Minneapolis Park & Recreation Board's

Sailing Camp

612-230-6400

minneapolisparks.org

Your Boat

To be a true sailor you must first learn the name and location of the parts of your boat.

->A shackle: used to attach the main sail and jib sail to the halyards.

->gunwale: the sides of the inside of the cockpit.

->aft: the back or stern part of your boat.

->forward: toward the front or bow of the boat.

->port: the left side of your boat.

->starboard: the right side of your boat.

->tiller: the handle connected to the rudder head.

->rudder: connected to the stern used to steer the boat.

->hull: the main part of the boat that sits in the water.

->centerboard or keel: located in the center of the boat and sticks downward like the rudder. It is used to stabalize the boat.

->main sheet: connected to the boom, used during tacking.

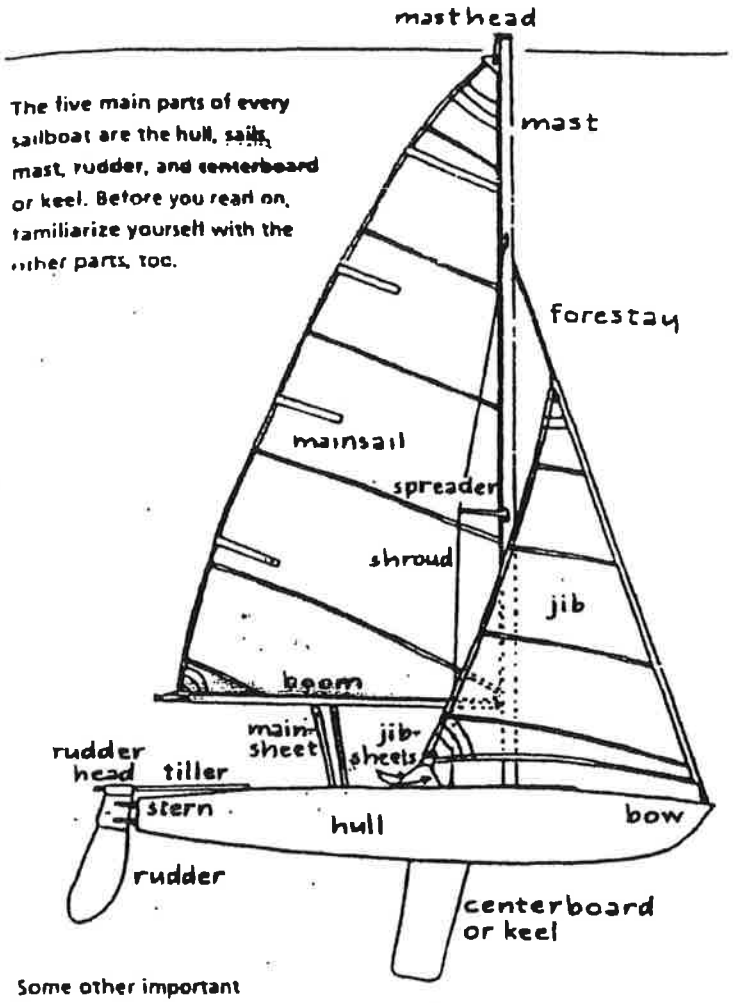
->jib sheets: connected to the clew of the jib sail.

->rig: setup of a boats sails and spars.

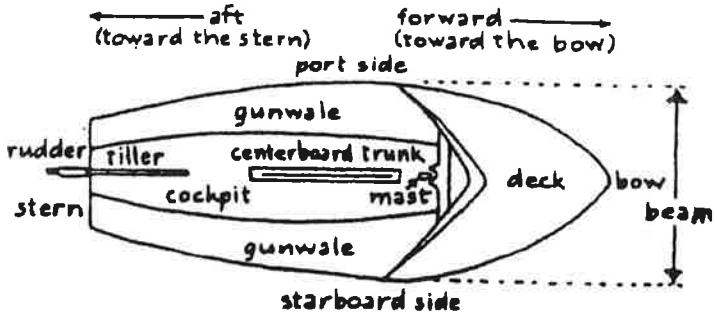
->dinghy: a small open boat

->beam: the width of your dinghy.

->forestay: the line which the jib hanks are connected to.



Some other important parts of your boat.



Underway—When the boat is moving and under control.

Parts of the Sail

->battens: plastic or wood stabalizers insertd into pockets on the Leech side of the main sail.

->clew: the aft grommetof each sail.

->grommet: the eyeholes used to attach the sails to the mast and boom.

->foot: the bottom edge of each sail

->tack: the forward grommet of each sail.

->head: the top grommet of each sail

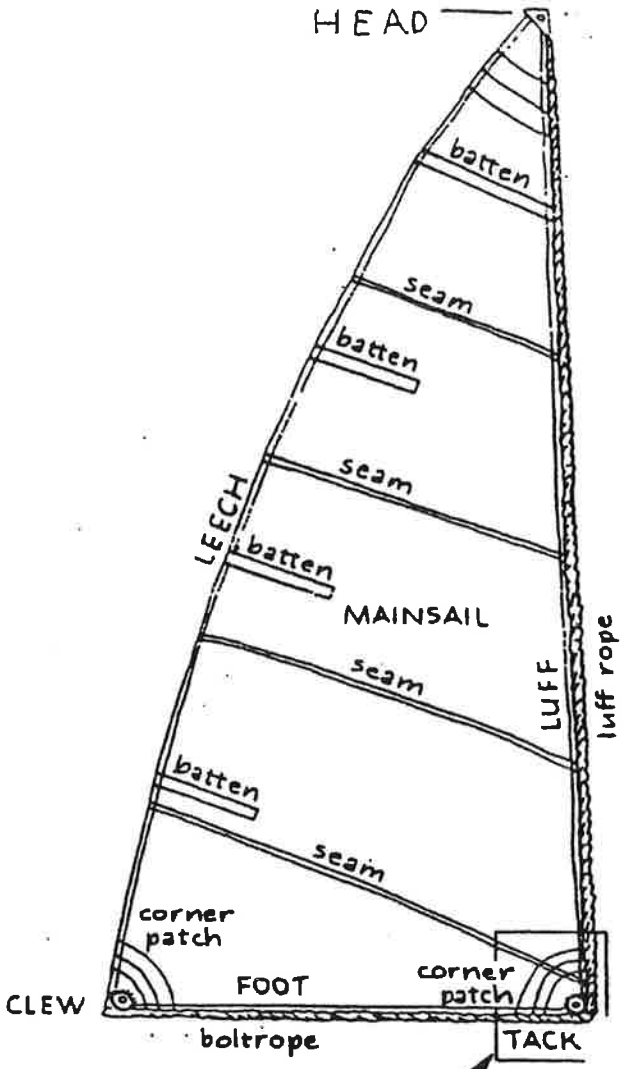
->luff: the forward edge of each sail.

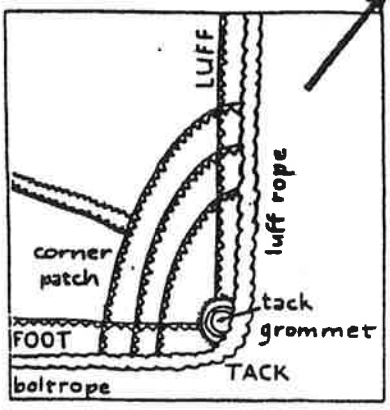
->leech: the aaft edge of each sail.

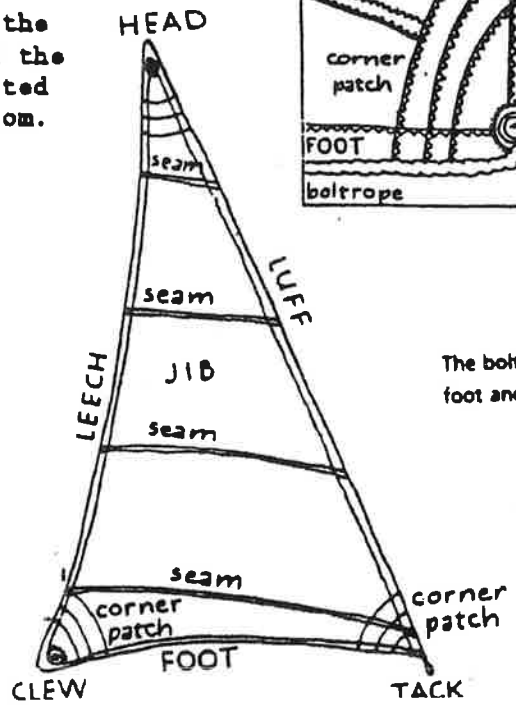
->boltrope: a rope sewn into the foot and luff edges of the sail.

->tack pin: used to secure the tack grommet of the main sail to the gooseneck of the boom and mast.

->outhaul: used to pull (haul) the main sail outward tward the stern of the boat. located on the center of the boom.







The anatomy of a sail: The sail's forward edge is the luff, the bottom edge is the foot, and the aft edge is the leech. The sail's top corner is the head, the forward corner is the tack, and the aft corner is the clew.

The boltrope is sewn into the foot and luff edges of the sail.

RIGGING

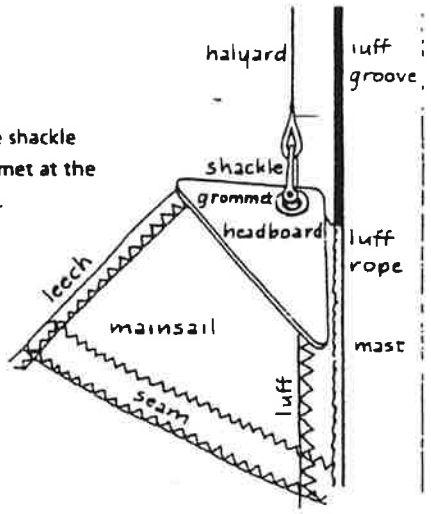
FIRST THE MAINSAIL

Lets put sails on your dinghy. This is often called *bending on*. It means to attach the sails to the mast and boom, which swings out from the mast and holds the foot of the mainsail. Start by unpacking the mainsail from its bag and piling it into the cockpit. Run your hands along the braided rope sewn into the *luff* edge of the sail. This is called a *boltrope* . Now find the *outhaul* and the *shackle* attached to it.

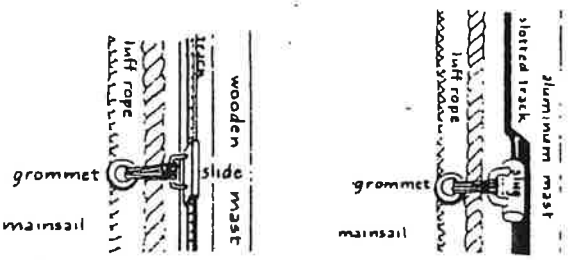
1. To fit the sail onto the boom, attach the clew grommet to the outhaul shackle.

2. By pulling the outhaul tied to the clew, you can guide the boltrope aft all the way along the boom until the grommet at the tack corner is lined up with the forward end of the boom. Fasten this grommet to the fitting on the boom with a shackle or metal peg called the tack pin. our boat's have no tack pin, rather we have a groove on the mast which holds our mainsail secure.

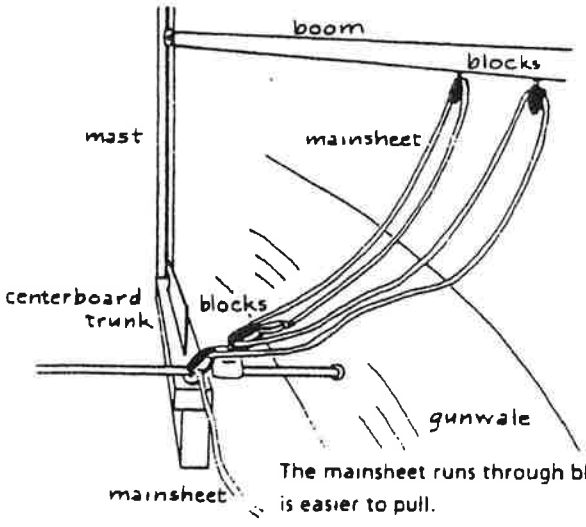
3. Now go back to the aft end of the boom, where you will find a pulley or block, tighten the outhaul by pulling the rope forward just enough to stretch the sail tight without puckering. Just like when you pull your T-shirt tight in two directions across your stomach. If it wrinkles its too tight.



A close-up shows the shackle hooked to the grommet at the head of the mainsail.



Some boats may be fitted with a sail track. Slides are sewn to the mainsail that fit in the track. As the halyard if pulled, these slides (or slugs) move up and down.



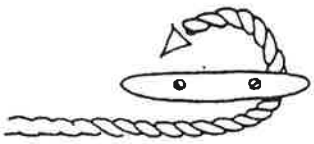
The mainsheet runs through blocks so it is easier to pull.

CLEATS AND KNOTS TO REMEMBER:

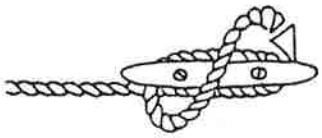
CLEATS

There may be at least four kinds of cleats on your boat. As you have seen, horn cleats are for tying a cleat hitch. You will see them on docks and pilings, too.

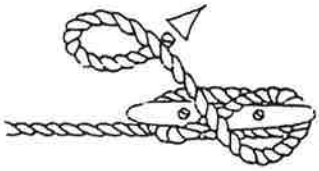
The other three are **jam, cam,** and **clam** cleats. They are all used to secure sheets. The jam cleat is very similar to the horn cleat, except that one end is pinched in and bites the line you wrap around it. The cam cleat has two spring-loaded jaws that hold the line as you pull it through them. The clam cleat has ridges like a clam shell. When you put a line in from the top, the ridges prevent it from slipping.



1. To tie a cleat hitch, wrap your line three-quarters of the way around the base of the cleat.

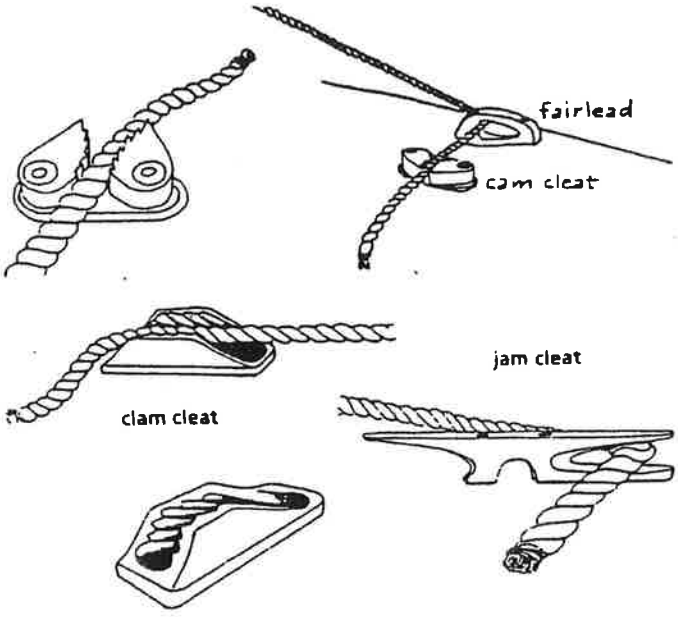


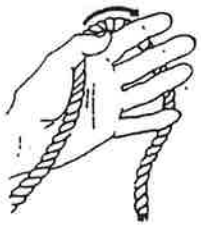
2. Cross under one horn, making an "S" on the top of the cleat.



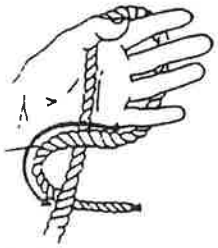
3. Twist a loop with the free end and, in one smooth move . . .

4. . . . hook the loop over the top of the cleat and snug it down.

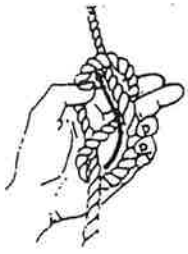




To make a stopper knot, hang the end of the jibsheet over your hand.



Take the loose end and wind it once all the way around itself, forming an 8.

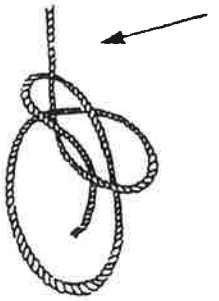


Pull the loose end through the top loop. This knot should be about one hand's width away from the end of the jibsheet.

1. Make a loop in the line, the rabbit's hole.

2. Take the end of the line, the rabbit, and bring it out of the hole.

3. The rabbit runs behind the tree and back down the hole.



4. Pull the rabbit in one direction and the tree in the other.

5. The finished bowline. You've made a knot that will not slip, yet can be easily untied.

4. when the sail is tight enough *make fast* the outhaul to the boom with a cleat hitch. a good reminder is " If I *tack* it down first, I'll have a *clew* what to do next."

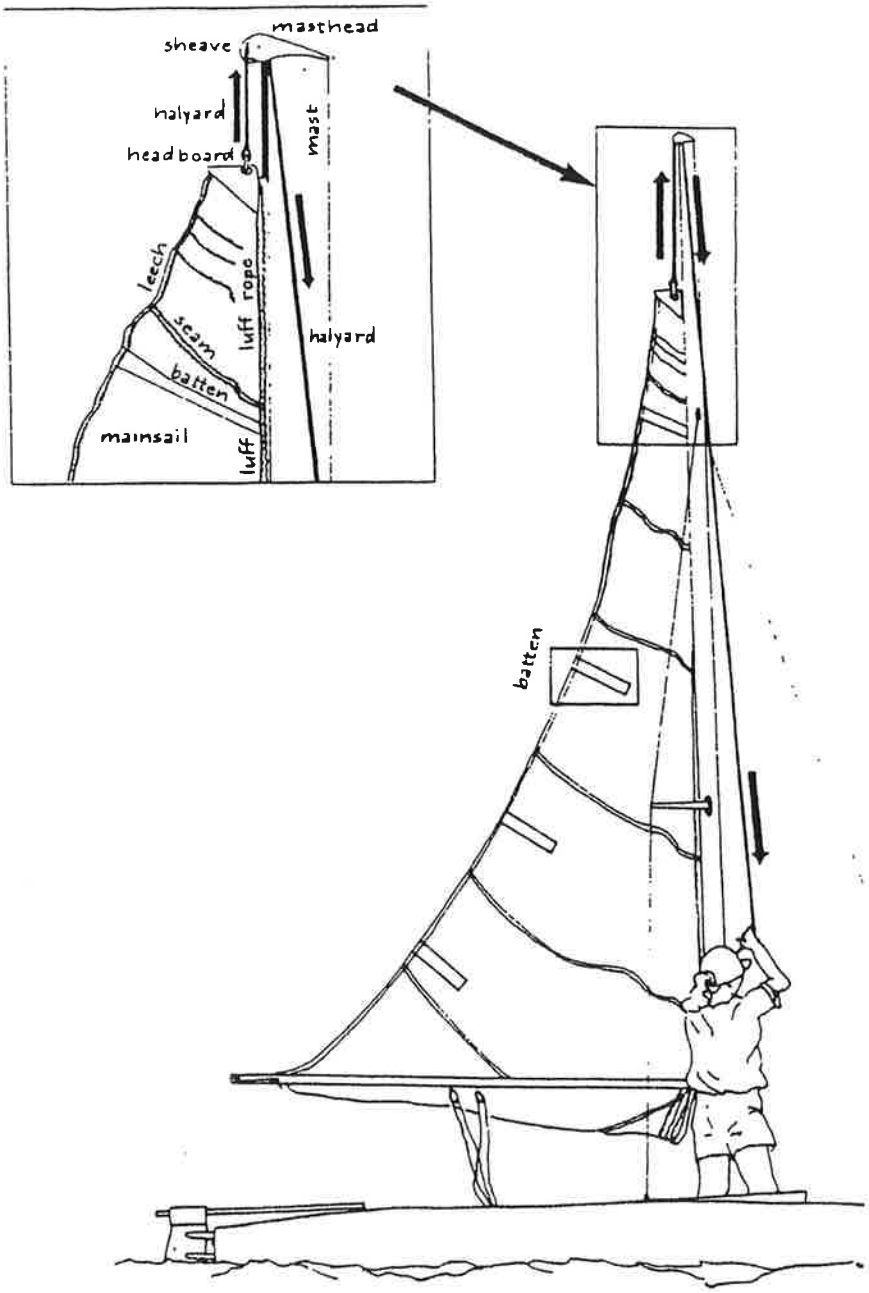
5. Find the main halyard. You will find it on the starboard or right side of the mast as you face forward. now attach the main halyard shackle to the head grommet of the sail. Be careful not to let go of the main halyard while doing this.

6. Look aloft (up) to see if your halyard has any tangles in it.

7. Feed the luff edge of the sail up into the track on the mast. the luff edge will have a cord (boltrope), you feed this into the slot.

8. Pull on the halyard until the mainsail is all the way up the mast. Be sure the luff is tight but flat, not puckered.

NOTE: you want your sail to flap in the breeze while in port, or moored. NOW STAND BACK AND ADMIRE YOUR *READY* MAINSAIL.



RIGGING THE JIB SAIL:

The three corners of the jib have the same names as those on the mainsail. Find the narrowest corner and that will be the head. Run your hand down along the luff to the foot. The luff will have *jib hanks* sewn along it to snap onto the forestay, so you can easily tell it from the leech. Find the forward corner of the foot , the tack, there will be a sailmakers label and more importantly a grommet.

1. Attach the grommet to the shackel saffixed to the bow of the boat.

2. Snap the jib hanks onto the forstay, working from the foot to the head

3. Now haul down the halyard until the jib is tight.

4. Cleat it to port.

5. find the fairleads on both port (left) and starboard (right) of the boat. Run the *jib sheets* located at each corner of the jib through these fairleads and tie a stopper knot (a figure eight knot.) at the ends to provent them from comming out of the fairleads.

RIGGING CHECKLIST

>Find where the wind is comming from and make sure your bow points into it. If your boat is tied to mooring it will automaatically try to point or head into the wind.

>Drop the centerboard and secure it.

>Stow personnal gear.

>Fit the mainsail.

>Fit the foot of mainsail from clew to the tack clear the halyard aloft.

>Uncleat the mainsheet and just let it hang for now.

>Feed hand over hand down the luff to be sure the head is not twisted.

>raise the mainsail

>Move forward with the jib and attach the tack to the shackle on the bow.

>Snap the jib hanks on the forstay.

>Run the jib sheets port and starboard outside the shrouds into the cockpit trough the fairleads.

>Put a stopper knot on your sheets.

>Attach the halyard shackle to the jib head for raising.

>Hoist the jib. Get the halyard tight and cleat it to port.

>Drop the rudder.

>Check your safety equipment.

AND YOUR OFF UP AND SAILING!

UNDERWAY

Now the adventure begins. You've rigged your boat. You have all the safety equipment aboard. Now we're going to figure out how to make the boat go. This is called getting underway.

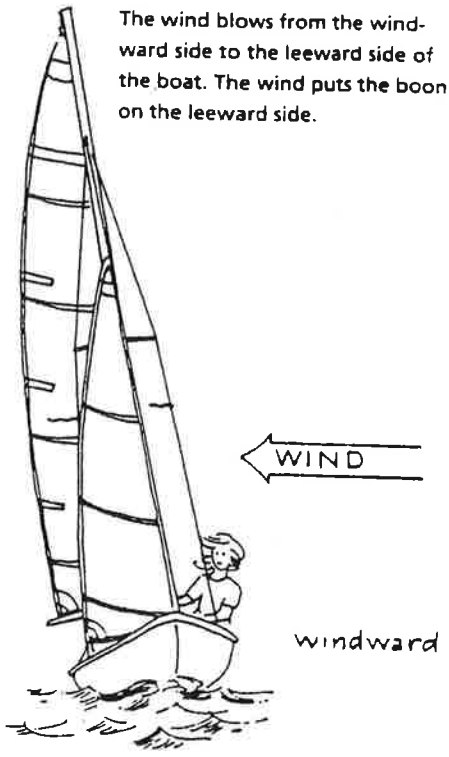
As sailors, we look at the world in a new way -- always checking where the wind is coming from, and how hard it's blowing. When the wind is blowing head on the bow causing the boat to point into the wind it is in the no sail zone. As long as the boat faces the no sail zone and the masinsail and jibsheet are loose, the wind can't push against one side of the sail or the other. Although it will pull from side to side agains the mooring, just to let you know it's ready to go.

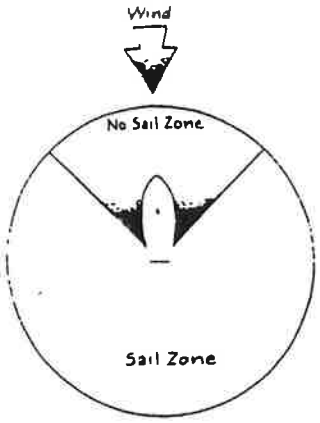
It is ONLY in the no sail zone that we raise our sail. Once we turn the bow so that the wind can blow on just one side of the sails, or fall off the wind, the boat will tug at it's mooring to get underway, like a dog straining on a leash. A good way to check which side of your boat the wind is coming over is to check the boom. It always hangs over the side of the boat away from the wind. The wind pushes it there.

The boom and the sails are on the leeward side—keep in mind that the wind pushes them away.

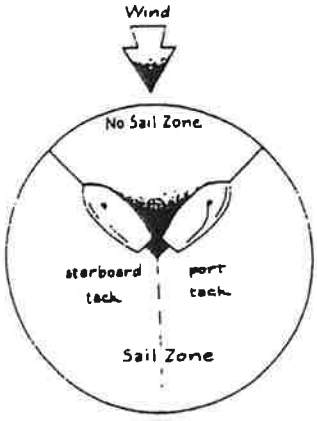
Cast Off—To untie from a dock or mooring.

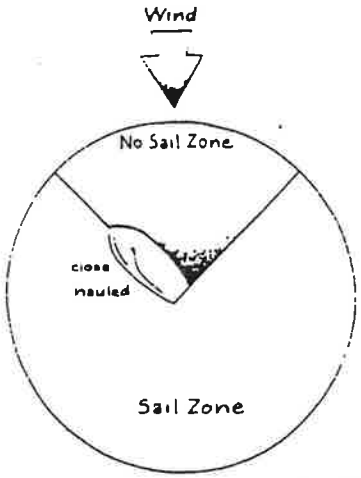
The wind blows from the windward side to the leeward side of the boat. The wind puts the boon on the leeward side.



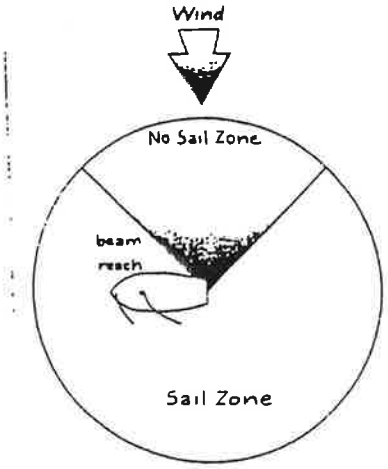


This is the pie with two slices missing to show the no-sail zone. The wind blows down the middle of the empty space, which extends for about 45 degrees on either side of center, 90 degrees altogether, or a quarter of the pie.





This boat is sailing as close to the wind as possible without spilling over into the no-sail zone. Its point of sail is close hauled. The sails are hauled in tight.

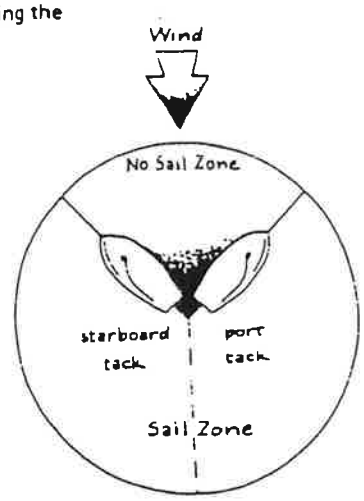


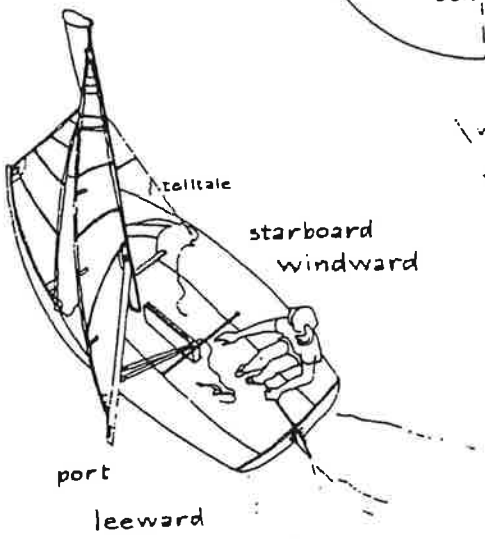
When the wind is directly off the side of the boat, the point of sail is called a beam reach. The sails are let out halfway.

THREE POINTS OF SAIL

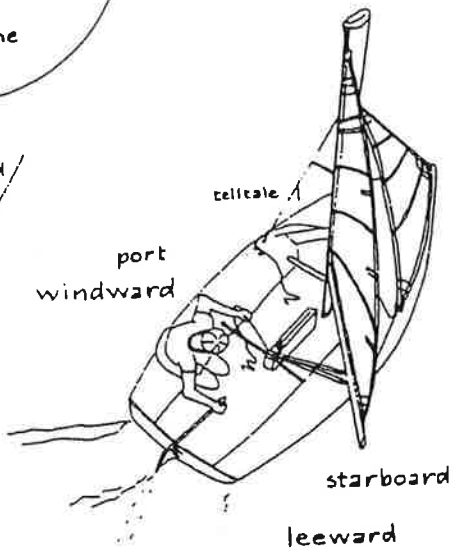
When the wind comes from right to left, it blows over the starboard side of the boat and pushes the sails to port. When the wind comes from left to right, it blows over the port side, pushing the sails to starboard.

Tack—(1) Forward lower corner of sail. (2) Direction of wind on sails (as in port tack or starboard tack). (3) To change tacks back and forth on a close-hauled point of sail to move toward the wind.

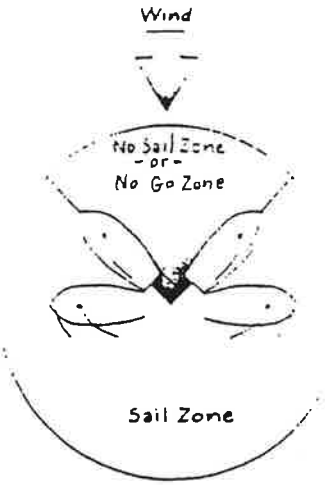




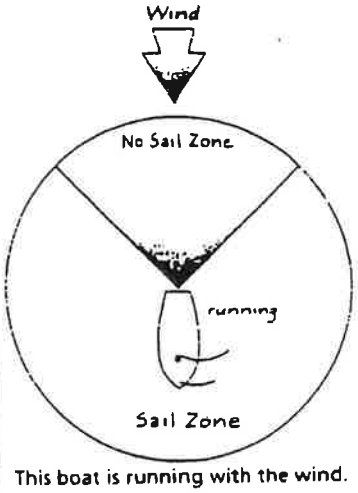
Boat is on starboard tack.



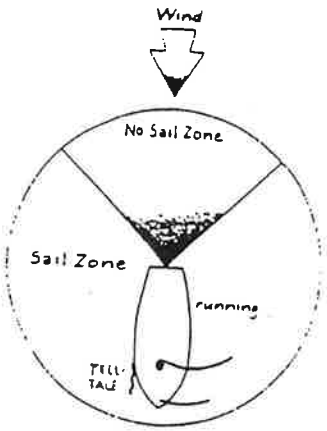
Boat is on port tack.

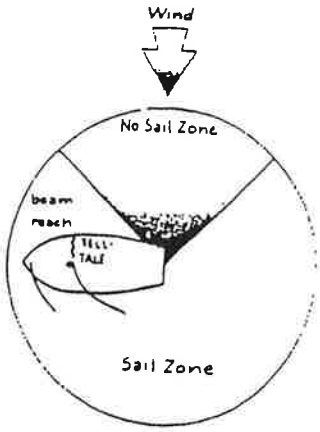


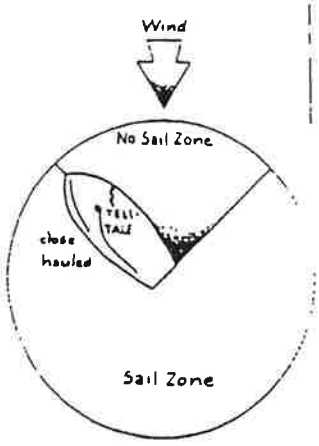
Two of these boats are on a starboard tack, one of them close hauled, the other on a beam reach. The other two boats are on a port tack. One is close hauled and the other is on a beam reach. Can you tell which is which?



This boat is running with the wind. The wind is directly behind the stern, and the sail is at right angles to the wind. This boat is on a starboard tack because the wind has blown the mainsail over the port side.

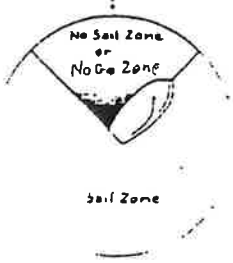


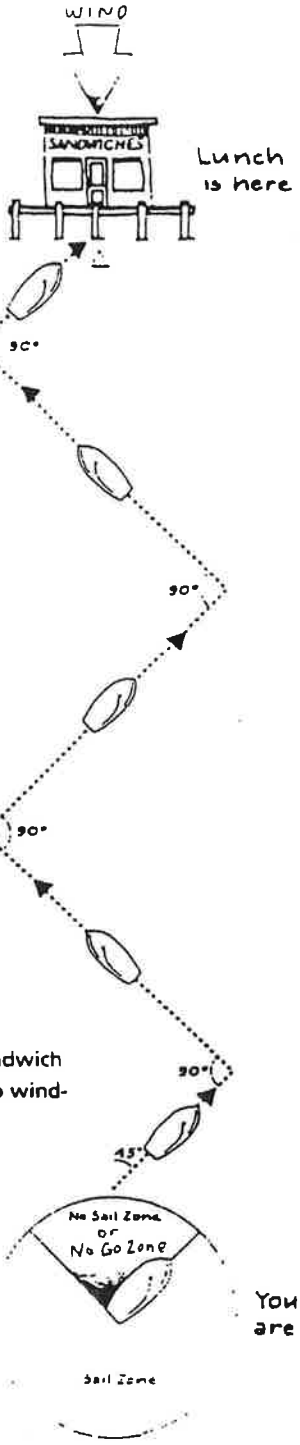




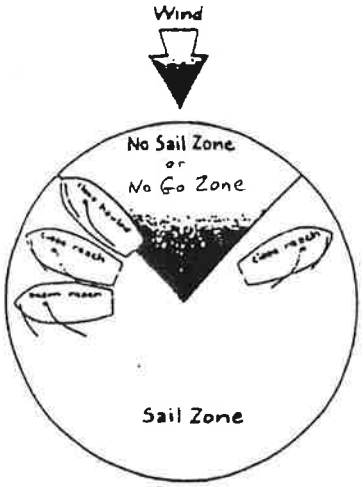
The telltale waving in the breeze tells you the point of sail. When the boat is close hauled, the telltale points to the middle of the mainsail. On a beam reach, it points directly to the mast. Running, it points directly ahead.

The boat cannot reach the sandwich shop if you try to go in a straight line upwind in the no-sail zone.

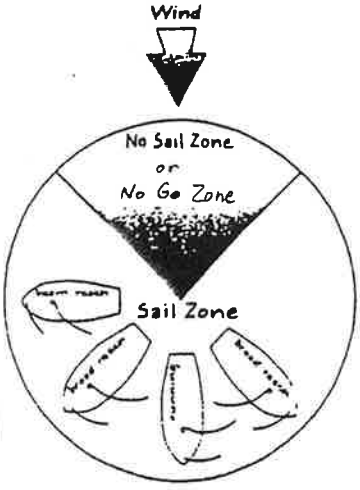




The boat can reach the sandwich shop only by zigzagging to windward, or tacking.



The point of sail between close hauled and beam reach is called a close reach. Here two boats are sailing on a close reach, one on a starboard tack, the other on a port tack. The sails are let out more than for close hauled, but not as much as for a beam reach.



The point of sail between a beam reach and running is called a broad reach. Here two boats are sailing on a broad reach, one on a starboard tack, the other on a port tack. The sails are let out more than for a beam reach, but not as much as for running.

Tacking and Jibing

Tacking/Coming About: This is the term for changing the course of a boat by turning the bow through the eye of the wind (the "No-Go-Zone") beginning with the wind blowing over one side of the boat and ending with it blowing over the opposite side. To tack or "come-about" take the following steps:

1. "Skipper" (person at the helm steering) gives command ***"Ready About!"***
2. Crew prepares for maneuver and responds ***"Ready!"*** when they are in position.
3. Skipper slowly pushes the tiller towards the sail and says ***"Hard a' lee!"***.
4. The boat crosses the eye of the wind, enters the "No-Go-Zone", the sails begin to luff, (flap loosely in the wind beginning at the front edge).
5. Crew releases leeward jibsheet and trims the opposite jibsheet to the new course.
6. As the sails are trimmed to the new course, skipper, crew and passengers redistribute weight by switching sides as needed to help balance the boat.
7. Skipper switches hands on the tiller and the mainsheet, pulling tiller back to the centerline of the boat to continue on the new course

Jibing: This is the term for changing the course of a boat by turning the stern through the eye of the wind (the "No-Go-Zone") beginning with the wind blowing over one side of the boat and ending with it blowing over the opposite side. Jibing involves the mainsail and boom moving from one side of the boat to the other very quickly. It is very important to use the mainsheet to control the sail during a jibe. In heavy winds, if you are unsure of your skills, tack the boat instead. To jibe take the following steps:

1. Skipper gives command ***"Prepare to jibe!"***.
2. Crew prepares for maneuver and responds ***"Ready!"*** when they are in position.
3. Skipper slowly pushes tiller away from sail and says ***"Jibe ho!"***
4. Skipper quickly pulls in the mainsheet as the boat turns, centering the mainsail over the boat as the stern crosses the wind and slowly releasing the mainsheet as the boat heads downwind on its new course.
5. At the same time, crew releases jib sheet and takes opposite jib sheet trimming to the new course.
6. ***Skipper, Crew and passengers all keep their heads low as the boom passes overhead.***
7. As the sails are trimmed to the new course, skipper, crew and passengers redistribute weight by switching sides as needed to help balance the boat.
8. Skipper returns tiller to the centerline of the boat to continue on course.

RULES OF THE ROAD

(Right-Of-Way)

WIND OVER POWER

*IN ALMOST ALL CASES A SAILBOAT UNDER SAIL ALONE HAS THE RIGHT-OF-WAY OVER A POWERBOAT

STARBOARD OVER PORT

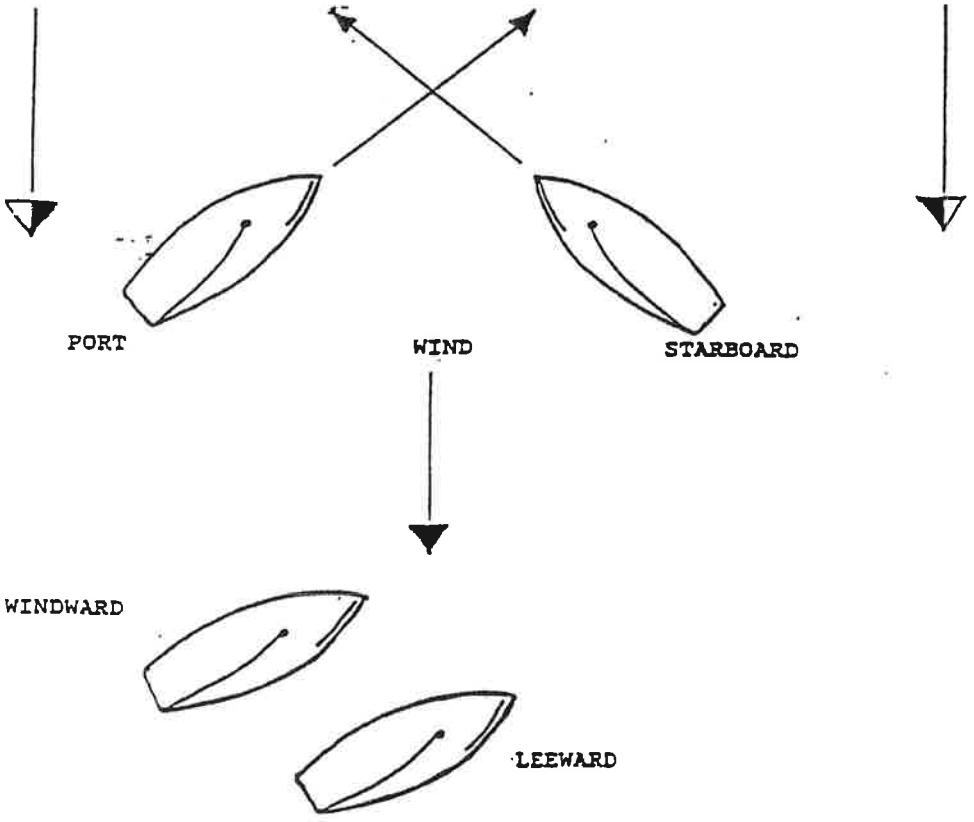
*A BOAT ON A STARBOARD TACK ALWAYS HAS THE RIGHT-OF-WAY OVER A BOAT ON A PORT TACK
*A STARBOARD TACK IS WHEN THE WIND BLOWS OVER THE STARBOARD (RIGHT) SIDE OF THE BOAT FIRST AND A PORT TACK IS WHEN THE WIND BLOWS OVER THE PORT (LEFT) SIDE OF THE BOAT FIRST

LEEWARD OVER WINDWARD

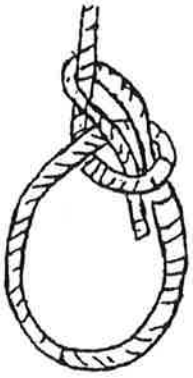
*WHEN TWO BOATS ARE ON THE SAME TACK, THE LEEWARD BOAT HAS THE RIGHT-OF-WAY OVER THE WINDWARD BOAT
*THE WINDWARD BOAT IS THE BOAT THAT THE WIND HITS FIRST AND THE LEEWARD BOAT IS THE BOAT THAT THE WIND HITS AFTER THE WINDWARD BOAT

OVERTAKING RULE

*WHEN ONE BOAT IS OVERTAKING OR PASSING ANOTHER BOAT, THE OVERTAKING BOAT MUST KEEP CLEAR

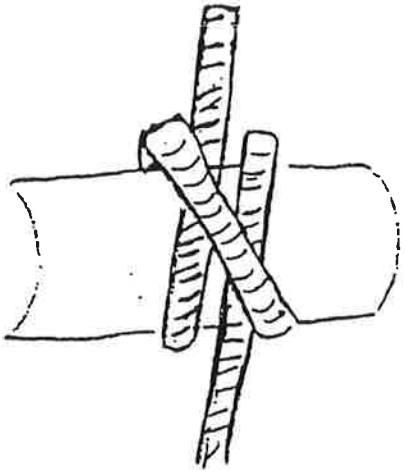


Knots To Learn



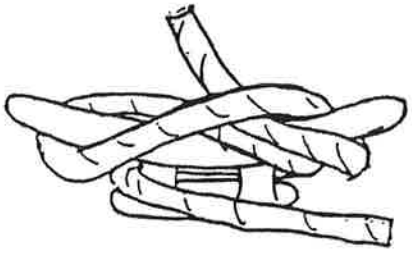
Bowline

Square



Clove Hitch

Double Half Hitch



Cleat

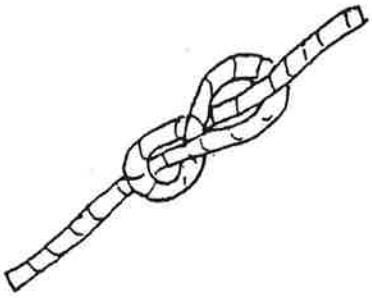


Figure-eight

CAPSIZING AND RECOVERING

CAPSIZE

*TO TIP A BOAT OVER IN THE WATER
*A BOAT CAN CAPSIZE WHILE SAILING BY TIPPING OVER TO LEEWARD OR TO WINDWARD
*A LEEWARD (DOWNWIND; AWAY FROM THE WIND) CAPSIZE IS COMMON IN STRONG OR GUSTY WINDS WHERE THE BOAT HEELS (TILTS) TOO MUCH AND TIPS OVER
*A WINDWARD (TOWARD THE WIND; THE SIDE THE WIND BLOWS UPON) CAPSIZE CAN OCCUR IN STRONG WINDS WHEN SAILING DOWNWIND
*AFTER CAPSIZING, A BOAT MAY "TURTLE". A BOAT IS TURTLED WHEN IT HAS FLIPPED COMPLETELY UPSIDE-DOWN (180 DEGREES)

CAPSIZE RECOVERY PROCEDURE

1. MAKE SURE THAT YOUR CREW IS SAFE
   *ASK THE QUESTION: ARE YOU OK?
   *WAIT FOR A YES OR NO VERBAL RESPONSE FROM EACH CREW MEMBER TO MAKE SURE EVERYONE IS CONSCIOUS

2. SWIM AROUND THE BOAT AND GET WEIGHT ON THE CENTERBOARD AS QUICKLY AS POSSIBLE
   *IF THE CENTERBOARD IS DIFFICULT TO REACH, PUT YOUR FOOT UNDER THE BOAT AND PUSH THE CENTERBOARD UP THROUGH THE HULL OF THE BOAT.

3. ANOTHER CREW MEMBER SHOULD SWIM TO THE END OF THE MAST AND PLACE IT ON THEIR SHOULDER IN ORDER TO AVOID TURTLING.

4. THE REMAINING CREW MEMBERS SHOULD SWIM TO THE BOW OF THE BOAT AND POINT THE BOW INTO THE EYE OF THE WIND. THIS WILL ALLOW WIND TO GET UNDER THE MAINSAIL.

5. WHEN THE BOAT IS UPRIGHT, MAKE SURE THE SHEETS ARE LOOSE SO THAT THE BOAT DOES NOT SAIL AWAY WITHOUT THE CREW

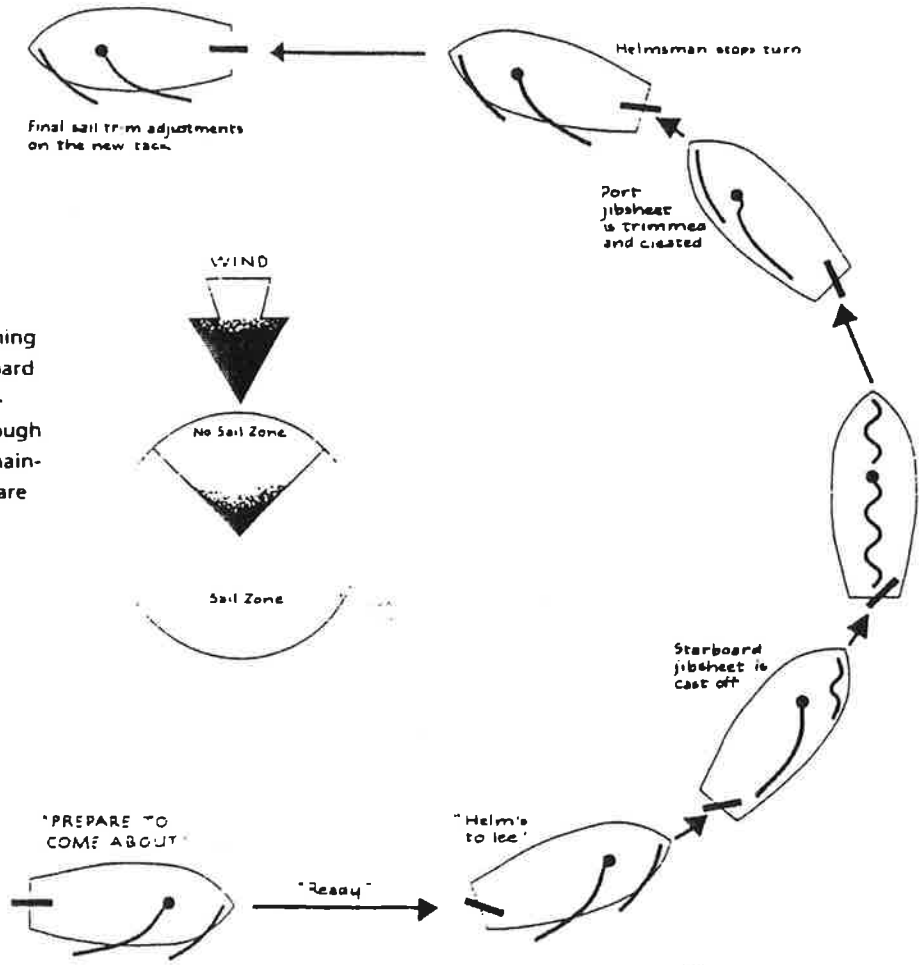
6. POSITION AT LEAST ONE PERSON ON EACH SIDE OF THE BOAT AND CAREFULLY CLIMB INTO THE BOAT AT THE SAME TIME

7. AFTER EVERYONE IS SAFELY BACK IN THE BOAT, COLLECT THE JIB AND MAIN SHEETS AND GRAB THE TILLER

8. PUSH THE TILLER HARD ONE WAY OR THE OTHER UNTIL THE SAIL CATCHES SOME WIND AND START SAILING AGAIN

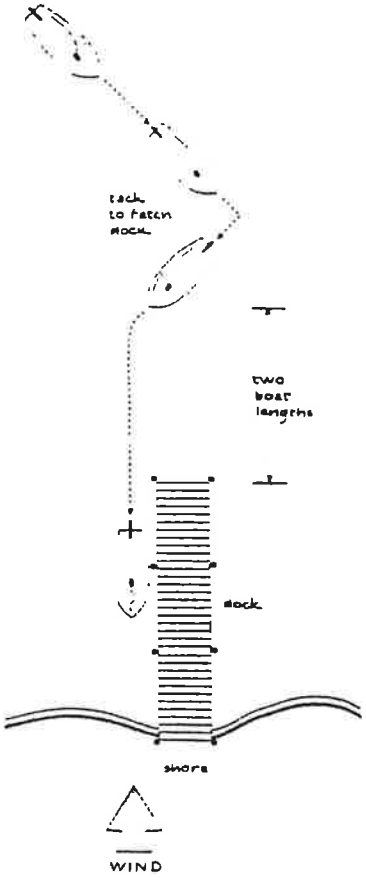
COMING ABOUT

This boat is coming about, turning around from a port to a starboard tack. You push the tiller to leeward, and the bow moves through the no-sail zone. The jib and mainsail move across the boat and are set on the new leeward side.

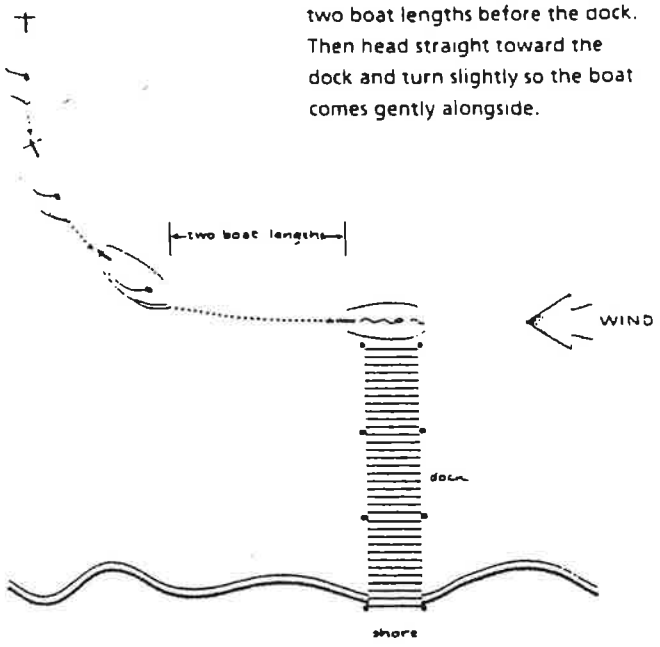


DOCKING

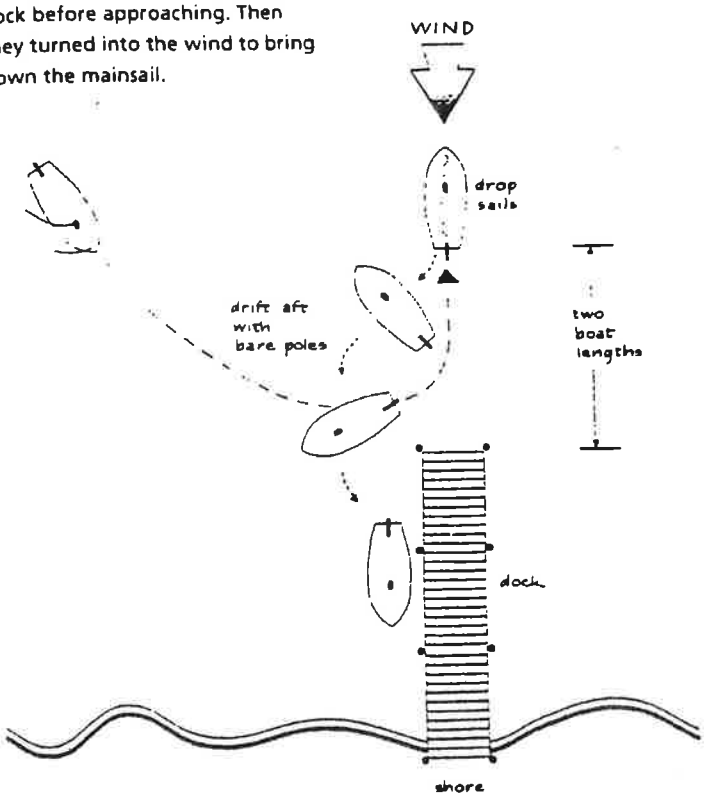
This boat is positioning itself by sailing parallel to the dock a boat length or so away. The skipper turns into the wind to head for the intended docking spot.

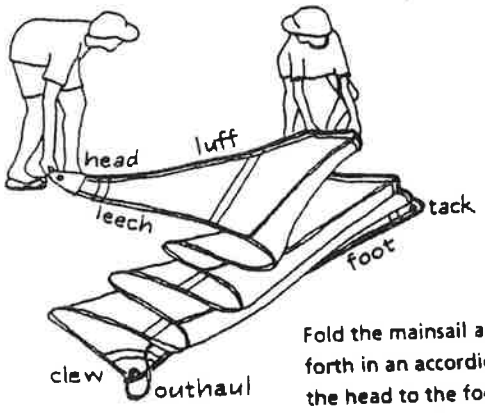


Alongshore wind demands a reach, then head up into the wind (no-sail zone). Approach by luffing the jib two boat lengths before the dock. Then head straight toward the dock and turn slightly so the boat comes gently alongside.



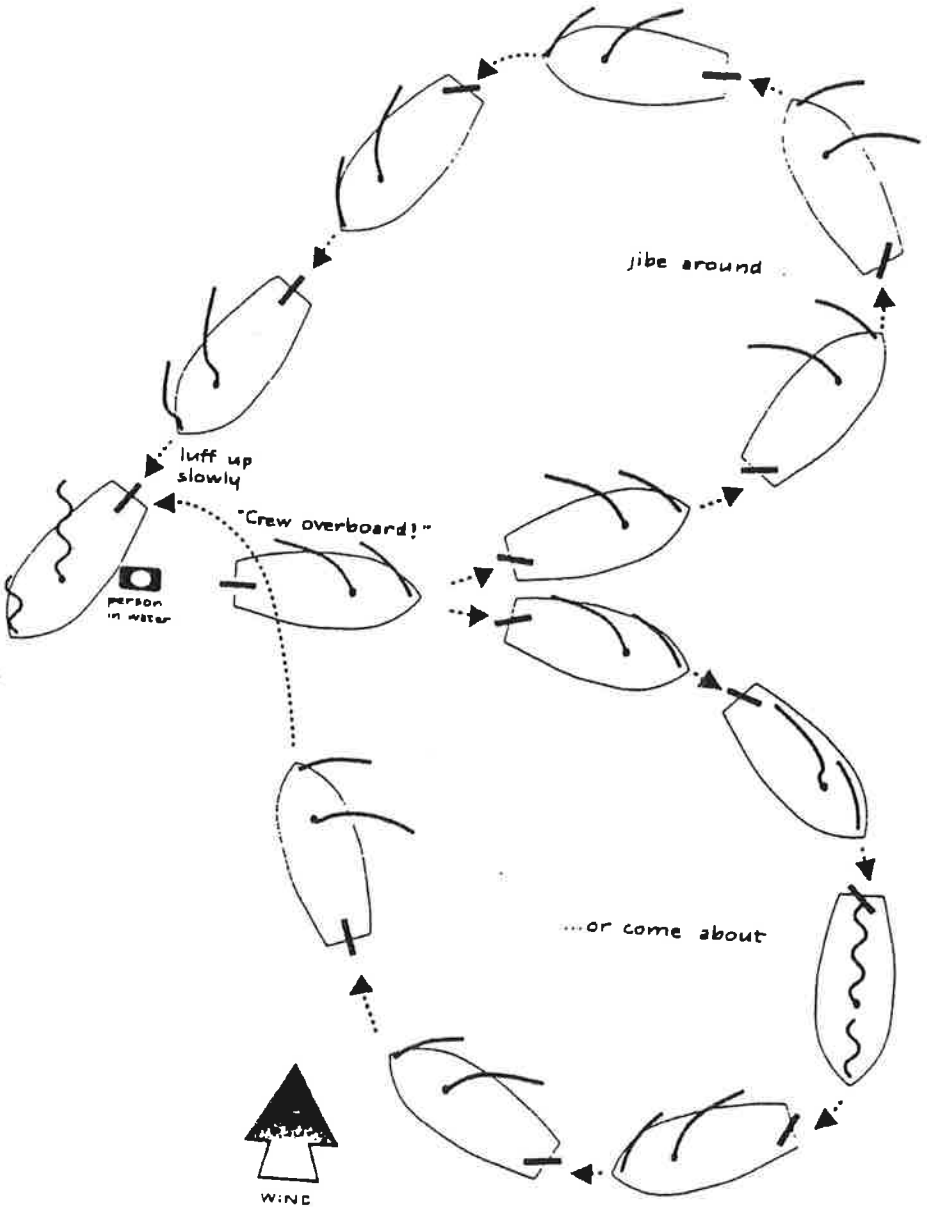
This skipper and crew positioned themselves to windward of the dock before approaching. Then they turned into the wind to bring down the mainsail.





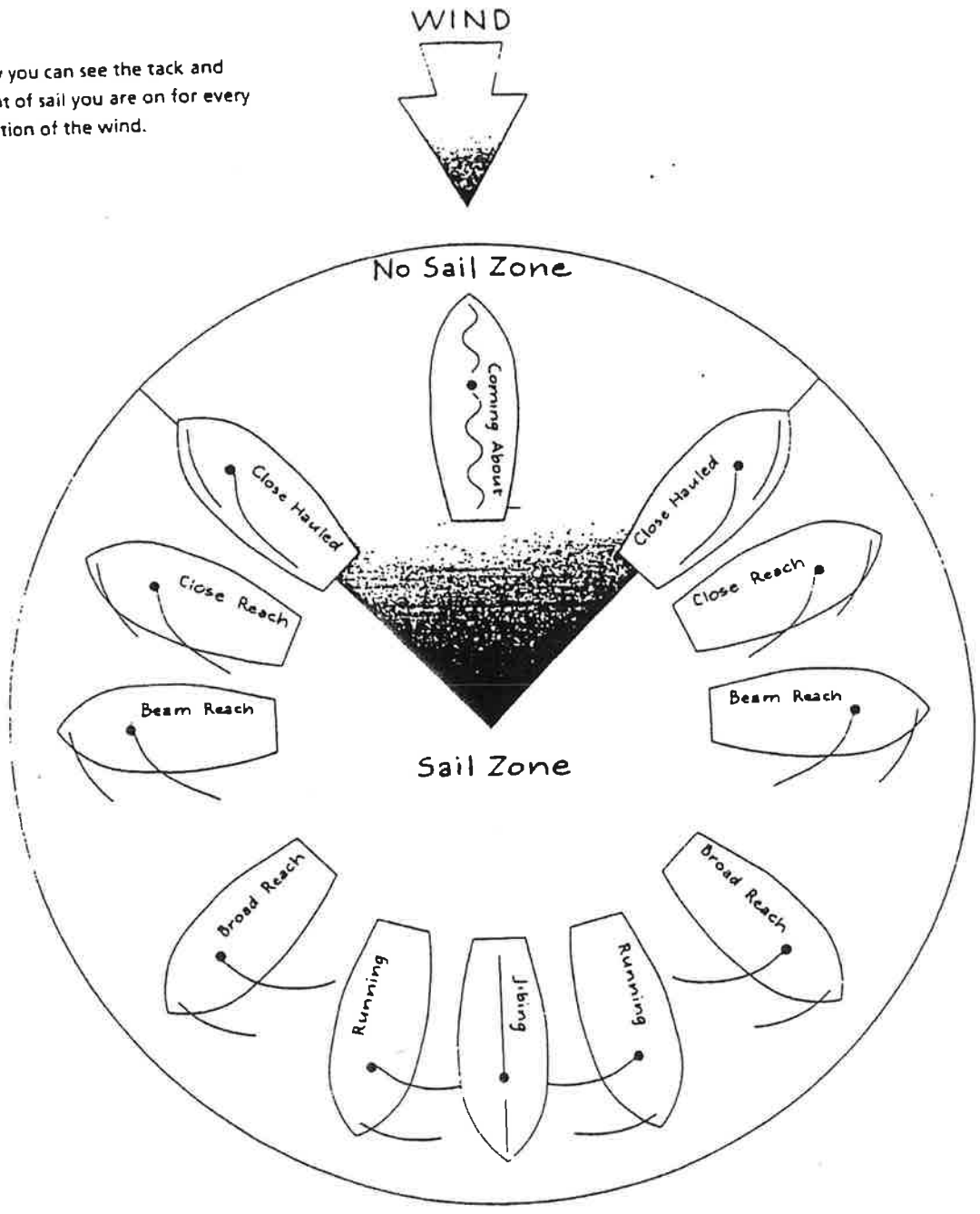
Fold the mainsail and jib back and forth in an accordion pleat, pulling the head to the foot.

MAN OVERBOARD DRILL

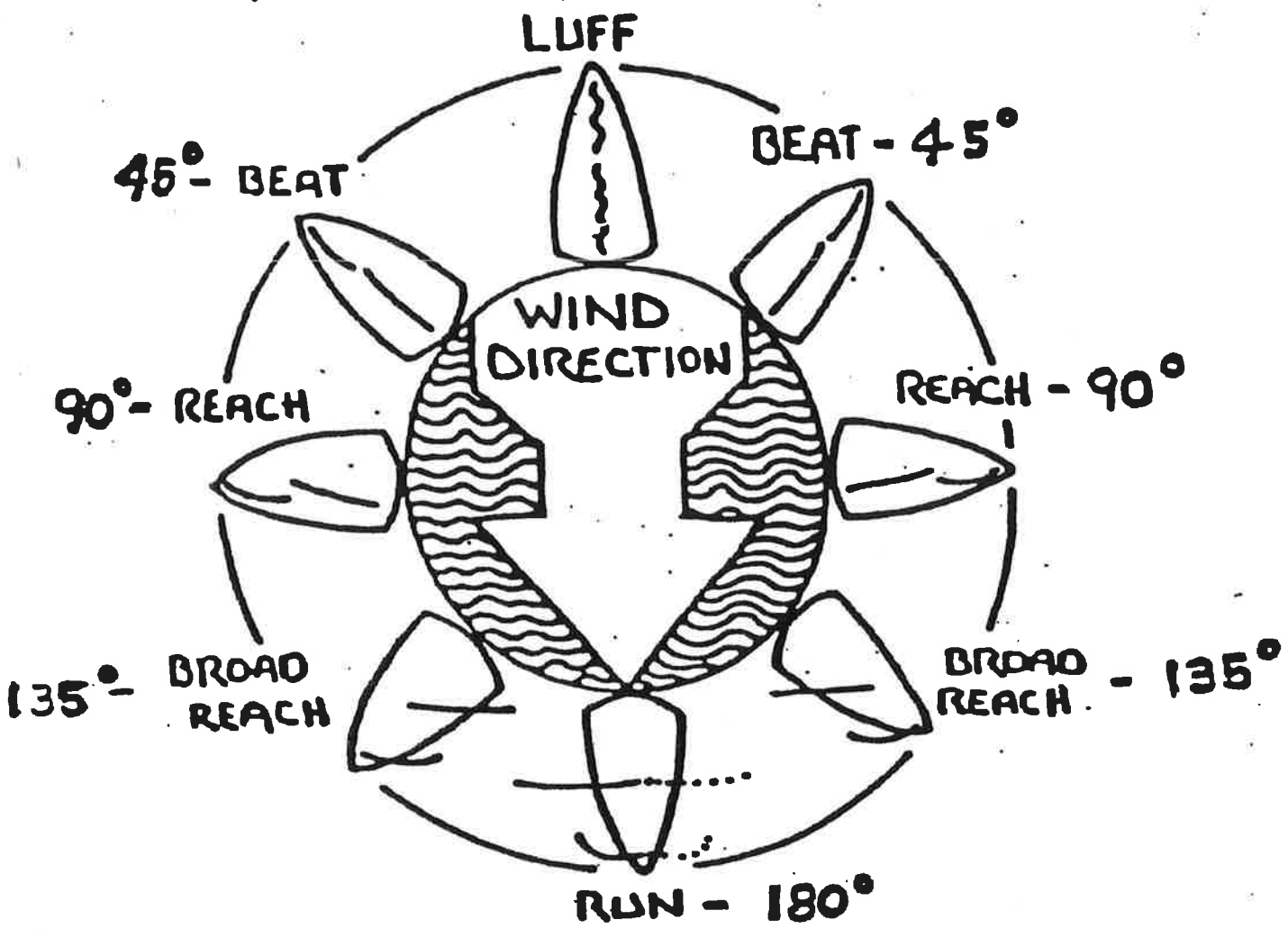


Quickly sail to leeward, either by jibing or by coming about, and luff up alongside the person in the water.

Now you can see the tack and point of sail you are on for every position of the wind.



POINTS OF SAIL



LUFF / IRONS	The bow is pointed directly into the wind which prevents the sails from filling properly.
BEAT / CLOSE HAUL	The bow is pointed approximately 45 degrees to the eye of the wind. Sails are well trimmed over the stern of the boat.
BEAM REACH	The bow is pointed at 90 degrees to the eye of the wind and sails are approximately halfway out.
BROAD REACH	The bow is pointed approximately 110 to 150 degrees to the eye of the wind. Sails are between halfway and completely out.
RUN / RUNNING	The bow is pointed downwind at approximately 180 degrees to the eye. Sails are completely out and the boat is "running" with the wind.

Orientation and Common Commands

Starboard	**The right side of the boat when looking forward.**
Port	**The left side of the boat when looking forward.**
Windward	**Toward or facing the wind; upwind.**
Leeward	**Away from the wind, downwind.**
Up, Upwind	**Towards the wind.**
Down, Downwind	**Away from the wind.**
Fore	**Forward, toward the front of the boat.**
Aft	**Toward the rear of the boat.**
Beam	**The widest part of the boat; a wind from over the side of the boat**
Ready about	**Command to prepare to tack**
Hard a' lee	**Command as the helm is put hard to the lee side of the boat, executing the tack**
Prepare to Jibe	**Command to prepare to jibe**
Jibe Ho!	**Command that the jibe is commencing.**
Ease sheets	**Command to let out the line controlling the sail.**
Trim sheets/Sheet in	**Command to haul in on the line controlling the sail.**
Cast off	**Command to unmoor the boat.**

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Sails, Sail Repair & Sailcloth Gear
SAIL la Vie, White Bear Lake, 651-251-5494
http://saillavieusa.com/

YOU DO NOT HAVE TO OWN A BOAT OR BE EXPERIENCED TO SAIL;

Lake Harriet Yacht Club http://www.lhycsailing.com/
Anyone is welcomed to crew. No experience needed. Times to show up at picnic table just east of the band shell are: ∩
Wednesdays between 5:45-6:00p for the 6:30p race,
Saturdays between 11:45a-12:15p for the 1p race, and
Sundays between 9:30-9:55a for the 10:30a race.

Wayzata YC -Lake Minnetonka http://www.wyc.org/
Anyone is welcomed to crew. No experience needed. Times to show up at round "crew needed" table are: ∩
Thursdays between 5:00.- 5:20p for the 6:30p race, and
Sundays between 12 noon - 12:20p for the 1:30p race.

∩ the need for extra crew is greatest when wind exceeds 10mph –see; wunderground.com

WBYC -White Bear Lake
wbycsail.org

Medicine Lake Sailing Club
medicinelakesailingclub.org

Twin Cities Sailing Club *-Cooperative*
http://tcsailing.com/tcsc/
at Lake Harriet Tuesday evenings 5:45-7p
Saturday 10-11:30a

CYC -Lake Calhoun
lakecalhoun.org

SAILING STORES
Seven Seas – Shorewood http://www.sevenseas-mn.com
Hi Tempo and *White Bear Boat Works* –White Bear Lake
West Marine - Minnetonka, Bloomington, Stillwater

LIDO 14 -the boat the Minneapolis Park Board teaches on . . .
http://www.santanasailboats.com/boats/lido14/lido14.htm

"A rising tide lifts all boats" -JFK

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