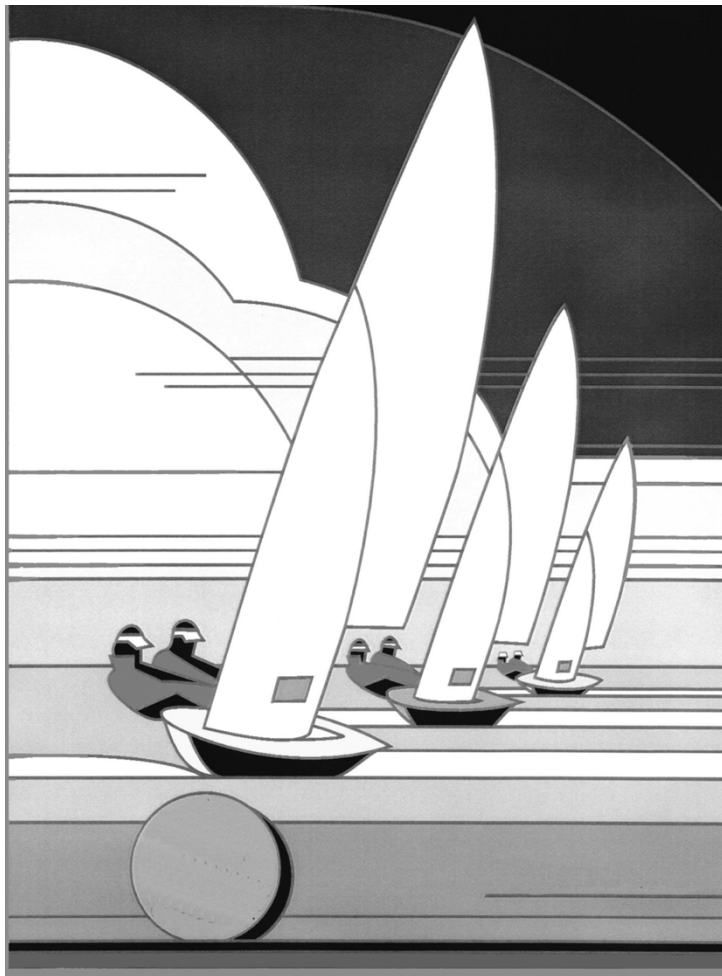


BASIC SNIPE SAILING MANUAL



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**Revised and Updated
Gene Soltero, 2021**

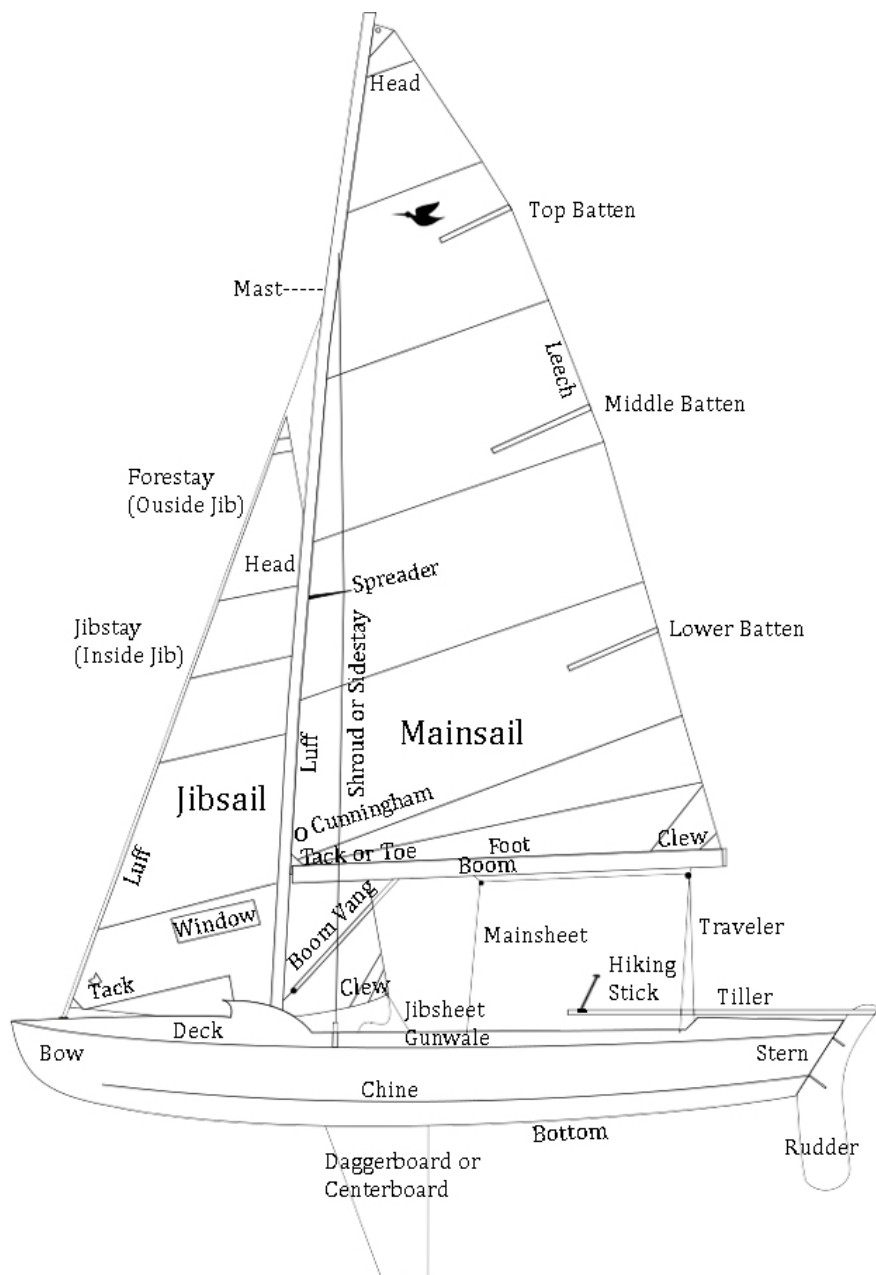


TABLE OF CONTENTS

1. GLOSSARY
2. KNOTS
3. THE SNIPE
4. SAILING
5. THE TRIM
6. SAILING CLOSE-HAULED
7. TACKING
8. REACHING
9. RUNNING
10. GYBING
11. THE DOCK
12. HEAVE TO
13. SAFETY
14. CAPSIZE
15. RACING ESSENTIALS
16. SIMPLIFIED RACING RULES
17. THE START IN WINDWARD RACING
18. ROUNDING MARKS
19. REACHING LEGS
20. RUNNING LEGS
21. FINISHING
22. CREW
23. CHECK LISTS

1. GLOSSARY

Abeam - Right angles to the boat's center line.

Aft - Toward the back of the boat.

Bail - To remove water from the boat.

Beating - To sail toward the wind direction by zigzagging (tacking) at 45° across the wind direction.

Boom vang - Lines that hold the boom down.

Bow - The front end of the boat.

By the lee - When running downwind, the boat turns so far that the wind is coming over the same side the boom is on. In this position, the boat sails slower and an accidental gybe is possible.

Centerboard - A vertical underwater fin or keel that keeps lateral drift to a minimum. It can be lowered or raised. A "dagger board" is a special type of centerboard that is raised or lowered like a dagger and does not pivot.

Close-hauled - Sailing as close to the wind as possible (usually 45°).

Come-about - To change from tack to tack by turning into (and then across) the wind (same as tacking).

"Coming About" - Warning to crew that the boat is starting to come about.

Cunningham hole - A small hole in the mainsail, along the luff that is about 6 inches above the foot. A line goes through this to stretch the luff in high winds, and make the mainsail flatter.

Ease - To let out a sheet or a halyard.

Forward - Towards the bow.

Gybe - Same as jibe.

Halyard - A wire or line attached to the top of a sail to hoist it. The main halyard hoists the mainsail. The jib halyard hoists the jibsail.

"Hard-a-lee" - Warning that the tiller is put to leeward to make the boat come about. Preparatory command is "Ready About."

Head Up - Turn the boat toward the wind.

Headed - When the wind shifts more forward of a close-hauled boat so that he must "fall off" or head away from the wind direction to keep the sails full. Opposite of "lifted."

Heeling - The sideways lean of a sailboat.

Jib - The front sail.

Jib luff downhaul - Line attached to jib luff to stretch the cloth in the jib and flatten the sail.

Jibe - (Also gybe) To change tack by turning away from the wind.

"Jibe-Ho" - Warning to the crew that the boat is going to gybe. Preparatory command: "Ready to gybe." °

1. GLOSSERY (Continued)

Lee - Same as leeward

Leeward - The side the boom is on. Usually the side away from the wind (except when sailing by the lee).

Lift or lifted - When the wind shifts toward the windward side of a close-hauled boat so that she can turn more toward that direction. Opposite of "headed."

Luff - (1) To let the sail flap in the wind. (2) To change the course to windward. (3) Forward part of a sail.

Forward Puller - Lever and blocks, usually under deck, extending to the mast above deck to pull the mast forward.

Mast Aft Puller -Tackle under deck to pull mast aft at deck level to reduce mast bend.

Port - The left side of the boat facing forward.

Port Tack - Sailing with the boom on the starboard side of the boat.

Reach - Sailing across the wind direction.

Run - Sailing with the wind.

Sheet - A line that lets a sail or boom in/out, i.e., the jib sheet or the main sheet.

Starboard - The right side of the boat when looking forward.

Starboard Tack - Opposite of port tack.

Stays - Wires that hold the mast up. One forestay, one jib stay (inside the jib), and two side stays. The side stays are also called shrouds.

Stern - Back of the boat.

Tack - (1) The front bottom corner of the sail. 2) To come about. (3) The relative boat position, when sailing port or starboard ("on a tack").

Tacking - Coming about. Also a command to crew that boat is tacking.

Trim - (1) To pull in a sail by the sheet. (2) Adjustment of the weight in the boat or of the set of the sails.

Tune - Make adjustments of the mast positions, rig tension, sail trim or weight distributions so the boat sails faster.

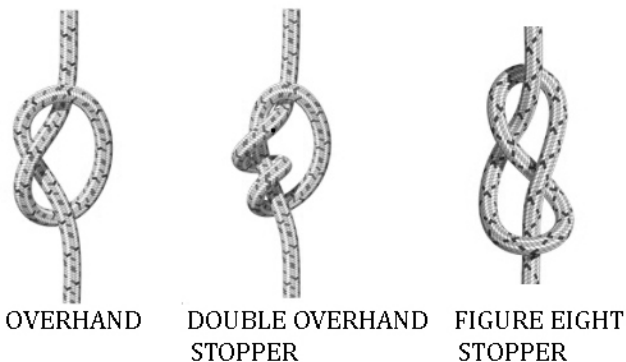
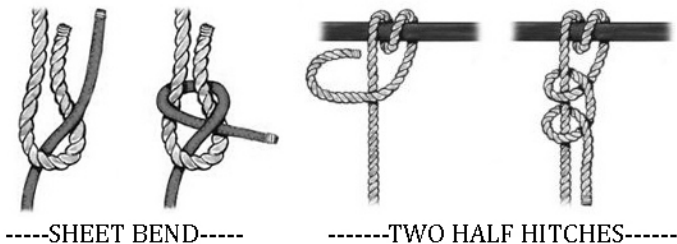
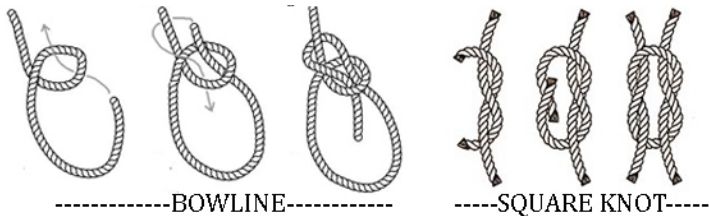
Weather side- Same as windward side.

Wind direction - Where the wind is blowing from.

Windward side - The side opposite the boom side (also the side the wind is coming over, except when sailing by the lee).

2. KNOTS

You must know the top and bottom knots and preferably all seven. Ask someone to show you any that you do not know.



The Bowline is formed with a fixed loop that is easy to untie. It cannot be tied under tension (use two half hitches). It is a good knot, but more complicated to tie. Use it when you can and you will soon remember it. The Square knot is used to tie two ends of rope together. The Sheet Bend attaches together two ropes of different size. Two Half Hitches is a most useful knot to tie a boat to a post or ring, to the anchor line or to the anchor. The knot can be tied with tension on the line. The Overhand knot is a simple knot used as a stopper, but it is hard to untie when tight or wet. Therefore the Figure Eight and Double Overhand knots are better stopper knots to be put in the end of each jib sheet after they are put through the blocks or in the end of the main sheet.

3. THE SNIPE

The Snipe is a small and moderately sensitive boat. The V-bottom gives a tenderness at the dock similar to a light rowboat or a canoe. If you step in from the side, step in the cockpit or on the deck near the center. Only step on the side deck if the boat is balanced by someone else, and never jump. The bow area between the forestay and the mast is a perfect place to step, using a stay for support. Move around the mast carefully by pulling firmly on a side stay and mast together. Once you are sailing the V-bottom goes to work and the stability increases greatly.

Never stuff your sails in the bag. Have someone show you how to roll the sails with the jib inside the main. Once your boat is in the water, nothing should be on the deck that doesn't float or you don't mind losing in the water. You wouldn't believe how often knife, pliers, or shackle will slide off the deck. When you put something down, put it in your pants pocket or into the cockpit. Heavy items (such as a cell phone) will fall into the water when you bend over.

4. SAILING

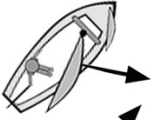
Most people can easily understand how a boat can move in the same direction as the wind, but it is harder to understand how a sailboat can move against the wind. Actually the boat can only move diagonally across the wind at about 45°. At this angle the sail takes the shape of an airplane wing or bird wing with the power from the sail directed sideways and somewhat forward. The centerboard or keel of the sailboat, along with the shape of the hull underwater, resists slipping sideways while allowing the boat to move easily forward so that the resultant force is one of moving the boat forward. To get towards the wind, the sailor may tack diagonally across the wind two lengths north and then two lengths west in order to get about three lengths northwest.

Sailing on a reach or across the wind, the sail can be let out a great deal further without flapping. The force in this position is directed much more forward and very little to the side. Now the centerboard can be lifted half way. This perhaps is the fastest direction of sailing. Most of the force is being directed forward. Beginners often trim or bring in the sail too close toward the center line on the reach and the forces are directed sideways, being dissipated in heeling and not in forward movement. The illustrations that follow show the different "points of sailing".

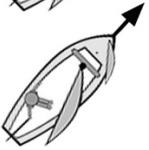
↓ Wind



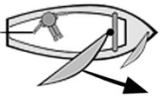
Headed directly into the wind, the sails are flapping and are "in irons."



With the sails "close hauled", the forces on the sails are directed sideways and somewhat forward, due to the airflow "lift" of the sails.



The boat moves forward due to greater sideways resistance from the centerboard and the shape of the hull.



Sailing on a reach, the sail can be let out quite a bit further without flapping. Most of the force is now directed forward.



Sailing on a run (before the wind), the mainsail is let out as far as possible and the jibsail is set on the opposite side with the whisker pole. The sails are set "wing and wing."

↓ Wind

gybing



broad reach
port tack

running, port tack



beam reach, starboard tack

tacking

close-hauled
port tack

tacking

close-hauled
starboard tack

tacking

close-hauled
port tack

DIAGRAM SHOWING THE POINTS OF SAILING AROUND A RACE COURSE

4. SAILING (Continued)

The proper sail trim on a reach or run is out as far as the sail will go without flapping. To be always correct the skipper and crew must continuously experiment by easing the sail a little and watching very carefully for the first signs of luffing or flapping along the front edge of the sail.

As the boat turns more away from the wind so that it is traveling with the wind, two things happen. First, the apparent wind velocity drops because the boat is traveling with the wind and its speed is subtracted from the wind speed (if the boat could go as fast as the wind, there would be no wind detectable on the boat). Second, the stays limit the forward movement of the boom and the airfoil "stalls out," as the sails become perpendicular to the wind direction. The boat will move slower on a run because the wind passing the sail is moving slower.

5. THE TRIM

The trim of the hull is how the boat is balanced. The center of gravity of the boat is just behind the centerboard trunk. When racing, the skipper sits just behind this point and the crew just in front. When the wind is light, both sailors push a few inches further forward and when sailing fast on broad reaches with strong winds, both sailors move back accordingly to get the bow up and over the waves.

When the wind is very light, heel to leeward until one side of the V-bottom is flat to the water. This gives the sails shape by gravity and reduces wetted surface drag. Usually the skipper will sit on the leeward side and the crew on the windward side.

As the wind increases, hold the boat up straight (except for possibly a slight heel to leeward). Sit up to windward or even sit out of the boat with the feet hooked under the hiking straps to hold the boat upright.

For the boat to be sailed effectively in winds above 5 MPH, heeling must be minimal because:

- (1) The more the boat leans, the less effective sail area is presented to the wind, and thus power is lost.
- (2) Less effective centerboard area is presented to the water, and thus slippage or leeway is increased.

5. THE TRIM (Continued)

- (3) Underwater hull shape becomes more asymmetrical and the boat tends to turn away from the direction of heel.
- (4) The rudder angle becomes less vertical, resulting in more braking effect and less steerage effect.

6. SAILING CLOSE-HAULED

Sailing "close-hauled" or "upwind" or "on the wind" is the course 45° from the wind direction, which is used to zigzag toward the wind direction. It is the hardest for the beginner to learn.

In all conditions except heavy air and waves, the jib lead adjuster (near the jib block) is trimmed to its most inside position (usually 14-16 inches from the centerline of the boat). The jib sheet is pulled or trimmed until the foot of the jib curls up a little and the main part of the jib has a smooth curve. Don't pull so hard that flat areas appear in the main part of the jib. The bottom seam of the jib should be 16-18 inches from the center of the mast, measured at its forward side. Place a 16" mark on the deck to sight the jib's position. While sailing upwind with the jib in the correct position, mark the jib sheet at the point where it is cleated. When tacking or making major course changes to sail close-hauled, the crew can more quickly adjust the jib to the desired position by looking at the jib sheet mark.

The boom should be trimmed in just inside the back corner of the transom. In medium and light air and flatter water, the boom can be trimmed closer to the center, first using a main sheet, then using traveler adjuster lines (an advanced technique).

Once the sails are set for upwind, the course of boat is varied by the tiller so that the luff or front portion of the jib sail has a nice full curve shape. If you turn up just a little high into the wind, the front edge loses its fullness, "softens", or becomes a little flatter. Just a little bit closer, it flaps or luffs. Then the boat needs to be turned away from the wind to "fill the sail." If the boat is turned too far away, the sail looks the same, but the air around the sail becomes more turbulent as the sail "stalls" and loses power. To recognize this the skipper must watch "telltales" or wind indicators on the stays or continually head up until the luff softens and then just fill it again by heading away from from the wind. Almost all sailmakers now put telltales taped to the jib about four inches behind the luff on either side.

6. SAILING CLOSE-HAULED (Continued)

When the telltale on the windward side wiggles and stands out from the sail, you are too high and if the telltales on the leeward (you can see them through the sail) go into action by dropping or pointing forward, you are sailing too low.

The wind direction will shift back and forth and the direction of the boat must be changed with it. If the wind increases in velocity and begins to heel the boat, this can be countered by "pinching " (turning the boat a little up to windward) or leaning out more to windward.

The boat should be principally balanced by the crew who leans in and out or hikes out by putting toes under the hiking straps and sitting out past the edge of the boat and leaning back. The skipper should also sit out to ease the crew's work, and generally should sit as steady as possible. The skipper's primary job is to watch the jib and keep the boat headed effectively to keep the sails pulling. This takes concentration. The skipper should hold the main sheet by hand so that it can be released if hiking and pinching do not keep the boat from heeling. Usually a few inches released on the main sheet will keep the boat "on its feet" even through a strong puff. With practice the main can be eased a few inches to keep the boat upright thus avoiding the need to be released in desperation to avoid capsize. Notice how upright the experienced sailors hold their boats by a progression of hiking, pinching and then luffing.

Try to develop a sense of speed from the vibrations of the boat's hull, the feel of the wind, and reaction of the tiller. Adjust the sails a little and see if you can tell the difference. With a little practice you can sense a speed difference better than most speedometers mounted on this small boat. The best test is to get another boat to sail alongside while you make adjustments and check to see what effect it has on the speed. Notice the big difference in the shape of the sail by very small changes in the sheet, outhaul, and halyard changes.

A backwind area in the main behind the jib is very common and no problem if the boat is moving well.

7. TACKING

Changing from tack to tack by turning into the wind is called "tacking" or

7. TACKING (Continued)

"coming about". During this period there is no power from the sails, so the boat can slow or even occasionally stop half way around (caught in irons). In order to avoid this and to maintain speed for racing, tacking must be practiced repeatedly by skipper and crew. First, the boat should be moving well to assure steering and momentum. Second, ask the crew if they are ready to tack. The lee sheet must be clear to run through the block and weather sheet ready to trim. The crew will find it easier to cross over the boat if at the proper time the crew puts the forward foot across first, thus turning with his/her back to the bow. However, the head must be turned to watch the jib. When the crew is ready, the skipper tells the crew the turn is starting by saying "coming about" or "hard-a-lee," and then pushes the tiller to lee or "hard-a-lee." If there is much chop or waves, the boat must be turned quickly to prevent stopping on the way around. When the water is smooth and the wind is light, then turn as smoothly as possible to keep momentum up.

The skipper steps across with the aft foot first so that he/she turns facing forward (minding the crew's head). This means the skipper must pass the tiller behind the back, while staying oriented on the race course. So practice this type of turn. Hold the tiller in the aft hand until you are seated on the opposite side of the cockpit, then switch the hands quickly behind your back, putting the boat on the proper course with the new hand on the tiller. The freed hand quickly gets the main sheet. In puffy winds this is a most vulnerable moment. The boat has been slowed by the turn and the ability to luff in a puff is now markedly impaired. If a hard puff should strike just after tacking, the main should be eased to keep the boat "on its feet" (from tipping very much.) The turn should be started by smoothly increasing change in the tiller position and stopped by smoothly bringing the tiller back to the center, stopping the turn just as the sails are full on the opposite tack. Do not stop the tack too soon or turn too far. The skipper must keep oriented as to where the next tack should be headed by watching the shore and the sails. This develops a feeling for how far and how fast the boat should turn. All this takes practice.

The crew should hold the jib after the command "hard-a- lee" until it begins to luff. Then he/she should throw off the jib sheet so it will run clear, step across the boat as fast as necessary to maintain proper balance of the boat.

7. TACKING (Continued)

When the boat straightens up as the sails luff, move to the middle and then sit out on the other side, trimming quickly as the sails fill.

Try not to sit or step on the sheet and try to trim the jib in before or just as it is full. If you trim it in so soon, the jib backs or "bellies" toward the boat. This stops the turn and the momentum. Practice tacking back and forth as fast as you and your crew can get ready.

8. REACHING

Now while you are sailing "close-hauled" or "hard on the wind," if you turn 45° to leeward, you will be sailing across the wind or reaching. To turn that direction, ease the main sheet a little and then turn the boat. By easing the main first, the sails tend to turn the boat and less rudder is needed.

The boom vang should be set on the reach unless the wind is very light. When the wind is strong, this is most easily done while still close-hauled. The boom vang holds the boom down so that sail has a more uniform shape. Notice the difference with it on or off.

Both sails on the reach are set out as far as they go without luffing. Constant experimentation is necessary to maintain this spot. Ease the sheet a little until the luff becomes soft and trim again. Watch the telltale. Trim the jib through the reaching hook along the edge of the boat (or barber hauler) if you have one or the other. Ease the mainsail's clew outhaul to make the mainsail fuller and more powerful. Depending upon wind and wave conditions the centerboard can be raised to either the halfway position or the full up position.

9. RUNNING

As the boat turns further away from the wind direction than 90° the sailing characteristics change greatly. You are now sailing away from the direction of the wind and this reduces the force of the wind on the boat. The further downwind you turn the greater the effect. Now, there is less force on the sail. The wind is quieter and doesn't rush by your face as fast. The correct trim for the main is with the boom out as far as possible with the boom vang on unless the wind is so light that the boom vang distorts the sail. In

9. RUNNING (Continued)

this position there is no heeling tendency. The skipper and the crew often sit on opposite sides for no longer do they have to "hold the boat up."

The crew puts out the jib on the end of the whisker pole, on the side opposite the boom, by pulling the launcher line located at the top of the deck, near the mast. The crew stays in the cockpit, pulling the launcher line as quickly as possible, with the pole going forward to windward of the forestay. As soon as the whisker pole is all the way out, the crew cleats the launcher line and the skipper pulls the windward jib sheet so the pole comes out to windward and the jib fills. The crew then takes the jib sheet from the skipper and cleats it on the windward jib cleat. The skipper then releases the jib halyard all the way, so that the head of the jib can fall away from the mast and the jib can catch more air.

With the jib out on the pole, you now trim this by watching the windward edge (the outboard edge) for luffing. Ease the pole forward to keep it full or turn the boat downwind to keep it full.

On the run the centerboard is usually to its legal limit, leaving 12" of fin to aid steering and fill the slot in the bottom of the boat. This reduces turbulence. You also keep the boom vang taut.

In high winds, the top of the sail twists to windward occasionally, causing rolling or rocking to windward. Trim in the main a little to correct this. You may also want to lower the centerboard halfway or even fully down to assist in stability.

Near the end of your downwind run and prior to taking down the pole, ease the windward jib sheet while tightening the jib halyard to its upwind position. Take care that the aft end of the pole does not get inserted in the space at the toe of the mainsail just between the sail's boltrope and the top of the boom. After you turn back upwind, you can ease the boom vang a little.

10. GYBING

Gybing is changing from one tack to another while heading away from the wind. There is power on the sails all the time and the boat does not slow as in tacking. When the wind is light before the start (when you like to keep

10. GYBING (Continued)

momentum up), gybing is preferred to tacking. When the wind is strong, gybing is tricky because you change from tack to tack with full power. Control can easily be lost. Ordinarily gybing is easy on a Snipe. Usually we put the board down (at least halfway) so the crew can cross over with ease. In light weather, you may leave the board up and not change sides.

Some times when on a run, you might sail with the wind coming over the same side as the boom. This is the point called "by the lee." At this point the main begins to act as if it "wanted to" change sides with the leach folding and flapping. Here you could accidentally gybe. If the crew pulls on the boom vang tackle near the boom, the main will come across easily. Don't trim in the main sheet unless you want it trimmed on the other tack. It isn't necessary. If the skipper wants to pull the main over, he can reach back and get the main sheet at the traveler and pull. The sail swings across and stops with a jerk that might alarm you at first, but it allows better control than trying to ease it over gently.

In light winds the boom can be pushed back and forth any time the boat is heading nearly downwind. In heavier winds more careful control is necessary. The boat should be just a little by the lee so that the boom can be pulled over. Then the tiller has to be shifted and boat balanced to keep the boat from heading up wind out of control (broaching.) If you are gybing around a mark to a reach or a beat, trim the main in a little, and turn around the mark. Let the crew be busy trimming the jib and let the main come over when the wind is behind it. Control is maintained by keeping the boat flat and holding on to the tiller. If the main is trimmed in too far, it creates a heeling effect, so keep the main sheet out unless you are turning on to a reach or a beat.

11. THE DOCK

The hardest part of sailing is getting away from the dock. The boats are designed and rigged for sailing and not for getting away from the dock. Try to head into the wind on the lee side of the dock when putting up the sails, so they don't fill and begin to work before you are ready to go. Sail away if you can. Don't be afraid to paddle if you need to. If you are tied on the lee side of the dock with boats on each side, you can back out by careful steering. Remember your rudder is reversed going backward and if you fall

11. THE DOCK (Continued)

off a little to the side the wind will turn you sideways, so have the crew on the forward deck to fend off the other boats. You should initially practice this away from the other boats,

Returning to the dock with sails up, approach the dock from the lee side and turn directly into the wind several boat lengths from the dock so that the boat almost stops when it reaches the dock. The crew should sit forward with hand ready to catch the dock if it is a gentle landing, but a foot ready if it is going to be a hard one. Whatever kind it is, the crew must keep hands and feet from between the boat and dock.

The skipper can slow the boat a little by pushing the boom out to windward and thus backing it. Have the paddle ready and a few quick strokes can save you if the boat stops just a little short of the dock.

Entering a quiet bay just lower your sails and coast or paddle to the dock.

If you have occasion to tie up to a buoy or pick up a mark, approach it from several boat lengths to leeward turning and shooting straight into the wind.

12. HEAVE TO

A Snipe can "heave to" nicely while you wait for the start of your class, or other boats to join you. The boat will sail itself slowly across wind while the crew and skipper rest, bail or repair gear.

To get in position, trim the jib to windward and slowly put the tiller all the way to leeward without tacking. Leave the tiller all the way over and let the main out all the way. To sail away, just straighten the tiller. To get the jib to "heave to" position easily, just tack without bringing the jib around.

13. SAFETY

Snipe racing is a safe sport because of the slow speed of the boats, the positive flotation requirements of the Snipe Class, and the attention to competitors by race committees.

However, the potential for drowning and injury is always present and the following suggestions are made:

13. SAFETY (Continued)

- (1) People that don't swim well always wear a personal flotation device (PFD).
- (2) People in full clothes (sweaters, heavy shoes, etc.) or foul weather gear always wear a PFD.
- (3) Everyone in a heavy weather race wears a PFD, as you may be too tired to swim or may need to help someone else).
- (4) Never sail over cold water without satisfactory rescue arrangements. In water 40° F you can expect to be unconscious in half an hour from cold. If 50° F, unconscious in one hour.
- (5) If a boat capsizes, hold on so it doesn't blow away from you. Stay with the boat.
- (6) If a motorboat comes to rescue a turned over boat, stay some place so they cannot run over you. A motorboat may be difficult to control approaching a swamped sailboat.
- (7) Keep hands and feet from between the boat and the dock.
- (8) Keep out from under the boats on the hoist.
- (9) Keep the boat bailed out when sailing.
- (10) Hang on to the main sheet and the tiller when the wind is strong.
- (11) Never take more than two out in the boat when the wind is strong.
- (12) If you just go out for a sail, try to stay to windward of home base. If you have trouble or break something, it will be easy to get back home without help.
- (13) If you get caught in a thunderstorm with lightning, sit away from the mast, boom and stays. If you get caught in a hailstorm, you can capsize the boat, turn it turtle and stay in the cockpit air pocket, letting the bottom of the boat protect you from the hail.
- (14) Never take chances.

14. CAPSIZE

In a boat the size of a Snipe, capsize will happen occasionally to the beginner as he or she learns, and to the experienced sailor under severe conditions. If you are new to Snipes, take out a boat in warm and light air conditions and practice capsizing and righting the boat until both skipper

14. CAPSIZE (Continued)

and crew get comfortable with working together to right the boat and sail it away. If you are older and less nimble sailors, prepare for each of the skipper and crew a short rope ladder with a snap hook (carabiner) attachment and keep them in PFD's. After you have righted the boat you can clip the ladder to a stay to get a foothold.

When you capsize: (1) the person(s) on the high side should climb on to the centerboard quickly to right the boat; (2) anyone on the downside or in the center of the boat should get into the water so they don't press the boat down further; (3) don't climb up the deck to the high side. This swamps the boat or turns it upside down.

If both the skipper and the crew are in the water on the deck side, then one should swim around or duck under the boat to right it from the other side. The crew in the water should uncleat the jib and the main sheet so that they are free to luff when the boat is righted. He/she should rest deeply in the water to be buoyed up by the water and PFD, holding onto the boat only lightly so as not to press it deeper into the water. As the boat is righted, one crew member will be holding onto either side and can scramble aboard simultaneously soon to be sailing again at top speed.

Snipe Class rules require that all centerboards be rigged so that at least 12" of fin is sticking below the hull and that the centerboard lift restraint must be releasable from the bottom side of the boat by grasping the 12" fin and tilting it.

If you capsize in shallow water and the top of the mast sticks in the mud, you most likely will need the help of a motorboat to pull you out. You need to direct the rescue boat about the exact procedure to extract you from the mud without bending your mast. First position the sailboat so that it is perpendicular to the wind. Direct the motorboat to a position upwind of the sailboat and attach a line from the motorboat across the bottom of the hull and tie it with a bowline around the side stay on the side of the sailboat opposite the motorboat. Use the line to pull yourself up on the bottom of the boat so you can free the centerboard to its full down position. While the motorboat slowly pulls the sailboat upwind, you use your leverage on the centerboard to help turn the mast from upside down to a position even with the surface of the water. From there skipper and crew can right the boat continuing to use leverage on the centerboard.

15. RACING ESSENTIALS

Racing adds the social aspect and a continuing challenge to the charm of quiet movement and power of the sailboat. Racing sharpens your skills. Racing pushes you out in weather that you would hardly pick for pleasure, but which gives you the thrills you would remember years later.

Boat speed and racing success depend on (1) a skipper with some knowledge and ability; (2) a crew that works smoothly with the skipper; (3) a boat with a smooth, symmetrical bottom and a weight close to the minimum allowable (381 pounds); (4) equipment which is simple, functional and strong enough but not too heavy (It must be arranged to the sailors' ability); and (5) sails that have a smooth finish and a uniform aerodynamic shape.

So to prepare for racing, educate the skipper, practice with the crew, smooth the bottom, lighten the boat, strengthen and simplify the equipment, and buy new sails when or before you need them.

16. SIMPLIFIED RACING RULES

There are four basic rules in yacht racing, and three exceptions. The beginner can easily learn the basic rules and polish up on the fine points later.

- (1) If yachts are on different tacks (i.e., the booms are on different sides of the boat,) then the starboard tack boat has the right of way.
- (2) If the boats are on the same tack and one is overtaking the other, but has not begun to pass her or overlap her, then the overtaking boat keeps clear.
- (3) If the boats are on the same tack and are alongside each other or overlapped or one boat is passing the other, then the windward boat keeps clear.
- (4) A boat tacking, after she passes head to wind, and before heading close-hauled, shall keep clear. Once closed-hauled and gaining rights on another boat under (1) or (2) above, she shall give the burdened boat room (time and opportunity) to keep clear of her.

The three exceptions are rounding marks, sailing above proper course and when both boats are tacking or gybing at the same time.

16. SIMPLIFIED RACING RULES (Continued)

Rounding marks is the first exception. When boats are overlapped at the time the first boat enters the "zone" around a mark, then the boat on the inside of the turn must be allowed room to turn and to do whatever maneuvers are necessary (i.e., gybe). The "zone" is a circle where the mark is at the center and the radius is three boat lengths of the boat first into the Zone.

The anti-barging interpretation is the restriction of the room at the mark privilege. Room is not required to be given at a starting mark, except when a leeward boat establishes right of way too late to give the burdened boat time to clear a committee boat acting as a starting mark. A leeward boat that timely establishes the overlap may "peel" off the windward boat and make her pass on the wrong side of the starting mark.

The second exception is a leeward boat that first establishes an overlap from clear astern and within two boat lengths of a windward boat. The leeward boat may not sail above her "proper course" (defined as the course that she would sail to most quickly get to the next mark in the absence of any other boats). The third exception is when two boats are tacking or gybing at the same time. In that case the boat to the port side of the other must stay clear.

Special problems and arguments usually arise when boats are changing from one rule to another, so be particularly careful when tacking or gybing, overtaking boats, and rounding marks.

If you touched a mark, you may take a single 360-degree turn penalty to exonerate yourself. If you are protested for breaking a rule, or you know you broke a rule, you may exonerate yourself by taking two full turns (720 degrees). A boat taking penalty turns must stay clear of other boats.

17. THE START IN WINDWARD RACING

The geometry of the windward leg should be understood before explaining the start. All points along a line perpendicular to the wind direction are equally distant from the windward mark when sailed on a tacking course, if the wind doesn't shift. Therefore, if the starting line is perpendicular to the wind direction, then all points along it are equally distant from the first

17. THE START IN WINDWARD RACING (Continued)

mark. Get out a ruler, pencil and paper. Draw several courses with 90° tacks and measure the distances. Prove this for yourself. If it is not perpendicular, then the end closest to the wind is the closest to the mark. To decide which end is closest (without using a compass) sail up to the line and head straight into the wind with the sails flapping right down the center of the boat. Sight out the side of the boat at the Committee boat and then at the mark. If one is further ahead than the other in relation to your boat, that one is closest to the windward mark. If you can't tell which one is ahead, then the line is fairly perpendicular.

If you have a compass, take the heading from the committee boat to the port side starting mark and add 45 degrees. This becomes your "target heading." Go close-hauled on starboard tack and read your actual heading. If higher than the target heading, the starboard end of the line is favored. If lower, then the port end is favored. Check the wind several times before and during the starting sequence, because it will be changing.

If many boats are trying for a start at the most favored end of the line, it may be smart to plan a start a little away from them. The longer distance to the first mark may be made up by going faster in more clear air away from other boats.

The following is a good initial technique for beginners and novices. Plan to approach the start on starboard tack sailing on a close reach but not quite close-hauled. At about one to two minutes to go, be on the line at your chosen spot sailing away from the line down the course you plan to return. With a few seconds less than half the time elapsed, tack or gybe and start back. If you are late, hike hard and trim the sails carefully. If you are early, luff the sails and run down the line waiting for the gun. If you go over early, you must cross back and start over.

Windward sailing requires proper boat trim and sail trim. Before the race try to determine what is the predominant wind shift pattern. Usually there are two major directions the wind shifts. The shortest course would be made if when the wind came from the right, you sail to the left (on starboard tack) and when it came from the left, you sail to the right (on port tack).

17. THE START IN WINDWARD RACING (Continued)

Start on starboard tack keeping clear of the leeward boats (who have the right of way). Be careful at the committee boat or mark that a leeward boat doesn't luff you on the wrong side of it. After the start, hold starboard tack until you have a good reason and opportunity to tack. While tacking and when on port tack, you must keep clear of the starboard tack boats. Keep watching for them through the jib window. If you are sure you can pass in front of them, do so, but when in doubt, go behind them. Don't tack back to starboard until you have good reason. Approach the windward mark on starboard tack when possible.

A few good rules of thumb, when sailing to windward in shifting winds are (1) you should usually be on the tack that is heading closest to the mark; (2) you should be tacking when the wind "heads" or shifts so that you must turn your boat away from the mark to keep the sails full; (3) try not to tack when lifted; (4) if there is one tack that comes much closer to the mark than another, take this tack first; (5) If you are lifted, you may lay the mark without tacking; and (6) if you are headed, it is time to tack.

18. ROUNDING MARKS

Approach the windward mark on the starboard tack when possible. Try to think ahead a little about where you will be heading. Don't turn too sharply. At a gybing mark put your board down for the jibe and raise it again if necessary for the next leg. At the leeward mark, give yourself wide room to round up just before the mark so that you are close-hauled and hiked out as you pass the mark. If you are entitled to room at the mark due to an overlap when the lead boat enters the zone, make sure to hail all the overlapped outside boats that you are entitled to the room. If you are an outside boat, give the inside boats the room.

19. REACHING

You will generally do better to stay to the windward side of the course, steer straight, trim sails carefully, use your boom vang and reaching hooks, and hold the boat flat.

20. RUNNING

Steer straight, jibe when by-the-lee, and work for inside at the next mark.

21. FINISHING

We usually finish on a beat. The finish line may be cocked (like the starting line). If you can tell which end is downwind, sail for that end. If several boats are crossing at the same time, starboard tack may be worth one or two boat lengths.

22. CREWS

Being a good crew can be an enjoyable and continuing challenging sport. Good crews are in demand across the country in Snipe and all other active classes. The crew has advantages over the skipper. The crew (usually) doesn't have to worry about the bills. The crew has the best spot to watch the race (especially on the more exciting beat then the helmsman must watch the jib and tell tales with only an occasional glance at other boats and the mark). It is easier for the crew to move from class to class or place to place with variety in sailing experience.

The successful crew must fit to the needs of the skipper, often becoming the observer and navigator on the boat. The crew should stay alert and give a running account of the race to the skipper, advice about tacking, suggestions about sail trim and boat management by gentle questions that appear only inquiring. In other circumstances the crew might remain quiet and do only what is explicitly told.

The crew should be hopeful and cheerful when the skipper becomes discouraged. If the skipper is too bold the crew should inject some caution. To qualify for this high position, the crew must learn the whole of yacht sailing and racing. Read this manual carefully.

Get your skipper to explain the parts you don't understand. Ask other skippers about parts that still seem unclear. Read other books, surf the internet, sail and practice.

Be sure the boat is ready before leaving shore. Check the check lists. Check the course. Watch the time. Watch other classes ahead. Watch the clouds, particularly in the West.

Have fun while sailing seriously!

23. CHECK LISTS

<p><u>EQUIPMENT:</u> Spare blocks, line, shackles Compass Leatherman tool Water bottles Course map Spare battens Tape Suntan lotion Cord or heavy string Paddle (required) Spare ring-dings Spare audiotape for telltales Towline (15m x 8mm required)</p> <p><u>CREW BRINGS:</u> Stop watch PFD Foul weather gear Hat and gloves (if needed) Sailing instructions and pen</p> <p><u>CLOSE-HAUL TO REACH SEQUENCE:</u> Boom vang on Reaching hook Board up Outhaul off Release Cunningham Ease jib luff Open bailer (if necessary)</p> <p><u>CLOSE-HAUL TO RUN SEQUENCE:</u> Same as above, Except no reaching hook Ease jib halyard</p>	<p><u>RUN OR REACH TO CLOSE-HAUL SEQUENCE</u> Board down Close bailer Tighten jib halyard Outhaul on Tighten Cunningham Tighten jib luff</p> <p><u>PUT IN SEQUENCE:</u> 1. Drain plug in, bailer closed 2. Jib on with Figure 8 knots in ends of sheets 3. Main on boom 4. Battens in 5. Board restrainer clipped 6. Check equipment list 7. Attach tiller to rudder 8. Assemble rudder with tiller under the traveler (may have to wait until the boat is in the water) 9. Put the boat in 10. Get on carefully 11. Centerboard down 12. Rudder on 13. Sails up 14. Tie pole end of launcher line to jib sheets with a bowline</p> <p><u>CHECK LIST BEFORE GOING TO THE YACHT CLUB:</u> 1. Change of clothes 2. Foul weather gear & PDF 3. Stop watch 4. Parts for your boat, which you may have taken home for repairs</p>
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