951 the SBSSA has been active in introducing youngsters to sailing. Many skippers have since advanced to larger, more complex, sailing craft such as the Laser, C-13, Corondo 15, Star, various Catamarans, etc. Because of their early experience in racing the Sea Shell and Sabot dinghies these skippers have been consistently successful in subsequent competition.

The notes contained here are only a start toward a complete knowledge of the sailing lore. The many facets of knowledge required to properly handle a sailing vessel are broken down into small segments or lessons to allow easy step-by-step learning. You are asked to study each lesson carefully in order that you may gain the most from class time.

Trainees are divided into four separate groups in accordance with the four sailing classes of the SBSSA.

Beginners	or	Novice
Intermediate I	or	"C" Class
Intermediate II	or	"B" Class
Advanced	or	"A" Class

Beginners will be taught boat handling and basic racing rules. Intermediate skippers will concentrate on racing rules and tactics. Advanced skippers will be exposed to improved "tuning", tactics, and will help with the training of beginners.

The classes will consist of three phases, each phase being important to the other. These phases are:

1. Classroom
 - a. Vocabulary
 - b. Theory
 - c. Explanation

2. Water Work
 - a. Demonstration
 - b. Active Practice
 - c. Discussion of Work
 - d. Seamanship Requirements

3. Marlinespike Seamanship
 - a. Knowledge of lines and their uses
 - b. Tying of simple knots, bends and hitches

You will find that Water Work and Marlinespike Seamanship will be going on concurrently with all other phases of the class.

So with the preliminary over, let's shove off for a new and wonderful world – SAILING.

TERMINOLOGY

Sailing is a sport with its own language, that has evolved for hundreds of years. Learning the language is part of being "salty" as well as being necessary to communicate the correct meaning of the things you do and handle. Rote memorizing is uninteresting and unnecessary. However, as terms are introduced, an effort should be made to use them in the work you are doing so that they become second nature to you.

The following diagrams are included to help in understanding the terms that will be used the first day. The drawings show a typical Sea Shell and Sabot, the types of boat which are used by the SBSSA, with numerical reference to their component parts. Sea Shells and Sabots are "cat" rigged boats, that is, they have a single "marconi rigged" sail.

It is convenient in this early stage of learning to list sets of new terms in groups related to one another and to a certain major part of the boat. In this way it will be easier to learn the new vocabulary in smaller "doses." Looking at the following diagram and terminology sheet, it becomes apparent that logical groups can be established as follows:

- A. Hull
- B. Sails
- C. Standing Rigging
- D. Running Rigging
- E. Hardware
- F. Spars
- G. General Equipment
- H. Equipment Required by the SBSSA

SEA SHELL TERMINOLOGY

HULL

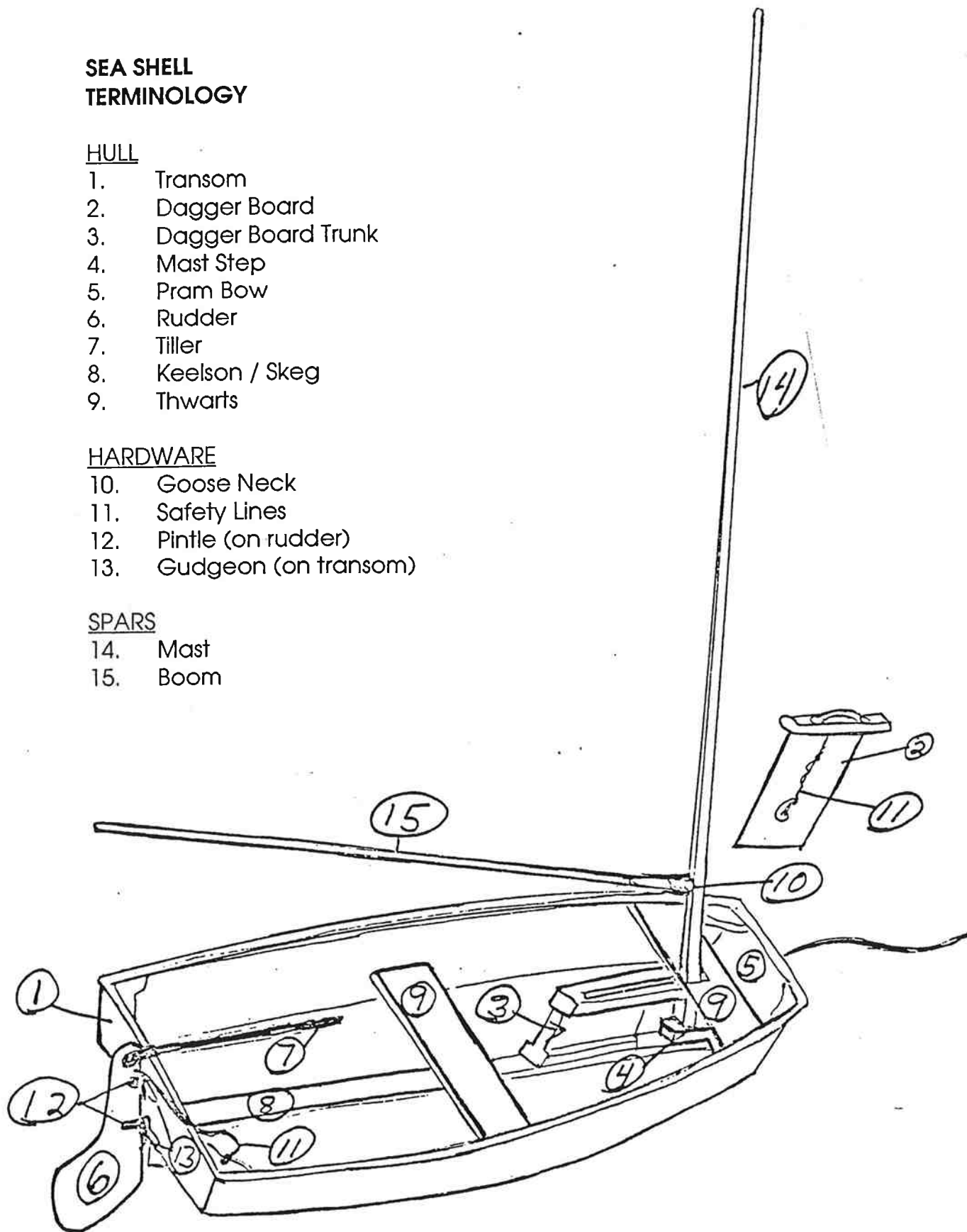
1. Transom
2. Dagger Board
3. Dagger Board Trunk
4. Mast Step
5. Pram Bow
6. Rudder
7. Tiller
8. Keelson / Skeg
9. Thwarts

HARDWARE

10. Goose Neck
11. Safety Lines
12. Pintle (on rudder)
13. Gudgeon (on transom)

SPARS

14. Mast
15. Boom



**SEA SHELL
TERMINOLOGY**

SBSSA RACING CLASS FLAGS:

- "C" Blue
- "B" Yellow
- "A" Red

SAIL

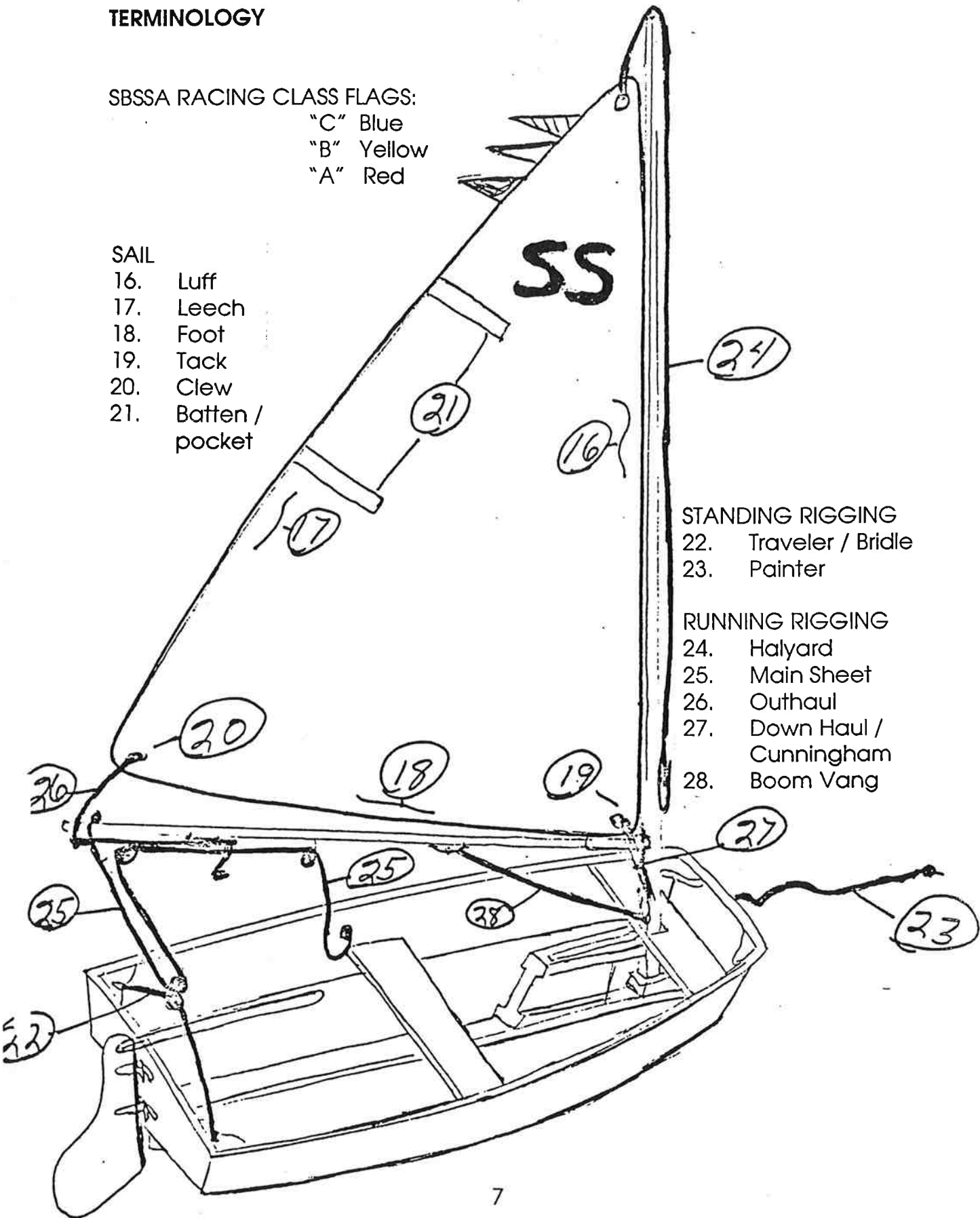
- 16. Luff
- 17. Leech
- 18. Foot
- 19. Tack
- 20. Clew
- 21. Batten / pocket

STANDING RIGGING

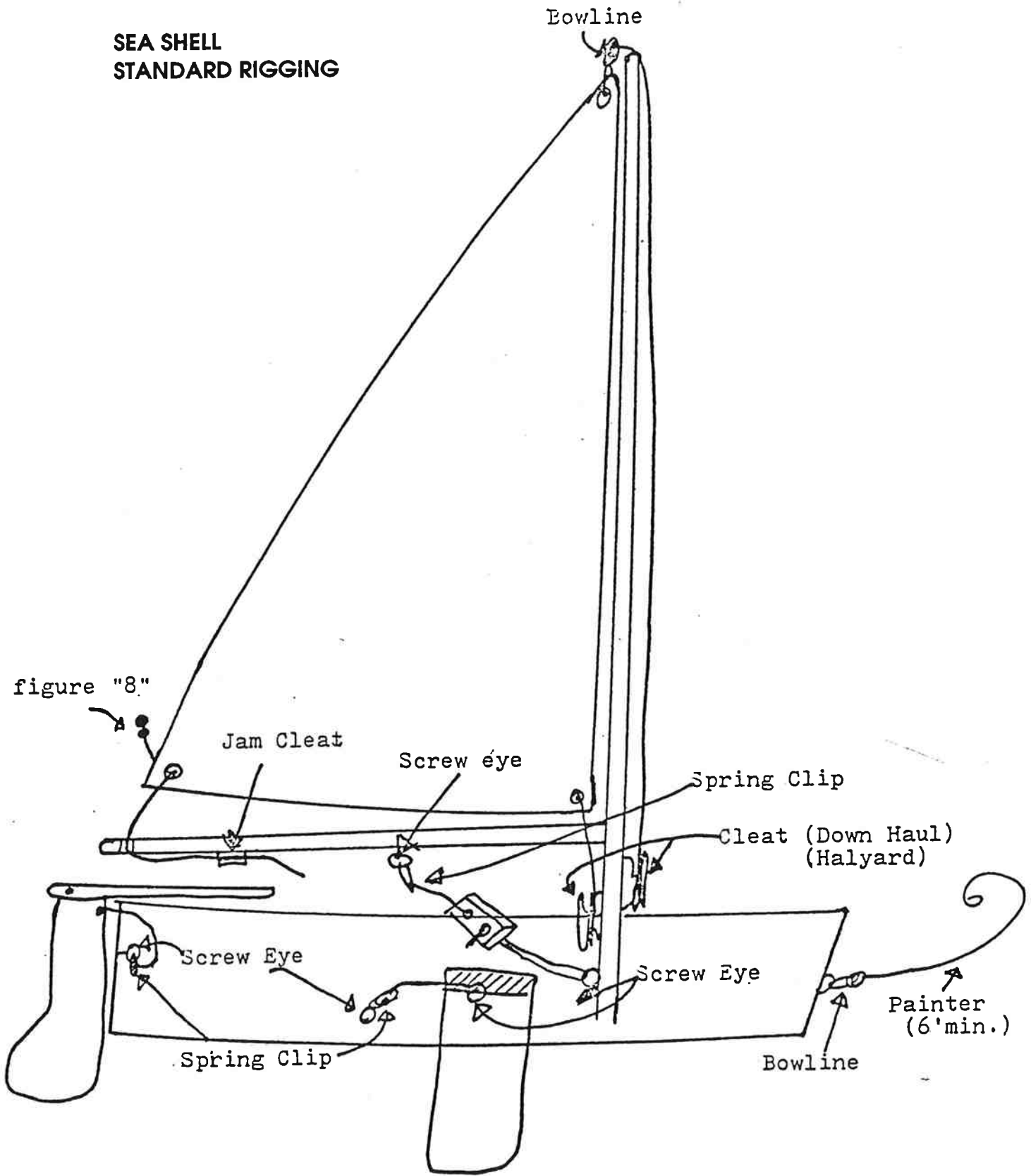
- 22. Traveler / Bridle
- 23. Painter

RUNNING RIGGING

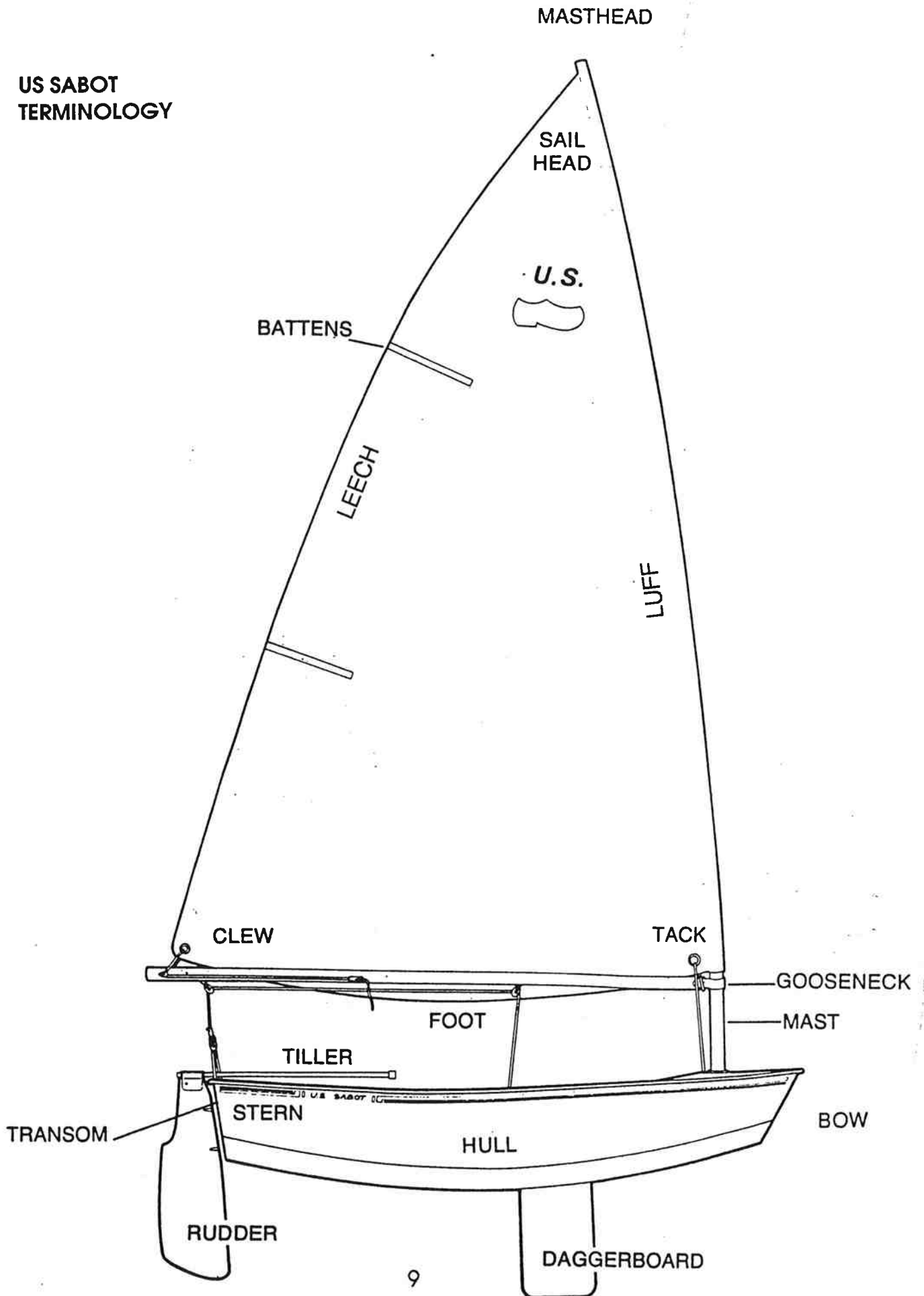
- 24. Halyard
- 25. Main Sheet
- 26. Outhaul
- 27. Down Haul / Cunningham
- 28. Boom Vang



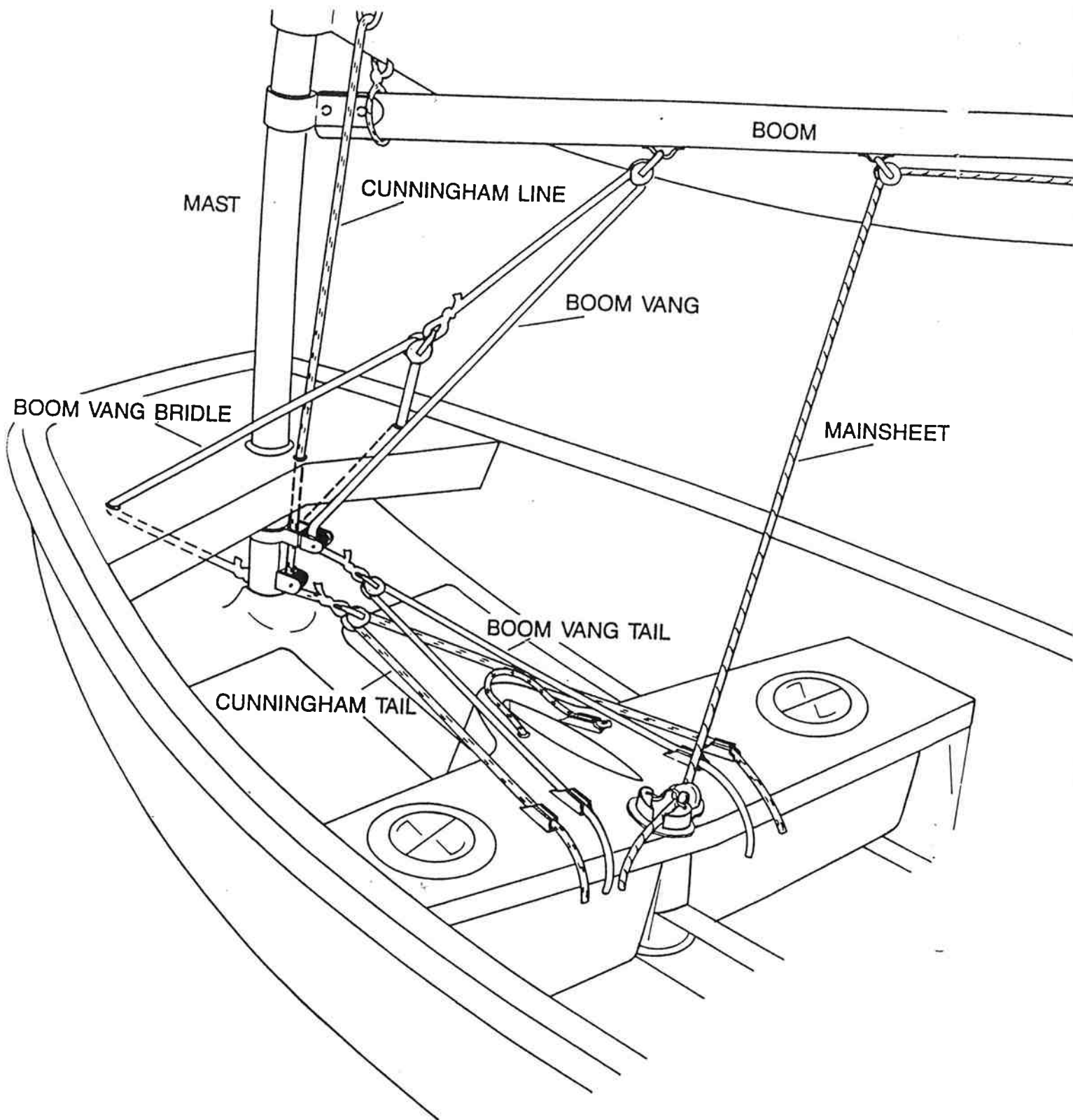
SEA SHELL
STANDARD RIGGING



**US SABOT
TERMINOLOGY**

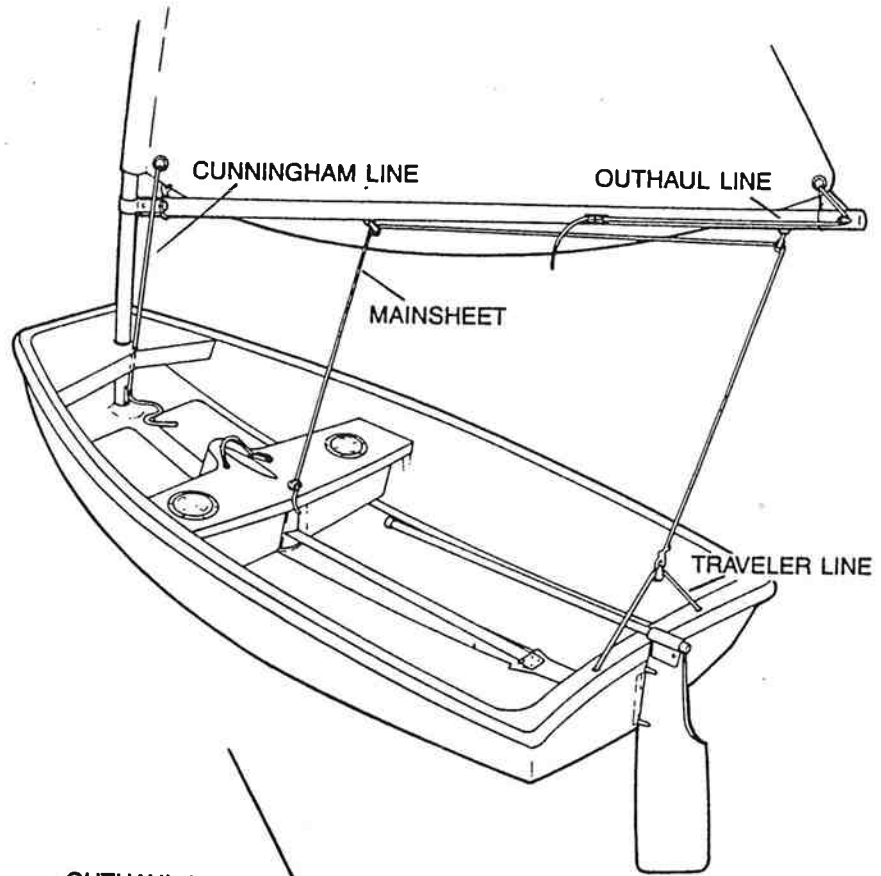


US SABOT RIGGING

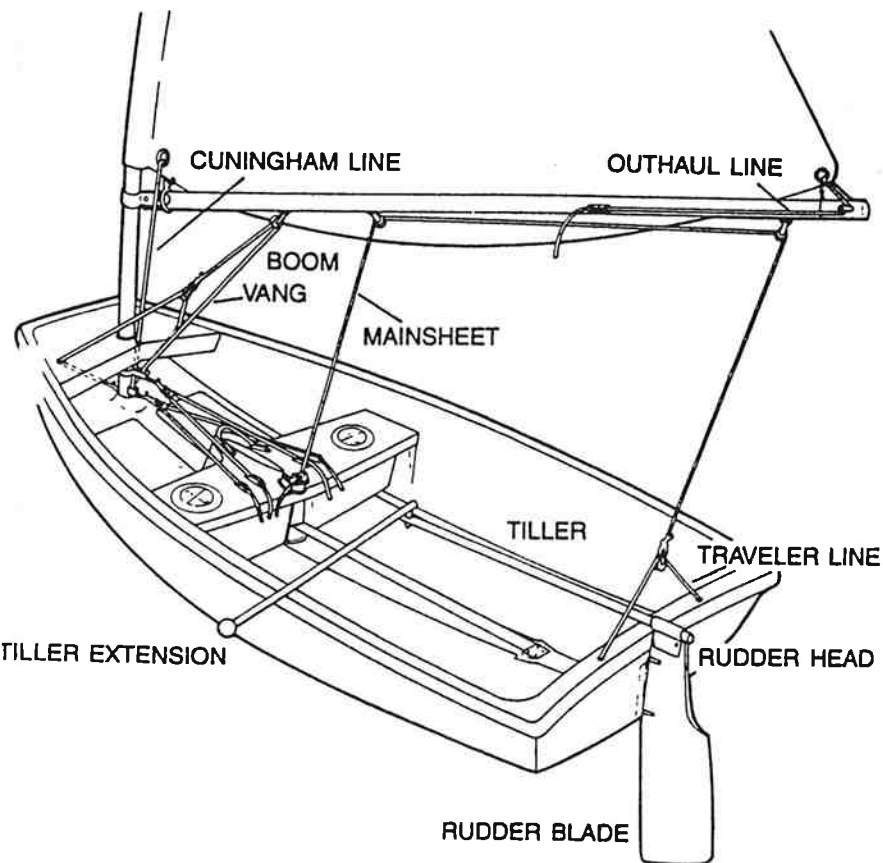


US SABOT

STANDARD RIGGING



RACING RIGGING

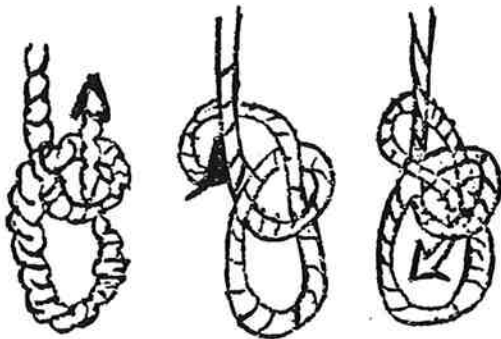


REQUIRED KNOTS



FIGURE EIGHT

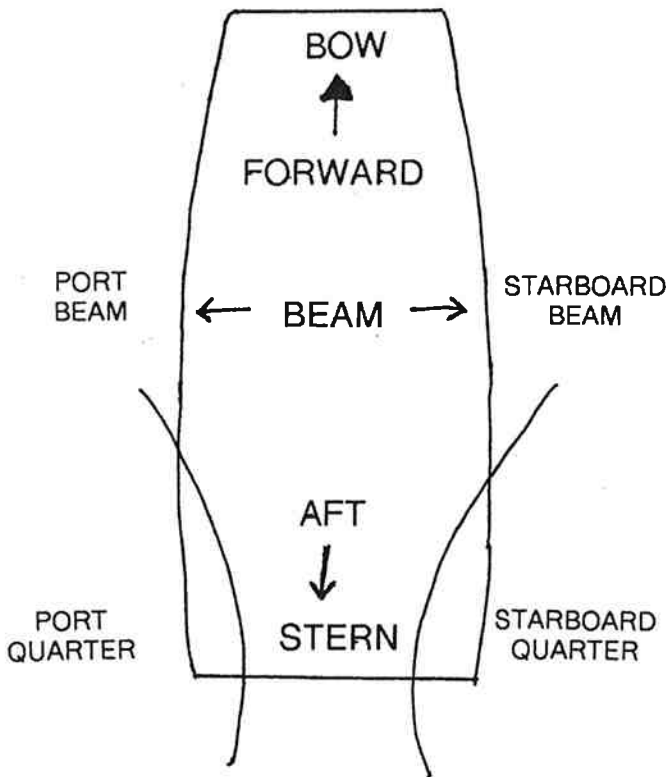
CLEAT



BOWLINE

TERMS OF DIRECTION OR POSITION IN SMALL BOAT HANDLING

Terms which do not change



- Tack: Course boat is taking
- To Tack: The act of passing bow through the wind from one tack to the other
- Gybe: Passing stern through the wind from one tack to the other
- In Irons: Boat dead in water, bow into the wind and sail luffing
- Starboard Tack: Wind blowing over the starboard side into the sail with boom to port
- Port Tack: Wind blowing over the port side into the sail with boom to starboard
- Luffing: Sail flapping free in the wind

Changeable Terms

- Leeward: Side away from the wind (pronounced Loo ard), also known as the lowside
- Windward: Side against which the wind is blowing, also known as "to weather", weather side or high side

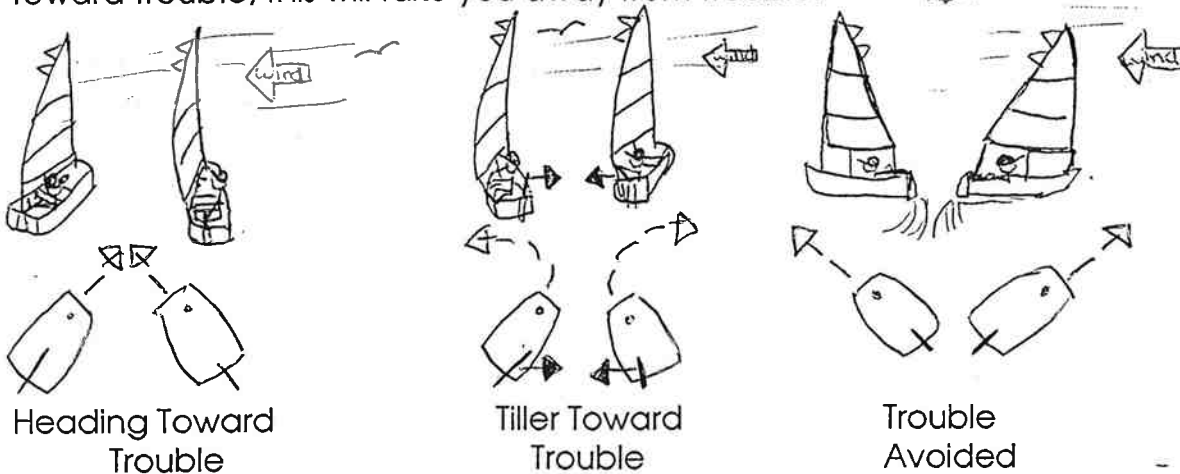
TILLER TALK

The tiller is the direction control for your boat and its operation is important to understand. Many of the terms used in controlling or steering a boat refer to the tiller movements in relationship to the wind direction.

Some basic points to remember:

- Unless there is water passing by the rudder (boat must be moving to have this), there is no resulting action from the movement of the tiller. ALWAYS KEEP YOUR BOAT MOVING.
- Quick movement of the tiller when moving slowly only has the effect of slowing you down.
- A tiller much over 45° off center line of the boat will act more as a brake than a turning force.
- Putting tiller toward boom while underway will bring your bow to the wind.
- Pulling tiller away from the boom while underway will move your bow away from the wind.

TILLER TOWARD TROUBLE: Point the end of the tiller which is in your hand toward trouble, this will take you away from trouble.



ALWAYS FACE YOUR BOOM!

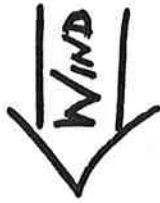
“IN IRONS”

Sailing theory will be discussed briefly in a later lesson, but one basic point about making your boat go must be learned now before you try sailing. You **CANNOT SAIL INTO THE WIND**. This seems like a simple idea but beginners almost always try to do it. Whether you accidentally point too high into the wind, or fail to tack quickly enough to pass your bow through the wind, you will end up “in irons.” In this condition the sail will not be full, there will be no force to make the boat move, and you will just sit there. Because the water will not be moving past your rudder, moving the tiller will do nothing, and you’ll continue to sit there.

The best way to get out of irons and get moving quickly is to PUSH YOUR BOOM AND TILLER AWAY FROM YOU!! Remember you should always be sitting with your back to one side (usually the high or windward side) of the boat and facing the boom.

Now the wind will fill the sail a little bit, the boat will start to move BACKWARDS, water pressure on the rudder will swing the stern toward your side and the sail will fill. STRAIGHTEN THE TILLER! and you’ll be away, out of irons.

Later when you get more experience, try to sail your boat backward in this manner: Just point the boat directly into the wind in irons, push the boom to one side, keep the tiller centered, then try to keep the boat going backward (tiller works reversed also). You’ll find at first that it’s hard to do, and the boat will get out of irons and begin moving forward even when you don’t want to. **PRACTICE GETTING OUT OF IRONS.**



"IN IRONS"

- a) Boat headed into wind
- b) No motion
- c) No control
- d) Dead in water
- e) Drift backward

PUSH BOOM AND TILLER AWAY FROM YOU

- a) Boat will back-up
- b) Water flow will turn boat

WAIT

- a) Tighten sheet and pull tiller towards you
- b) Control tiller for proper course

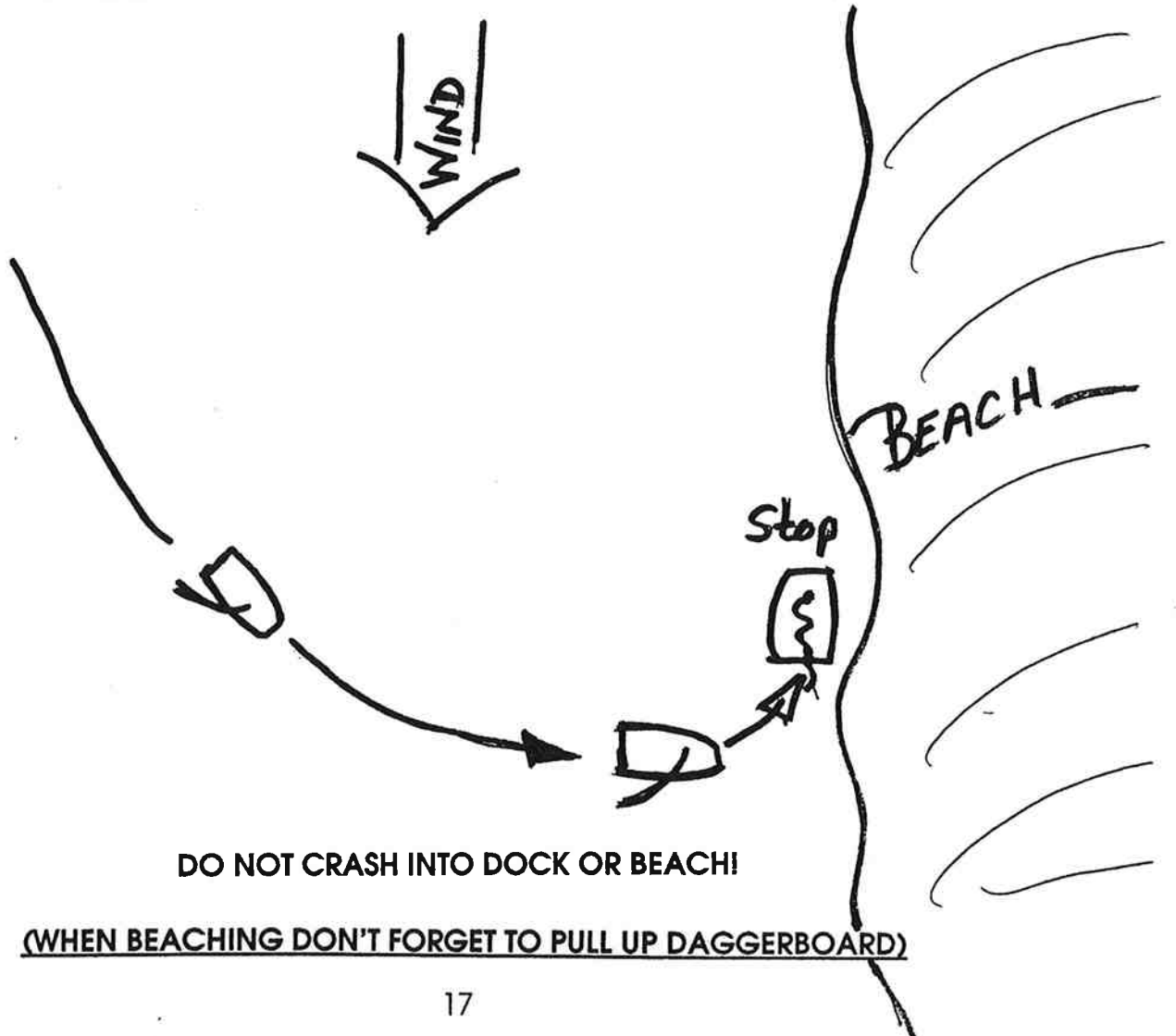
"OUT OF IRONS"

DOCKING AND BEACHING

(Use of "In Irons")



ALWAYS "HEAD-UP" - "INTO IRONS" TO STOP YOUR BOAT!



DO NOT CRASH INTO DOCK OR BEACH!

(WHEN BEACHING DON'T FORGET TO PULL UP DAGGERBOARD)

BASIC TERMS AND COMMANDS

The following terms should be learned very carefully. These are the basic terms that will be used by the instructor from the shore while you are sailing. Above all, do not get excited -- think -- then act. It is better to do things slowly with thought. Basically all terms have to do with the course you "make." The trim of the sail and the tiller action are related to the point from which the wind is blowing.

The commands given which do not change the side the winds will blow in the sail are (i.e., do not cause "tack" or "gybe"):

1. **Course**
 - A. "Point Up" or "Head Up" - move the tiller toward the sail. The bow will point high to the wind.
 - B. "Fall Off" or "Bear Away" - pull the tiller towards you (if you are facing the boom) and the bow will fall away from the point the wind is blowing.
2. **Sail Trim**
 - A. "Take in (or Pull in) Your Sheet" - pull in on the main sheet to haul the boom in closer over the boat.
 - B. "Ease Off your Sheet" - allow the sheet to pay out, letting the boom move away from the boat.
 - C. "Let the Sheets Fly" - allow the sheet to run out rapidly. When in doubt about safety, etc. let go of everything.
3. **Safety Commands**
 - A. "Let Go" - release sheet and tiller; will be used to avoid collision or capsize.
 - B. "Stay With Your Boat" - in the event of a capsize always stay with you boat even if the command is not given. SAFETY BOAT WILL BE THERE SOON!
4. **Tiller Action (Always have a light but controlled grip on the Tiller)**
 - A. "Put Tiller Down" - move tiller toward sail. If heeled over, the tiller would actually be put down.
 - B. "Bring Tiller Up" - pull tiller toward you.

In general, if you encounter trouble, always put your tiller over toward the object causing you trouble. **"Tiller Toward Trouble"** and **"Let Sheets Fly."**

Never put the tiller over too far -- it can act as a break and stop you dead in the water.

PREPARATION FOR SAILING

BEFORE ENTERING CRAFT

I. *General*

- a) Never get into boat when it is not in the water; damage will result. Always allow water to support hull before entering craft.
- b) Watch the paint; do not set directly on concrete launch ramp or drag on sand.
- c) Do not slide on Keelson in sand - lift bow to slide on Skeg only.

II. *Spar Preparation*

- a) On Sea Shell, set halyard through loop in top of mast before setting mast in step.
- b) Check blocks (pulleys) to assure they will run free.

III. *Hull (Sea Shell)*

- a) Set mast in step
- b) Secure mast at upper thwart
- c) Attach boom / goose neck or yoke to mast
- d) Attach sail head to halyard using bowline knot
- e) Raise sail, attaching slides one at a time to the track, and secure halyard to cleat with a cleat hitch
- f) Secure out-haul to sail clew using a figure eight knot, then pass through hole in end of boom and secure in jam cleat
- g) Tighten down-haul and secure to cleat with cleat hitch
- h) Tie end of boom vang to mast using a bowline knot, secure other end to boom with a spring clip, and tighten boom vang according to wind conditions
- i) Rig main sheet: Secure to end of boom by passing through hole in end of boom with figure eight knot as in f) above; then through pulley on traveler, then through two pulleys on boom, down through the eye on the center thwart. Tie another figure eight.
- j) Set dagger board in trunk (at an angle ready for dropping down) and secure safety line with a spring clip.
- k) Set rudder in boat with tiller under traveler ready to install and secure safety line with a spring clip

Hull - Sabot

- a) Slide sail onto mast
- b) Set mast in step
- c) Attach boom to mast
- d) Secure outhaul to sail clew
- e) Secure downhaul and boom vang
- f) Rig main sheet through boom down to traveler, back to boom and down to center thwart.. Pass through block, tie a figure eight knot to secure.
- g) Set dagger board in trunk (at an angle ready for dropping down)
- h) Set rudder in boat with tiller under traveler ready to install

IV. Check Equipment

- a) Painter (6 feet)
- b) Bailer
- c) Sponge
- d) Paddle
- e) Life Jacket with Whistle
- f) Lines untangled
- g) Sea Shell rudder and dagger board safety lines clipped (if boat capsizes they will sink unless tied on)

V. Put Hull in Water

- a) Put stern in first; do not drag on sand and rocks
- b) Face into wind, move to deep enough water to install rudder
- c) Install rudder
 - Slide upper pintle into gudgeon
 - Lift rudder slightly to clear lower gudgeon
 - Guide lower pintle into lower gudgeon
 - Drop rudder down assuring both pintle / gudgeons are mating properly

ENTERING THE CRAFT

Now with a basic idea of terminology and with the boat in the water, we are ready to set foot into a Sea Shell.

There is a right way and a "wet way" of entering a boat. First however, re-check your safety equipment and assure that it is properly stored such that the keelson is clear! Point boat into the wind, and be sure of your balance either on a dock or in the water on the windward side of the boat. Face the boat and place one foot on the keelson while

maintaining your balance, "push off" with the other foot. Shift your weight onto keelson and kneel, and you are ready to begin set-up. Note that when your weight was all on one foot (one point load on boat bottom) you should have been standing on the keelson. This is important to remember; your Sea Shell bottom is 1/4" plywood and will develop exterior cracks along the grain if feet, knees, elbows or other sharp areas are supporting your weight inside the boat. Always distribute your weight on your thighs, legs or other areas.

SET UP

- a) Drop dagger board
- b) Head in proper direction, and adjust main sheet accordingly
- c) Re-check for tangled lines
- d) To make any necessary major adjustment or correction, head into wind (i.e., irons) and proceed to treat the problem
- e) You are now underway
 - Sit on the windward (high) side
 - Face the boom
 - Constantly watch wind direction and other boats

MARLINSPIKE SEAMANSHIP REVIEW

CLEATING A LINE

On Sea Shells we cleat the halyard and downhaul. This will also be used to secure your painter to a dock, etc. A jam cleat is used to secure the outhaul on a Sea Shell.

KNOTS

The figure eight knot is used to create a knot which will not pull through the holes in the boom where your outhaul and mainsheet pass through. The figure eight knot is easy to cast off (untie) when the line is wet.

The bowline will be used to attach the sail head to the Sea Shell halyard, painter to the bow, boom vang to the mast and for other general purpose attachments

SPRING CLIPS

Unnecessary knots, tangled lines, etc. make it difficult to rescue your boat when it is capsized - damage may result. Spring clips are used on safety lines for rudder and dagger board, boom vang and other added rigging.

FOLDING AND CARE OF YOUR SAIL FOR STORAGE

Your sail is your boat's "motor." For best performance, the sail must be maintained in good condition at all times. In the care of your sails, the following procedures should be followed:

Dry Sail Roll

- a) On a clean dry area, lay out sail
- b) Roll from foot to head
- c) Fold or roll again beginning from leach to luff

Alternate Sail Fold

- a) On a clean dry area, lay out sail
- b) Fold accordion fashion beginning from foot to head
- c) Roll or fold leach to luff

A Sail Which Has Been Wet

- a) Wash off with clear water
- b) Hang to dry
- c) Roll or fold as in 1 or 2

Sail Storage

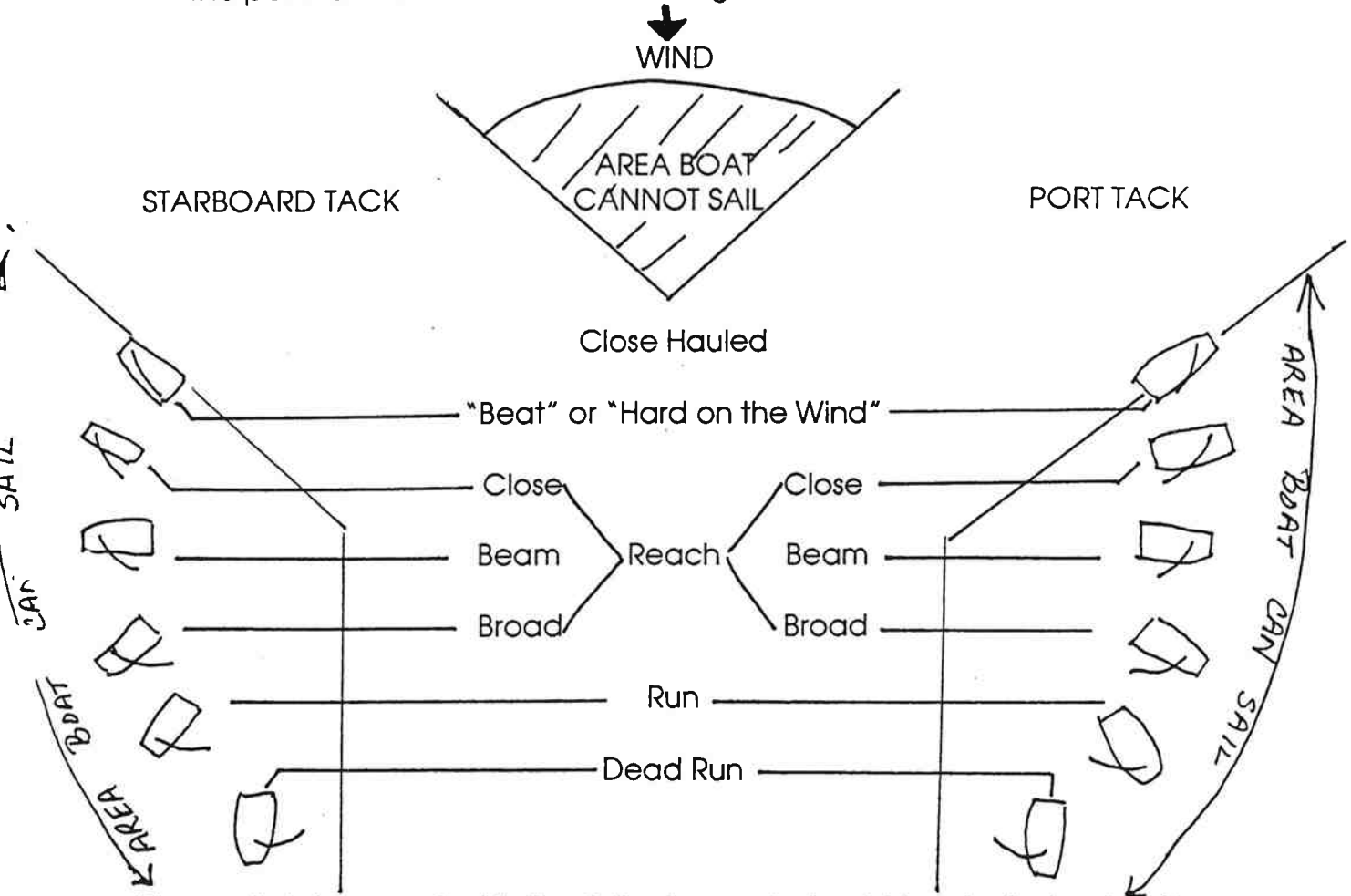
Storage of your sail is very important. The following rules should be observed any time you put the sails away whether they are to be stored for a short or long period of time.

- a) Be sure the sail is DRY to avoid mildew, rot, etc.
- b) Whether sail is rolled or folded, be sure that sail is LOOSE and material is not bunched, creased or unduly wrinkled. This will prevent the formation of permanent creases in the material (spoils air flow) where the fibers will break, thereby allowing the sail to tear
- c) Place loosely folded sail into a bag, keep dry and clean
- d) Store in protected place, do not place other articles on top of sail bag. This could compact the folded sail and cause damage.

SUMMARY OF BASICS

The materials presented thus far are very basic, but enough for the beginner to grasp. Let us rid ourselves of two concepts.

- The wind does not push the boat through the water except when you are running before the wind.
- A boat cannot go directly into the wind. This closest it can come to the point of the wind is on the average of 45°.



The materials presented in the following parts should be studied only after the BASICS are fully understood. Review the previous pages until you are satisfied that you know how to operate and care for your boat. Then proceed with the following notes and referenced material, to improve your knowledge and sailing skills; through the learning of rules, racing tactics, and methods of tuning your boat for best performances.

RULES WHEN BOATS MEET

These are simplified summaries of the basic rules that apply when two boats are about to meet. For a detailed description of these rules and others that are discussed later, you should refer to the current edition of "The Racing Rules Of Sailing" as adopted by ISAF and US Sailing.

Right of Way - When one boat has the "right of way," that means the other boat is required to "keep clear;" or stay out of the way of the right of way boat. Any contact or near collision that would require the right of way boat to alter course in order to avoid collision would require the non-right of way boat to take a penalty.

1. Starboard tack boats have right of way over port tack boats.

Starboard tack means mainsail on the port side of the boat and wind is coming over the starboard side.

2. Leeward boats have right of way over windward boats.

This rule applies only to boats that are on the same tack and overlapped.

3. Overtaking boats keep clear.

When boats are on the same tack and not overlapped, a boat clear astern shall keep clear of a boat clear ahead.

4. Tacking boats keep clear of all others.

Between the time a tacking boat passes head-to-wind and the time it gets into its new close-hauled course, it must keep clear of all other boats on either tack.

GENERAL LIMITATIONS - These are limitations to the right of way rules.

1. Try to avoid contact.

A right of way boat can be penalized if there is contact that causes damage. Don't think you can just plow into someone because you have right of way.

2. **When you acquire right of way, you must initially give other boats room to keep clear.**

The exception to this is if you acquired right of way because of the other boat's actions.

3. **When a right of way boat changes course, it must give other boats room to keep clear.**

You can't make sudden course changes when you are sailing close to another boat even if you have right of way.

4. **A boat that establishes a leeward overlap from clear astern can not sail above its proper course.**

No luffing above proper course in this situation.

5. **A windward boat can't sail below its proper course when there is a leeward boat present or a clear astern boat sailing to leeward.**

This rule does not apply on a beat to windward.

MARKS AND OBSTRUCTIONS - Limitations to the right of way rules at marks and obstructions.

1. **Room must be given to boats overlapping on the inside when passing a mark or obstruction.**

The boat claiming the overlap must either tack into it or establish the overlap by the time the nearer boat is within two boat lengths of the mark. For windward marks it's same tack only. For leeward marks the rule applies whether boats are on port or starboard tack. This rule does not apply at a starting mark.

2. **Inside boats must be given room to tack at an obstruction.**

Obstructions include other boats with right of way and anything else large enough to require that you alter course significantly in order to pass safely. A boat that must tack to clear an obstruction can hail for room to do so. The obstruction rights rule applies whether or not the boats are on the same tack -- and temporarily outweighs the starboard tack rule.

SPORTSMANSHIP AND THE RULES

This statement of principle is located in rule book just before Part I (Fundamental Rules) and is given a status above all the rules in the sport:

“Competitors in the sport of sailing are governed by a body of rules that they are expected to follow and enforce. A fundamental principle of sportsmanship is that when competitors break a rule, they will promptly take a penalty or retire.”

1. **The penalty for breaking a right of way rule is a 720 degree turn and the penalty for hitting a mark is a 360 degree turn.**

These penalty turns must be done clear of all other boats and as soon as possible after the incident happened. You have no rights while you are doing a penalty turn. If you hit a finish mark after you have finished but have not cleared the mark, you must do a penalty turn and recross the finish line from the course side.

2. **All rights are forfeited when a boat is “returning”.**

Boats that were over the start line early have to return and restart, and while doing so have no rights over any other boats that are not also returning.

S L O B O A T

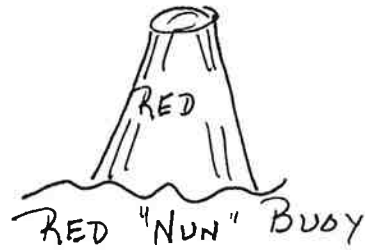
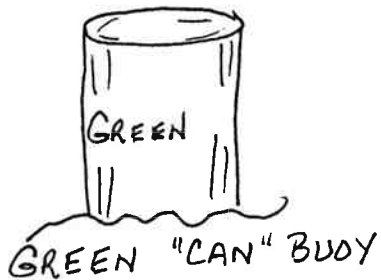
(An easy way to remember the basic right of way rules)

- S Starboard tack over port tack
- L Leeward boat over windward boat
- O Overtaking, keep clear
- B Buoy room, for inside overlapped boats
- O Obstructions rate room
- A All rights lost returning
- T Tacking, keep clear

BUOYS

Harbors have a system of "channels" to show ships where the water is deep and where there are no underwater obstacles. These channels are marked with a system of floating colored buoys. The Santa Barbara Harbor has only one main channel. It is marked in the conventional manner with two kinds of buoys; red "nun buoys" and green "can buoys" as shown.

CHANNEL

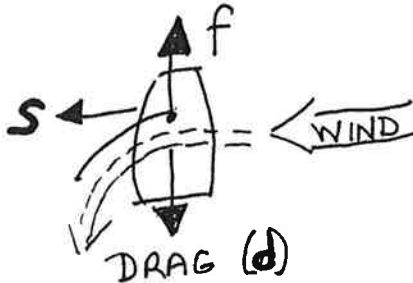


This is the way the channel will look when going into the harbor. Remember R-R-R "Red on Right Returning" to harbor. Red buoys have even numbers getting larger as you get closer to shore, and green buoys have increasing odd numbers going in.

Deeper draft vessels have the right-of-way in a channel. For this reason, the Sea Shell fleet does not sail in the channel but stays between the red nun buoys and the beach. On some occasions, but only when the race chairman says so, the race may be routed across the channel. Otherwise, **YOU WILL BE DISQUALIFIED FOR GOING INTO THE CHANNEL.**

WHAT MAKES YOUR BOAT GO?

To produce motion you must have an unbalanced force.



1. Wind acting on sail causes forward thrust (f) and side thrust (s). Motion through water causes drag (d).



2. The dagger board and rudder (c) stop side thrust (s).

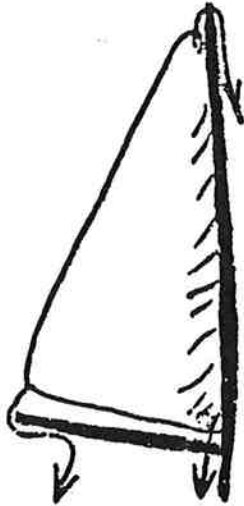


3. Forward motion will happen if (f) is larger than (d).

In the case of your boat, (f) is created by the wind acting on your sail. Drag (d) is caused by your boat moving through the water. To go fast you must make (f) big and (d) small. To make (d) small you must control your weight position and heel angle, and to make (f) big you must trim your sail!

TRIM

Sail trim is controlled by the downhaul, the outhaul, the mainsheet, and boom vang. For the typical cat rig boat with a flexible mast, the sailboat course and wind strength must be considered when line tensions are set. For example the following conditions will result with improper trim for certain wind condition and course:



1. Ruffled luff reduces speed.
TIGHTEN DOWNHAUL
(or HALYARD)

2. Ruffled or baggy foot
TIGHTEN OUTHAUL (or
BOOM VANG if downwind)

It's a good idea to mark positions for various wind conditions for loose foot sails -- you can't always see the ruffles.





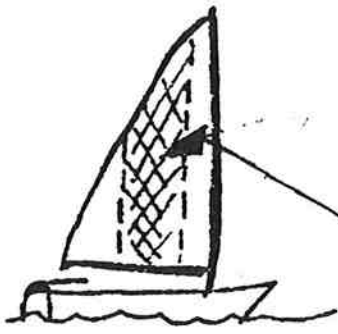
3. OOPS! - TOO MUCH TENSION
Outhaul, downhaul or halyard
too tight or wind too strong
LOOSEN LINES

4. Halyard or downhaul too tight
causes hard spot in luff or
bunching at luff
LOOSEN DOWNHAUL

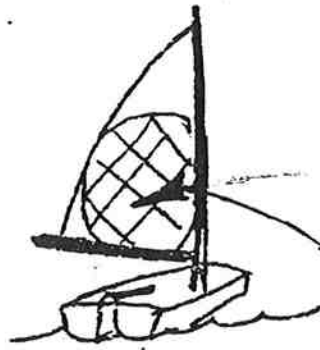


5. Outhaul or boom vang is too
tight causing hard spot at foot
or "cupping of foot"
LOOSEN OUTHHAUL

Its a good idea to take photographs of your boat under sail -- especially within a group of other boats. These photos are an excellent means of showing incorrect trim.



"DRIVE AREA"
CLOSE HAULED



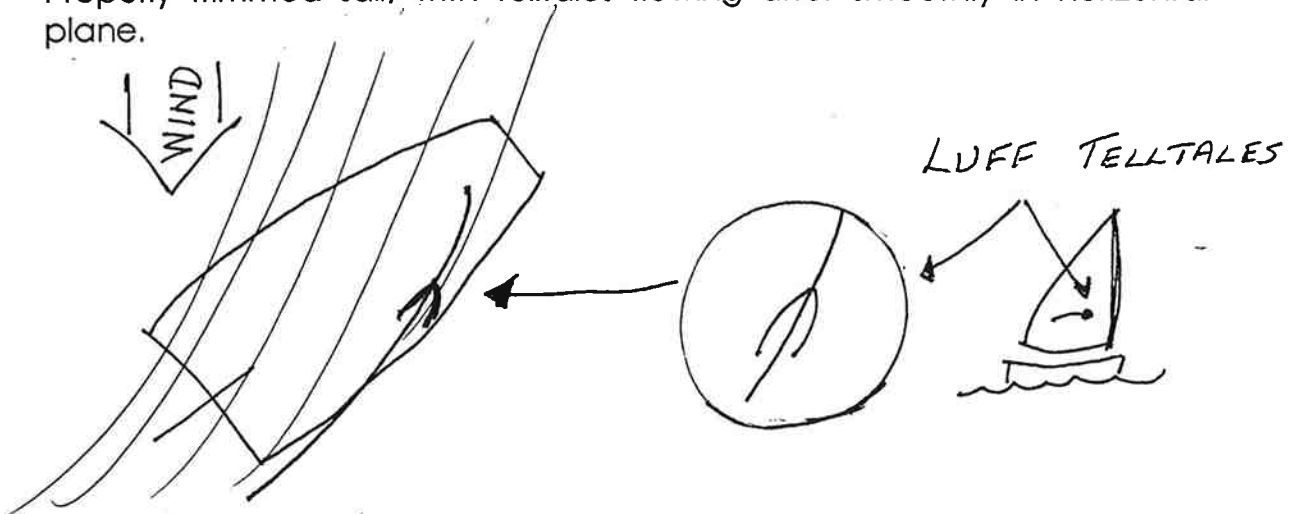
"AIR CUP"
DOWN WIND

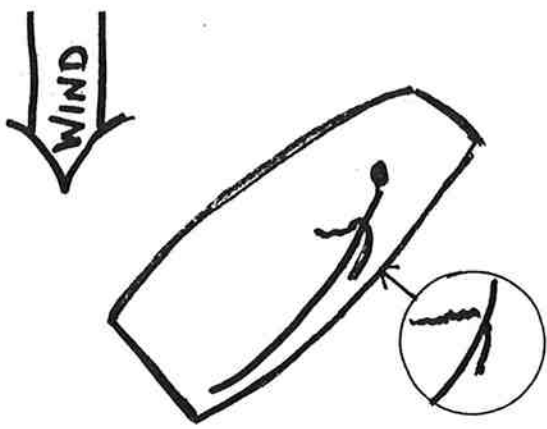
Shaded areas are major "Push" or lift forces sailing close hauled or down wind. An area halfway up the mast should be watched when trimming your sail.



Watch sail angle half way up to mast head.

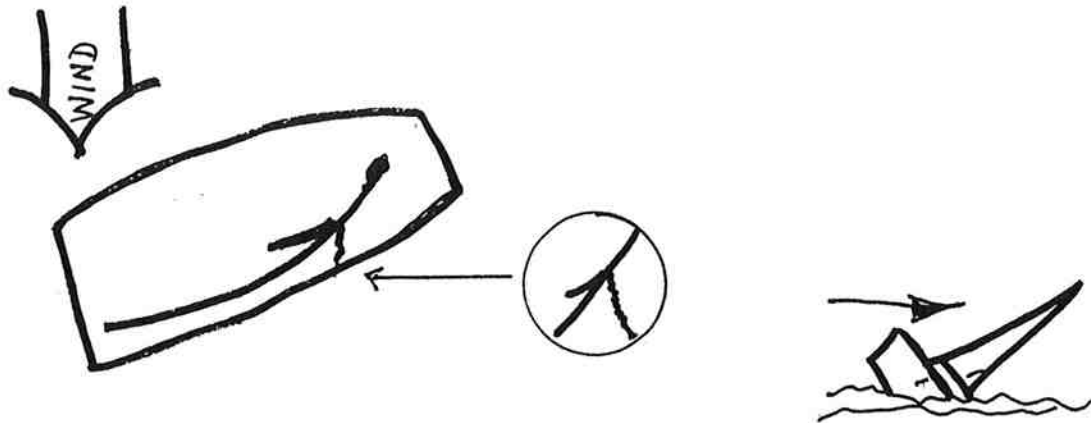
Properly trimmed sail, with telltales flowing after smoothly in horizontal plane.



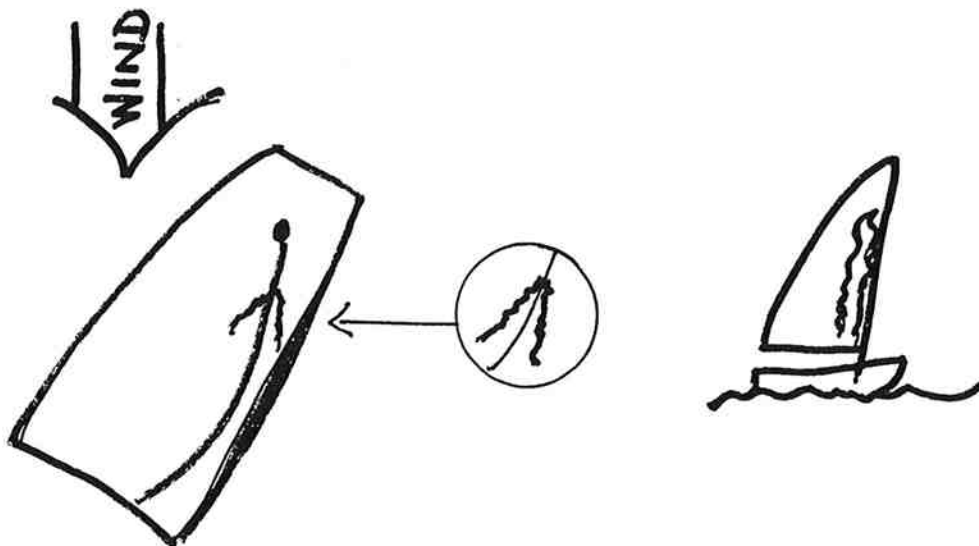


"Pinching" or pointing too high on the wind. Windward telltale flutters. This condition often looks like proper sail form, but boat won't move properly. "Fall off" slightly and watch boat speed.

Stalled sail caused by setting sail too tight on a reach course causing excessive heel and side slip. Leeward telltale flutters.



Luffing sail caused by sailing a close hauled course with loose or reach sail trim.

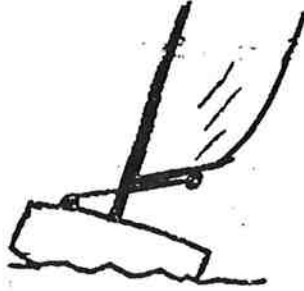


BOOM VANG CONTROL

The boom vang is used to keep the boom from rising to a higher than normal position when reaching and running where the mainsheet is slackened. Adjustment should be set to control the "AIR CUP" when running, but not too tight to interfere with normal close-hauled operation. See notes on draft control trim following.

DRAFT CONTROL TRIM

Outhaul, downhaul and sheet are tightened for high wind, and loosened for light breezes to produce a "cup" effect.



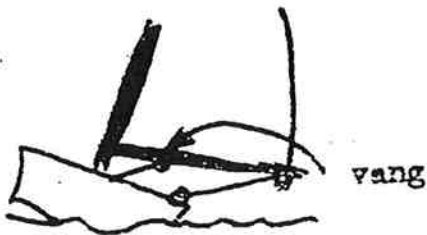
FULL DRAFT - Can be added in light breeze by taking traveler to windward side of boat.



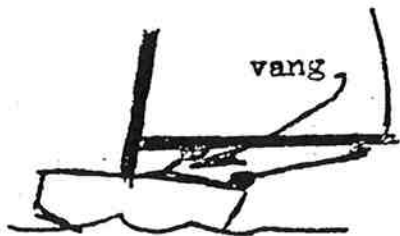
MEDIUM DRAFT - As wind increases slightly, ease traveler and tighten mainsheet to flatten draft some.



FLAT DRAFT - In strong wind close hauled, traveler is moved leeward, and mainsheet tightened some more.



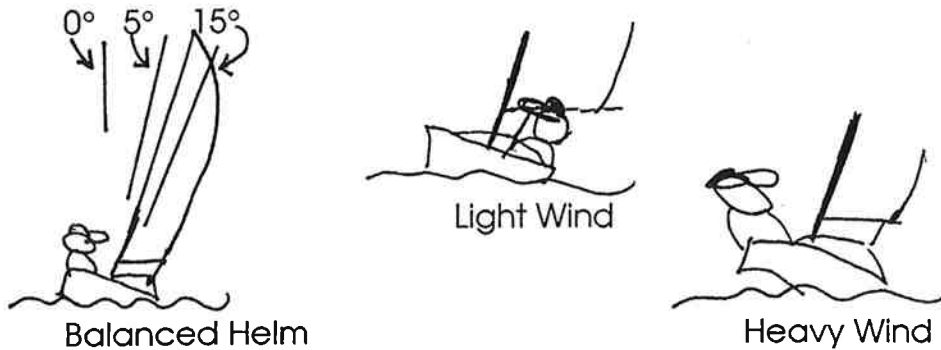
BEAM REACH - Note how boom is carried beyond traveler reach, a boom vang is needed to maintain down pull now not provided by the mainsheet.



RUNNING - Downhaul and outhaul are eased so as to produce depth of cup in sail. Vang is required to keep boom from lifting.

BALANCE

Most dinghies are designed to sail best when heeled over 15° downwind. In light wind move weight to low side and in heavy wind move to high side to stay within 5° to 15° limits. Outside these limits the resultant rudder drag is increased thereby slowing the board down.



Fore and aft balance is just as important as abeam balance. You must move your weight to counteract the wind forces on the sail.

1. Sailing in strong winds, move aft to prevent submarining especially when going downwind. Always keep boat level.
2. In lighter winds, move forward to keep boat level in the water.



Above all, keep water out of your boat. Water is heavy (8.3 pounds per gallon) and moves when your boat tilts. This can be dangerous. USE YOUR BAILER.

RULES

The Santa Barbara Sea Shell Association sailing races are conducted in accordance with the current USYRU rules. Scoring is described in the SBSSA Roster and USYRU rule books are readily available. They will therefore not be repeated here. Local rules pertaining to registering, boat measurement, and channel avoidance procedures are sometimes imposed. Be sure to check with the race committee and listen for announcements prior to each race.

In addition to the standard races, a seamanship contest is held each year. Contents of the seamanship contest is determined by the second vice commodore, but will usually consist of:

Terminology	Oral questions Written quiz
Rules	Oral questions Written quiz
Rigging	Each skipper will be expected to properly rig his/her own boat on the beach. Skippers will be graded on: a) Knots b) Safety equipment c) Trim d) Skill / Speed
Sailing	Skippers will be asked to do typical maneuvers such as: a) Sail a course b) Gybe / tack c) Come alongside safety boat d) Pick up an object from water e) Launch / beach boat (Class C skippers can have help in this)

STARTING PROCEDURE

Races generally start to windward. The start line is designated by two orange buoys. The finish line is designated by two bottles (generally "Tide" bottles). Other "marks" will be similar orange buoys.

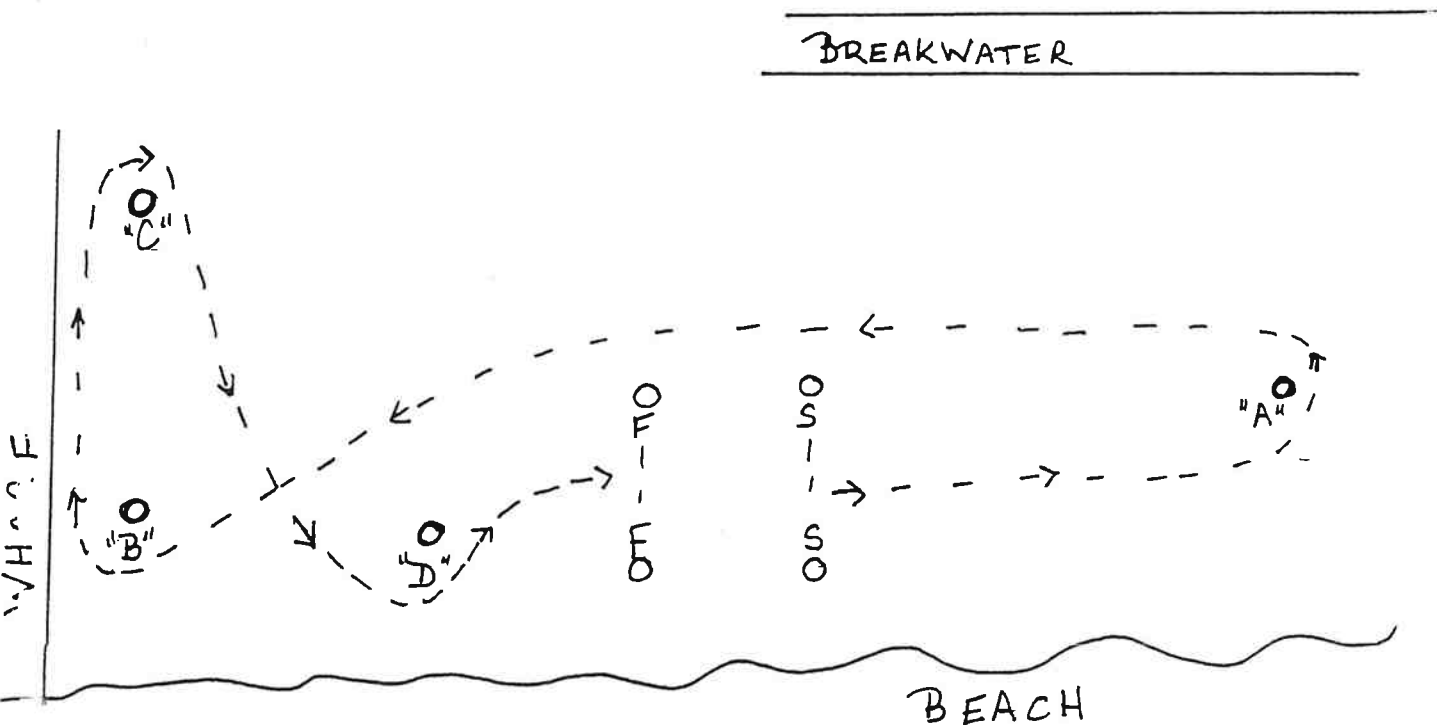
The course will be posted by the race committee (on a white board). At the beginning of each season, all skippers will be provided with a laminated course chart which shows the typical race course layout and possible courses. The race committee at their discretion may also select races that are not on the laminated chart. Skippers are responsible to make sure they understand the course before entering the water.

At typical course would be:

This means:

S	Start
Ap	Round mark A to port
Bs	Round mark B to starboard
Cs	Round mark C to starboard
Dp	Round mark D to port
F	Finish

This figure shows what the above race would look like.



After ample warning, the race will be started using the standard sequence of flags on the beach at the race site as follows:

Signal	Minutes to Start	Flag	Sound
Warning	6	Yellow raised	1
	4	Yellow lowered	no sound
Preparatory	3	Blue raised	1
	1	Blue lowered	no sound
Starting	0	Red raised	1
	+2	Red lowered	no sound
Start #2	+3	Red raised	1

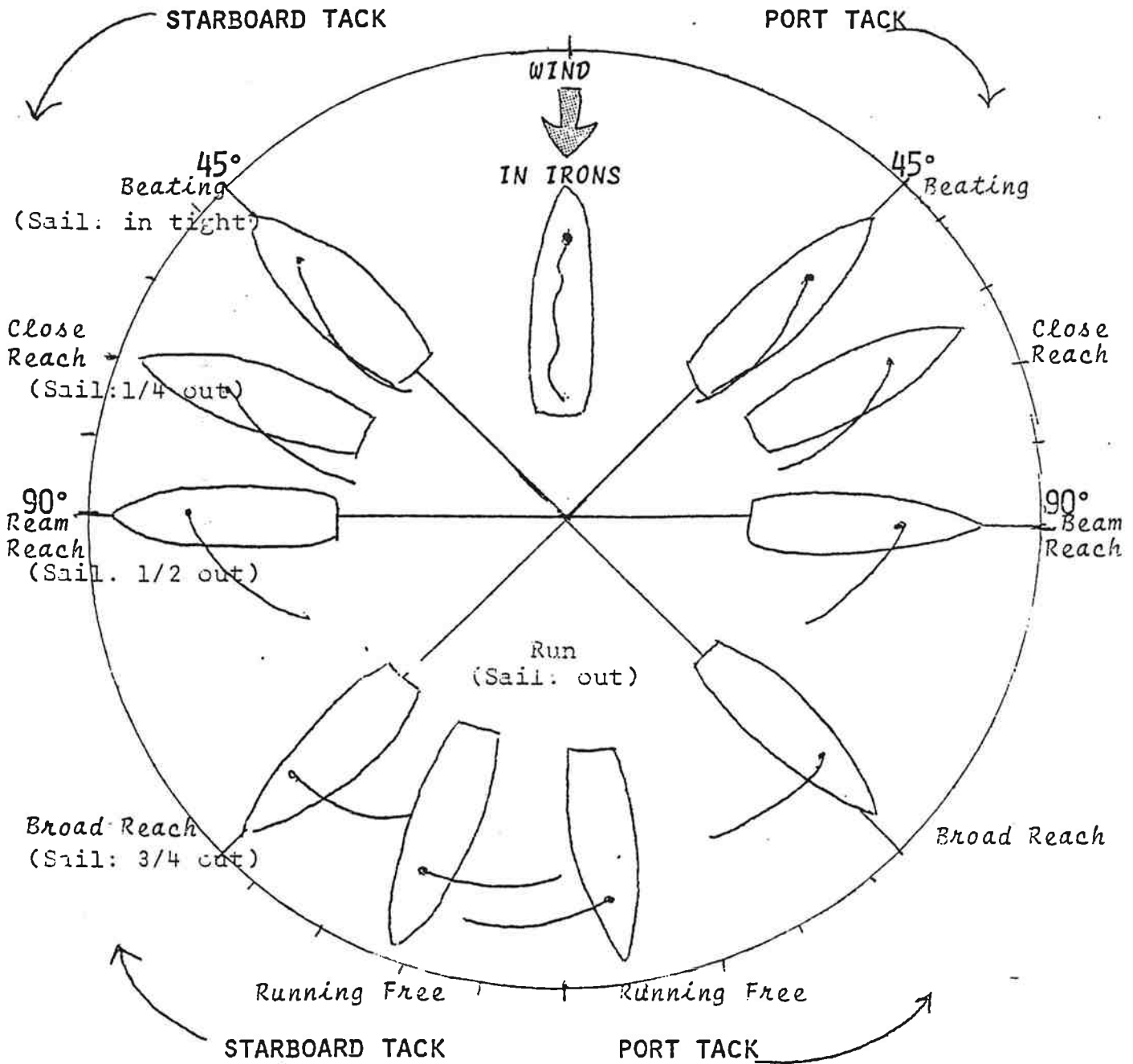
Continue with just the red flag until all classes have been started.

If you are over the line early, you will be "hailed." You then must return and re-start, but have no right-of-way while going back to the start line.

General Recall - When at the starting signal several unidentified boats are on the course side of the starting line or there has been an error in the starting procedure, the race committee may signal a general recall and raise the First Substitute flag which signals a general recall. The preparatory signal for a new start for the recalled class shall be made one minute after the First Substitute is lowered, and the starts for any succeeding classes shall follow the new start.

Normally SBSSA races are staggered such that Classes "A" and "B" sabot skippers are started first, Class "C" sabot skippers are started approximately 3 minutes later, Sea Shell skippers are started approximately 3 minutes after the sabot fleet and finally we start the Novice class skippers.

POINTS OF SAILING



I. SAFETY

1. CAPSIZE SAFETY

- A. Wear life jackets with whistle
- b. Boat should contain bailer, sponge, paddle and have 6' painter attached.
- c. If you capsize:
 - 1) stay with your boat
 - 2) give "ok" signal (hand on head) or wave hands if not
 - 3) grab bailer, sponge and paddle
 - 4) untie halyard (on Sea Shell)
 - 5) hand painter to safety boat
 - 6) help safety boat crew pull you out of the water

2. RIGHT OF WAY / HARBOR RULES

- A. During an SBSSA sponsored sailing day, you must stay out of the channel
- b. At all times you must give way to these:
 - 1) out of control vessel
 - 2) vessel under tow
 - 3) vessel over 65 feet
 - 4) people fishing
 - 5) people swimming
 - 6) rowers

Remember -- you know the rules better than many of the other power and sailboats you may meet. So, don't press your "rights" too far, they may be "out of control."

3. SAFETY BOAT OPERATIONS

The standard crew shall be four, a minimum crew shall be three.

In the event of a capsize with a minimum crew, the safety boat shall retrieve the skipper or skippers as soon as possible, and at its earliest and most favorable convenience.

In the event of a minimum crew, no education activity shall be attempted from the safety boat.

The captain is the person designated by the day's race chairman; he/she may take any job, assign others to jobs, and is in command.

The four jobs are:

- 1) helmsman
- 2) advanced fleet observer
- 3) junior fleet observer
- 4) educator

It is important that no single event on the water such as a capsize, a novice educational attempt, a windsurfer incident, or a boat retrieval, distract the attention of the crew from new emergencies taking place.

The helmsman is in charge of avoiding windsurfers, swimmers, dredge pipes, sea shells, sabots, and buoys as well as picking up dunked skippers with all due caution. The helmsman should not be counted on to participate in any other activities while at the helm.

The observers are responsible for notifying the captain of rescue needs in their fleet. They should count the number of starters in their fleet after the start and keep a continual check as to their status. If one goes down, notify the captain, and continue checking the others. Never stop looking for new problems.

The educator may be talking to one or more novices in difficulty, or a "C" skipper who will certainly finish at the back of the fleet. Coaching anyone else is against the rules. A megaphone may be useful for this purpose. The educator may photograph or videotape for educational purposes.

As assigned by the commodore, a crewmember may be designated radio operator as an additional duty.

If any skipper is in the water, pick him/her/them up as a first priority. It shall be the responsibility of the educator to help them into the boat, while the other crew members continue their high priority duties. As soon as all skippers are rescued, boats may be righted, taking the one most down wind first, or whichever boat is perceived to be in the most immediate danger.

When a crew of three is out, righting a sea shell leaves no one to watch for new problems; therefore all racers must be landed before retrieval operations are begun.

In order to prevent disqualification all "A" and "B" sabot skippers are expected to right their own boat. However, a skipper may advise the safety boat crew that they are willing to accept the disqualification in exchange for assistance. In this event, upon righting of the boat, the skipper is expected to immediately return to the beach.

II. GENERAL RACING RULES AND ADVICE

This information is provided as help only. Current ISAF/US Sailing racing rules prevail.

1. Sail safely, use seamanship and display good sportsmanship at all times.
2. Have fun, make friends, learn, be sportsmanlike, be fair.
3. In order to "be in the money":
 - 1) keep boat speed up, sail in clear air
 - 2) sail the shortest course
 - 3) keep out of duels, sail in clear air
 - 4) don't risk "dsq", sail in clear air
 - 5) know the rules

You cannot go fast if you sail in a tight pack, and if you sail in a tight pack, you can't stay out of protests. None of the right of way rules even come into effect unless boats are within three boat lengths of each other.

4. You all have "rights", but to keep it fun, go fast, and protect your rights -- "hail" other boats about where you are going, and what rules are about to come up. As a last resort, hail your protest. Always warn others!
5. Too often the reasons for protest hearings are not knowing the rules and poor sportsmanship. If you know you broke a rule, you are required to take a penalty (720 or 360 turn) or retire yourself from the race.
6. No one's "rights" are perfect. The right-of-way boat which causes "serious damage" (a hole or a "dnf") may also be "dsq".
7. Swearing, receiving coaching from shore (except Novices), planning to call a false protest, fighting, intentional/flagrant disregard of rules, not wearing lifejacket, not having all required safety equipment at the blue flag and blowing a whistle unless capsized are protestable in Sea Shells.

8. Sculling, ooching, pumping and rocking are illegal means of propulsion.
9. You have almost perfect rights if:
 - 1) you are not in control (in irons)
 - 2) you are aground or capsized .
10. You have no rights if:
 - 1) you are doing a 720 or 360 penalty turn .
 - 2) you are returning to restart.
 - 3) you are tacking.
 - 4) you are not racing - but are going to race or have just finished.
11. No protest will be heard which did not start with an attempt to hail "protest" to the fouling boat and flying a red flag as soon as possible, and telling the day's race committee immediately upon landing.
12. In a protest hearing, the facts will be presented by the skippers to the protest chairman. **Parents will not be involved.**
13. A boat starts as soon as it properly crosses the line after it's starting signal. A boat finishes as soon as any part of it crosses the finish line. It does not have to pass through the line. Remember, it loses its rights after it finishes and must stay clear of boats still racing.
14. There is no "room at the mark" at the starting marks. When a windward boat tries to squeeze in at the starting mark, it is called "barging" which is illegal.
15. If you are the leeward "right of way" boat and have not achieved your overlap from astern you can luff the windward boat as far as head to wind.
16. In general boating "rules of the road" a power boat "meeting" a sail boat must give way; if a sail boat is overtaking a power boat - the power boat must hold its course. A sail boat **MUST GIVE WAY** to large vessels in a channel.

**GOOD LUCK. ASK QUESTIONS. LEARN HOW TO GO FAST. BE
FAIR.**

APPEAL GROUND RULES

1. First, committee findings will be re-explained to skipper.
 - a. Rules, conditions, etc. will be reiterated
2. Skipper will then be asked to explain which rule he feels has been wrongly interpreted.
 - a. Facts and conditions on written protest forms will be assumed
 - b. New evidence will be considered only if supported by witness and if it does not contradict statements on written protest form
3. A new protest committee appointed by the protest chairman shall hear the above explanation, and will re-consider the case.
4. Ruling of the second committee shall be final in accordance with the "SBSSA Class Assignment and Method of Scoring Rules" adopted in 1972.