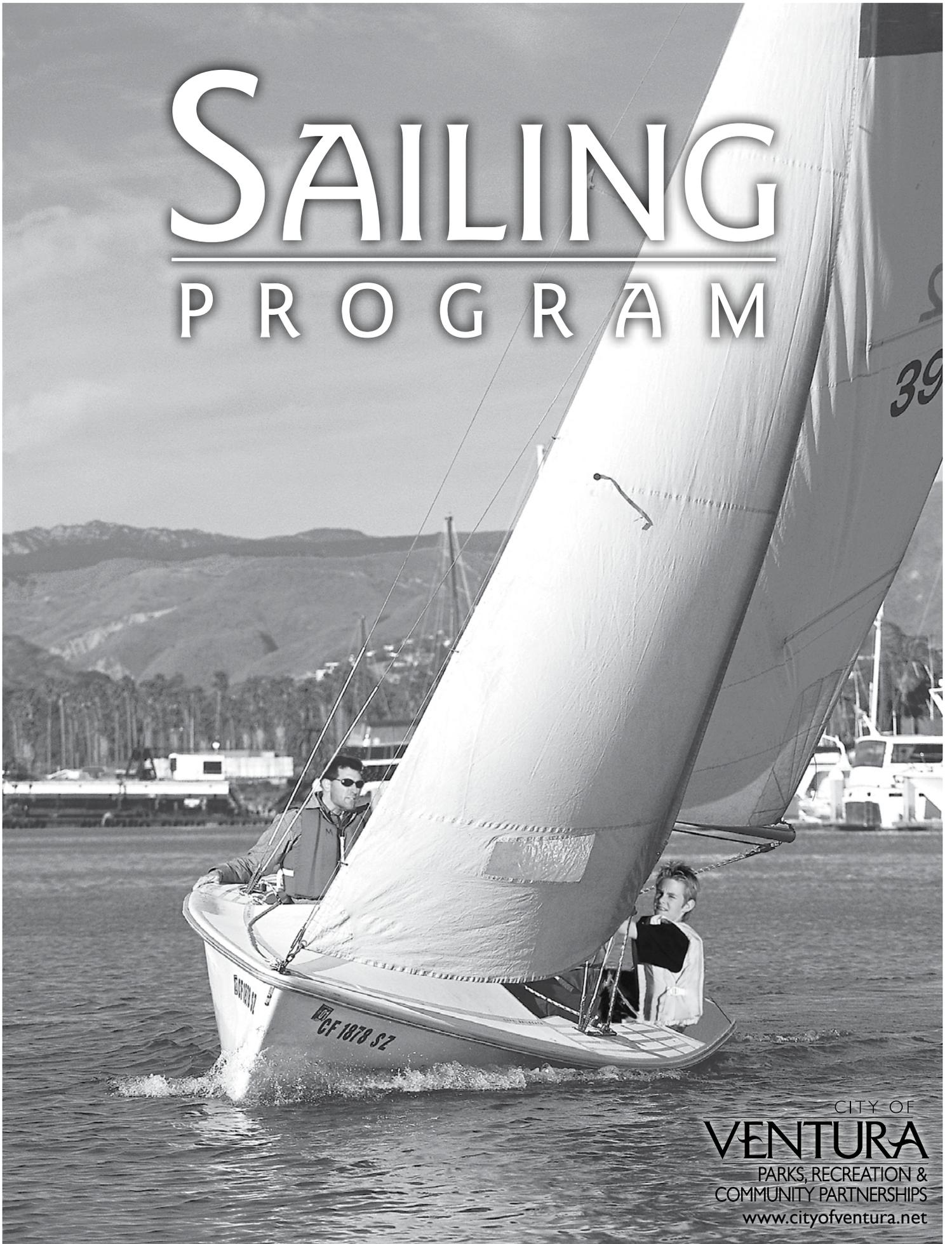


SAILING

PROGRAM



CITY OF
VENTURA
PARKS, RECREATION &
COMMUNITY PARTNERSHIPS
www.cityofventura.net

Forward

Welcome to the City of Ventura Leo Robbins Community Sailing Center!

In 1972 Ventura started its sailing program—renamed in 1997 to honor of its longtime director as the Leo Robbins Sailing Center. In 2006, it received the “Community Sailing Council Outstanding Year-round Program Award” from the US Sailing Association, the national governing body of sailing in the United States—and the national organization behind Olympic Sailing and the US Olympic Sailing Team. The center is an affiliate member of both the US Sailing Association and the American Sailing Association.

The City of Ventura Parks, Recreation and Community Partnerships Department currently operates the Leo Robbins Sailing Center with over 20 boats, ranging from 8-foot sabots to a 30-foot Catalina 30, plus kayaks. It maintains its boats and equipment with support from the State of California Department of Boating and Waterways, the Ventura Maritime Foundation (a non-profit) and private donations.

The Sailing Center provides youth and adult sailing courses, coastal and celestial navigation, passage making, kayaking, youth camps and safe boating courses year round, for beginners to advanced students. Our current offerings can be downloaded at www.cityofventura.net/sailkayak and clicking on “Sailing & Kayaking Brochure”.

Our dedicated staff members and volunteers hope to provide you with a rewarding sailing experience. I bid you fair winds and many thanks for participating in our programs.

—Dave Bowen, Sailing & Kayaking Specialist

Beginning Sail

Chapter I

Welcome to the award winning Ventura Sailing Program. We're glad to have you with us and are happy to share our sailing skills and love for the sport. Whether you want to become a racer, cruiser, or daysailor it all starts with the basics covered in a beginning sailing course. Thousands of students have gone through our program and become confident successful sailors. With hard work, practice, patience, and reading you can too.

We offer classes for the beginner, intermediate, advanced and racer in private, semi-private and group sessions with our boats or on your boat if you want.

The Ventura Sailing Center is located at the City of Ventura Marina Park located at the end of Pierpont Boulevard just off the intersection of U.S. 101 freeway and Seaward Avenue. Our docks are in the Pierpont basin.

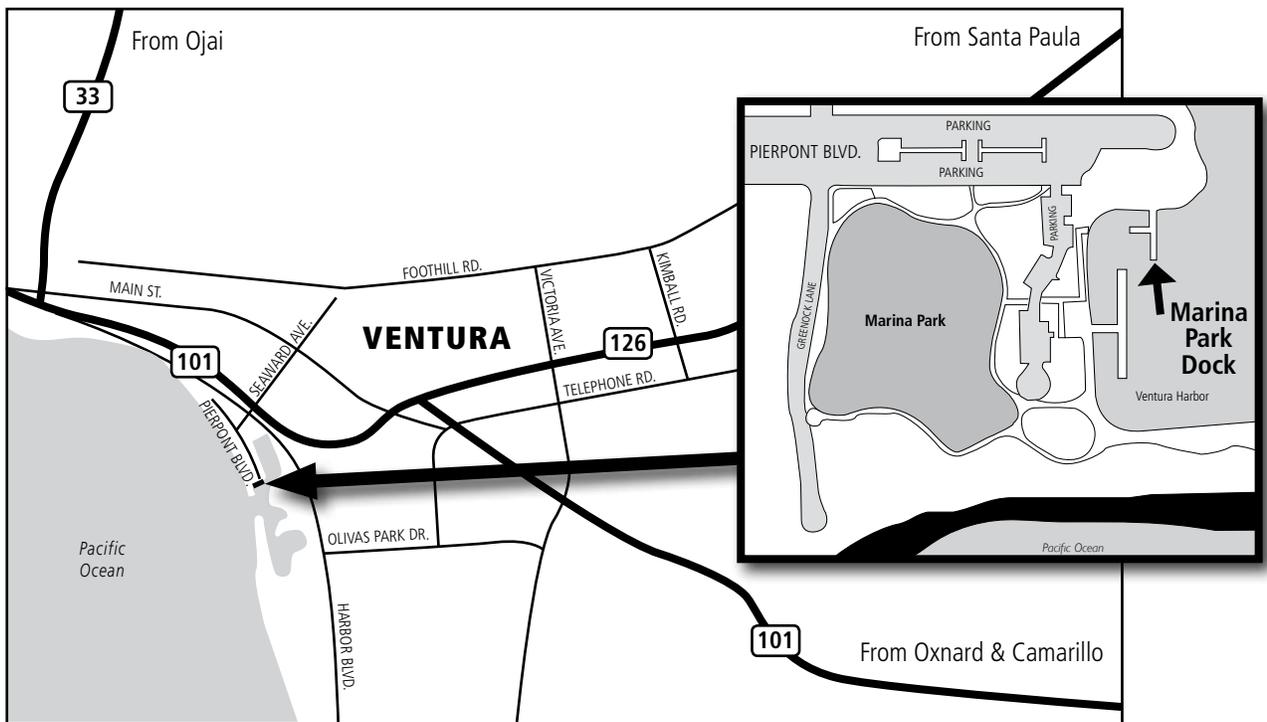


Fig. 1 Location map

We use a variety of boats from 8' Sabots, 14' Catalina Capri's, 27' Olympic Solings, 24' Cal T4 and a 30' Plastrend PT30 cruiser/racer.



Fig. 2 Catalina Capri 14.2 profile

Length:	14' - 2"	Catalina Yachts
Beam:	6' - 2"	21200 Victory Blvd.
Draft:	Board up 0' - 4"	Woodland Hills, CA 91367
	Board down 3' - 4"	818-884-7700 Voice
Sail area:	122 sq. ft.	818-884-3810 Fax
Weight:	340 lbs. (approx.)	

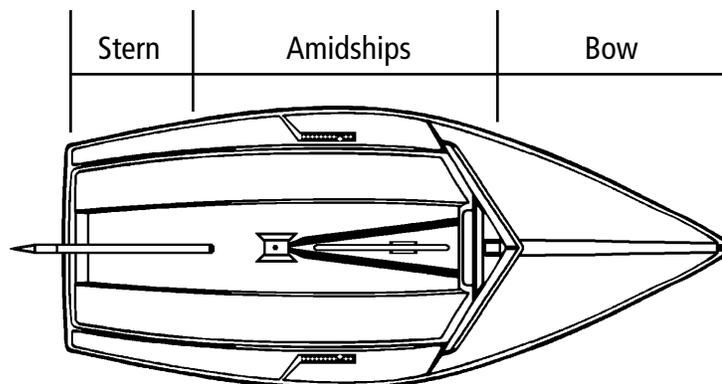


Fig. 3 Catalina Capri 14.2 top view

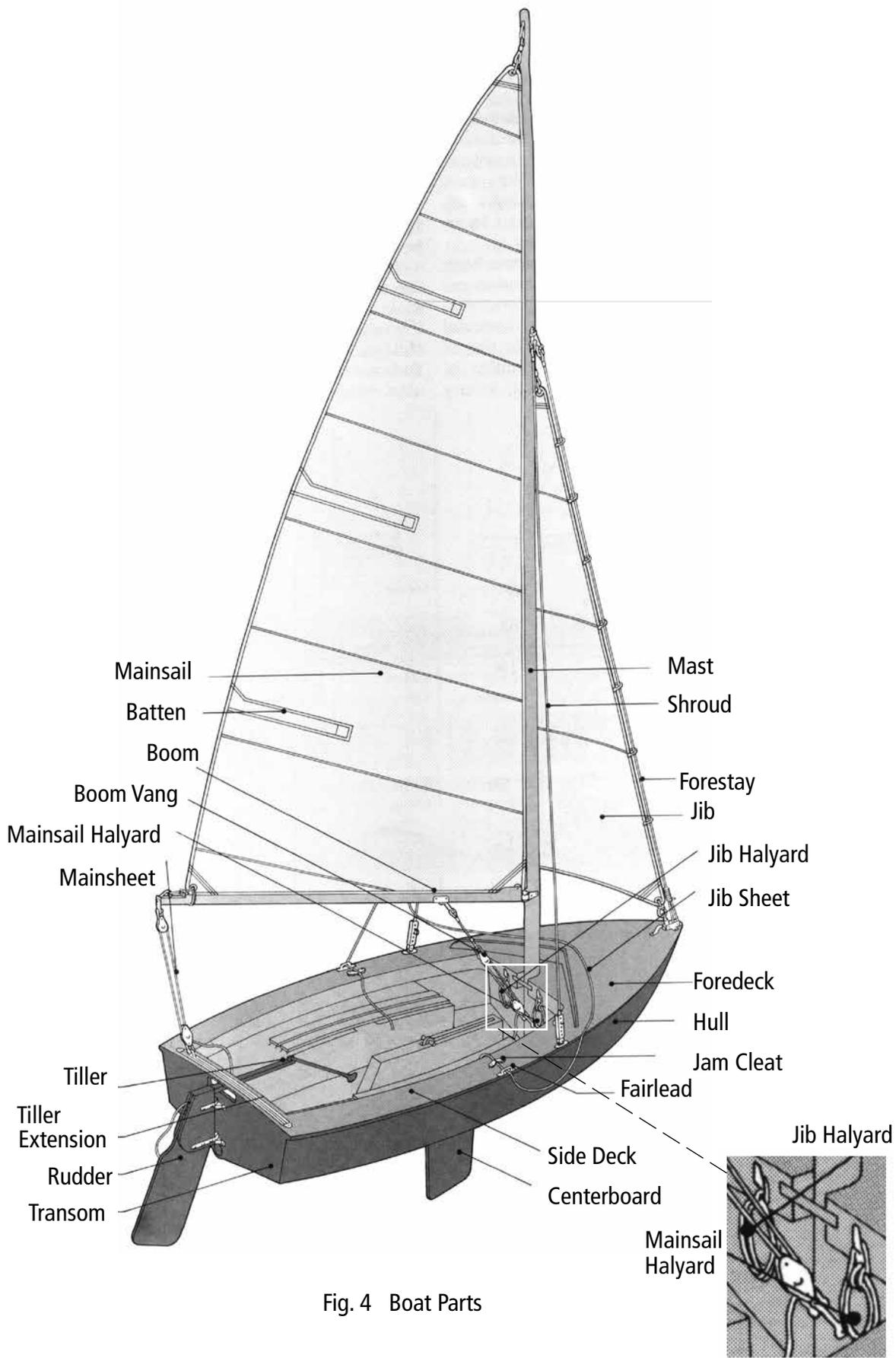


Fig. 4 Boat Parts

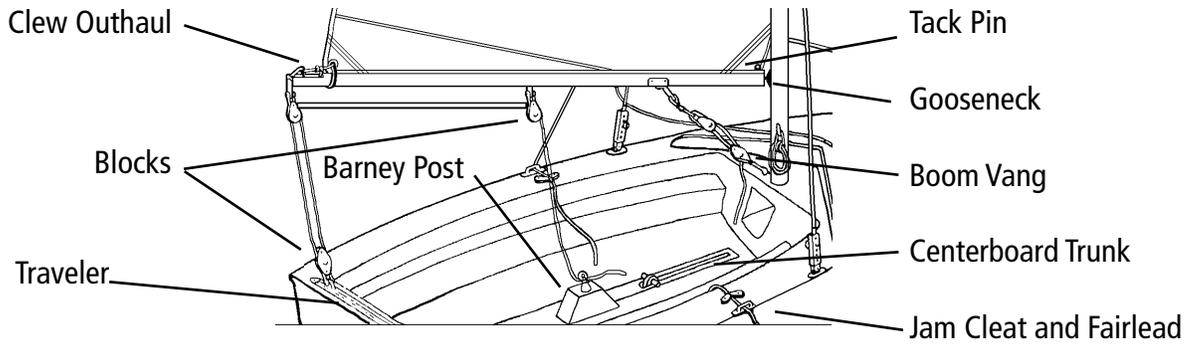


Fig. 5 Cockpit Details

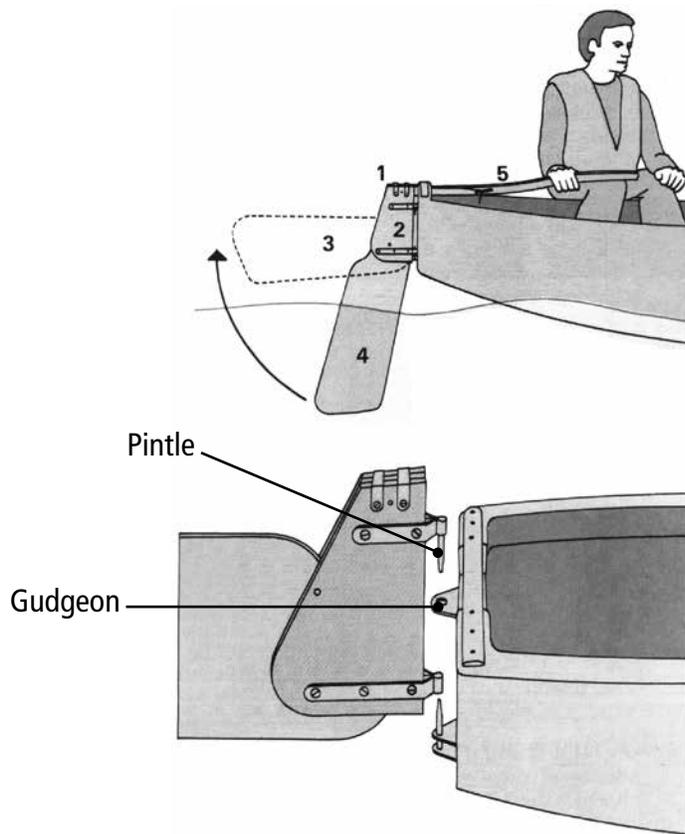


Fig. 6 The rudder

Parts of the Rudder

The rudder and tiller are fitted together at the hood (1). There are two types of rudders one piece and two piece. On the two piece rudder the stock (2) is fitted with a blade which can be raised (3) or lowered (4). A shock cord (5) keeps the rudder in position.

To install the rudder, align the pintles and the gudgeons and drop the rudder into position.

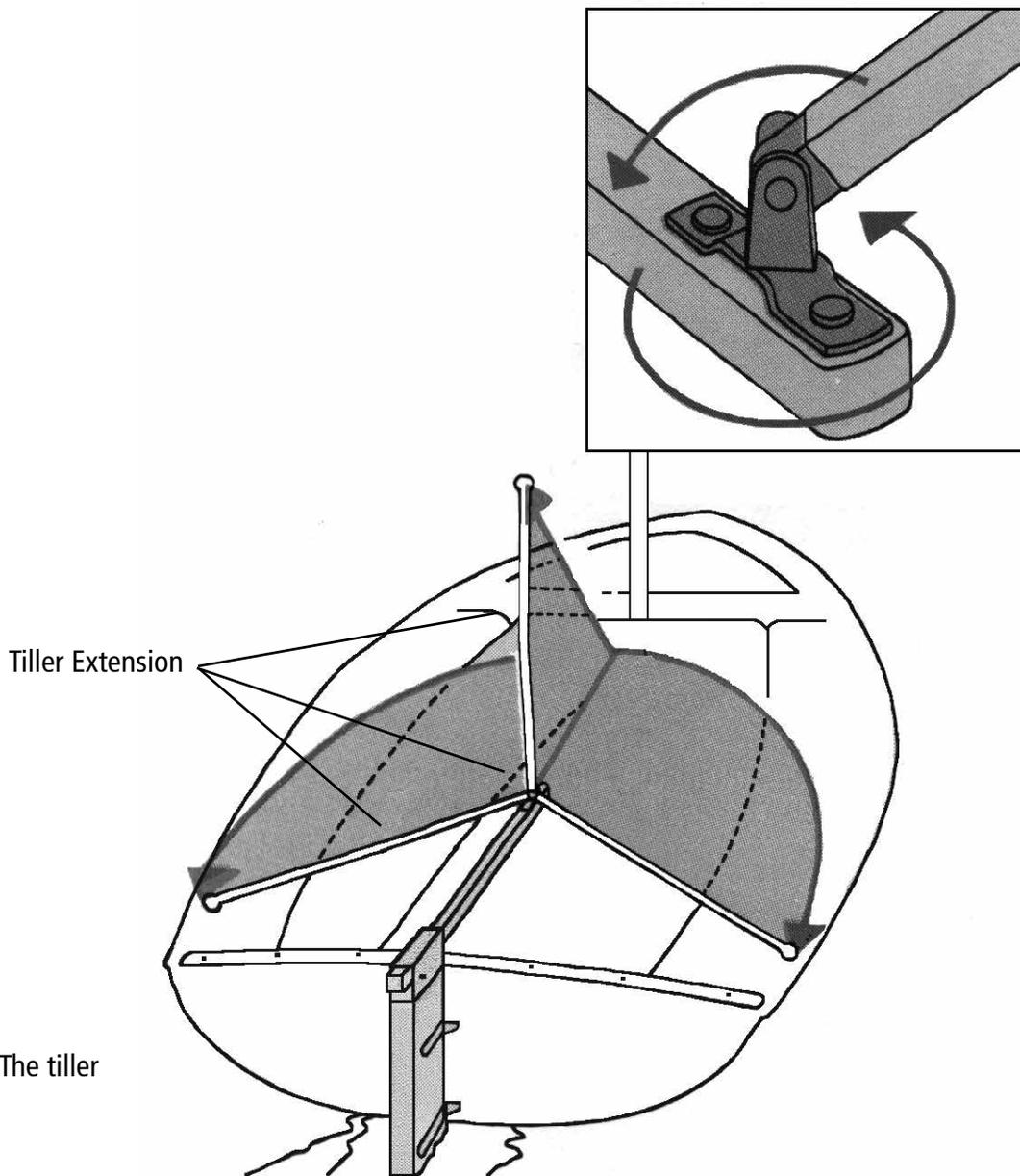


Fig. 7 The tiller

Attached to the rudder is a tiller. The tiller extension is attached to the tiller by a universal joint made of metal, rubber or neoprene which permits the helmsman to move about the boat with ease. The helmsman can hike out, move forward and cross-over to the other side of the boat without releasing the tiller extension. The tiller extension is held in the aft hand just like you would hold a microphone.

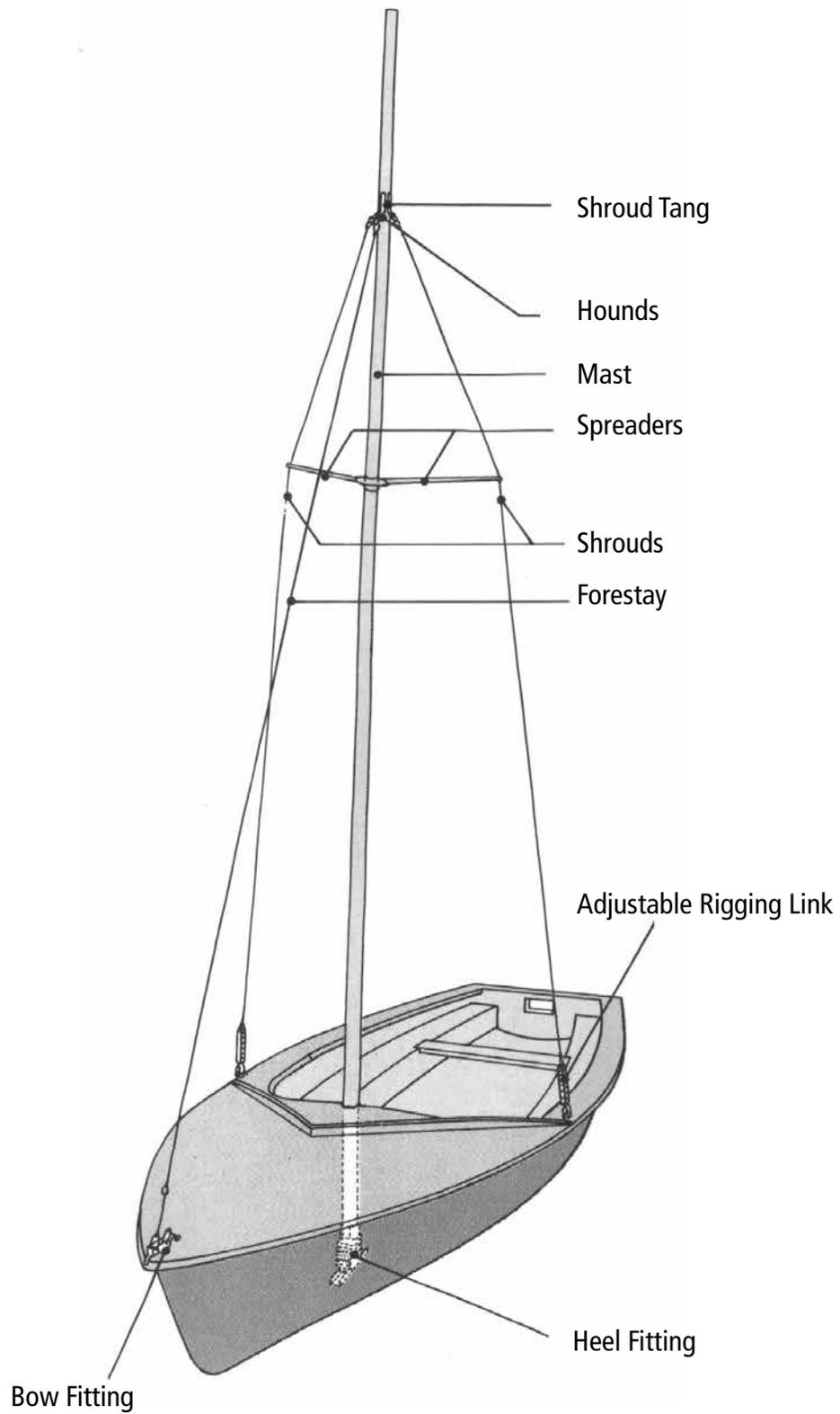


Fig. 8 Standing rigging

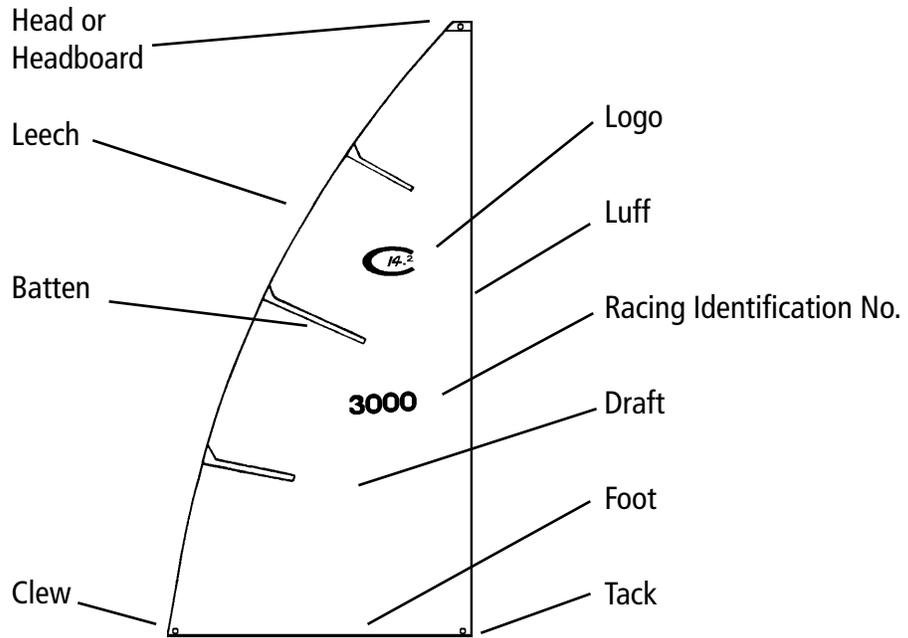


Fig. 9 Mainsail

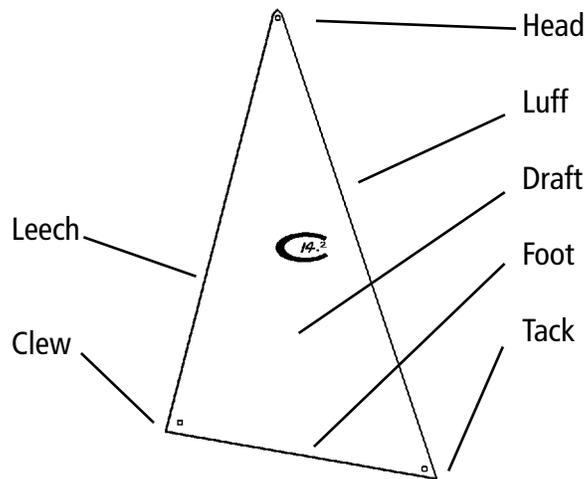


Fig 10 Jibsail

Sailing is the art of harnessing the wind with a shaped fabric to propel a vessel. In order to use the wind you need to be aware of its:

- direction
- velocity
- changes

Wind Sensing

The true wind is the direction the wind is coming from. Our true wind generally is an onshore breeze, meaning the wind comes off the ocean toward land. You can determine where the wind is coming from in a number of different ways including, looking at flags, wind indicators, vanes on top of boats, the motion of trees and bushes, ripples on the water or yarn attached to shrouds or other stationary objects.

The apparent wind is a combination of the true wind and the wind generated by the forward motion of the boat. We sail in the apparent wind and trim our sails to it.

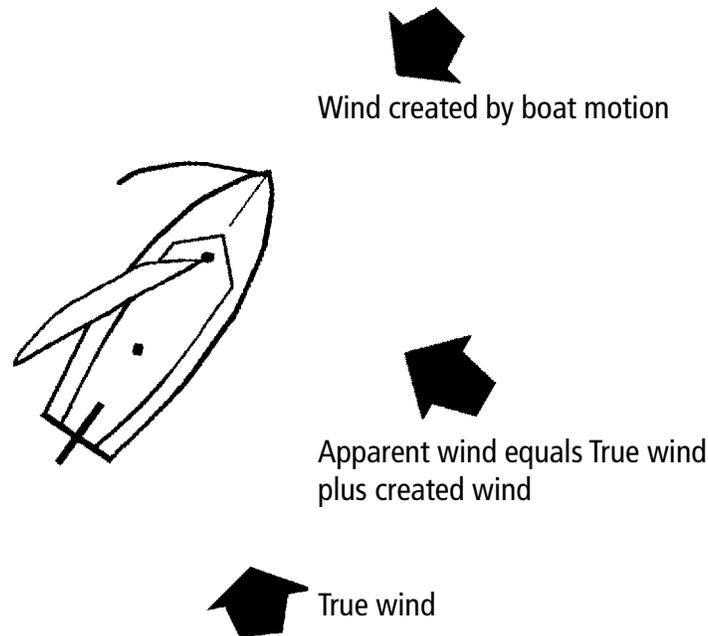


Fig. 11 Apparent wind

Sail Trim

The wind is our main source of power. By using a shaped fabric, called a sail, we harness this power in sailing. Sail trim is the art of adjusting the sail to the best angle for sailing efficiently. A sail is not flat. It has a designed shape which can be adjusted by the sailor. It's by learning how to make necessary adjustments to the shape of the sail, that we become more proficient sailors.

- Letting the sail out is called **sheeting out**
- Pulling the sail in is called **sheeting in**

To properly trim your sail, sheet out until the sail luffs, then sheet in until it stops luffing. Remember a sheet is the line used to control the sail.

As an added guide, **tell-tails** can be sewn or glued onto the jib or the mainsail. These are strips of mylar, wool, yarn or any material that will fly easily in light air, you can also use different colors to identify which side of the sail you are looking at. When the tell-tails on the lee side of the sail are horizontal the sail is trimmed correctly. The procedure for trimming the mainsail is the same for the jib.

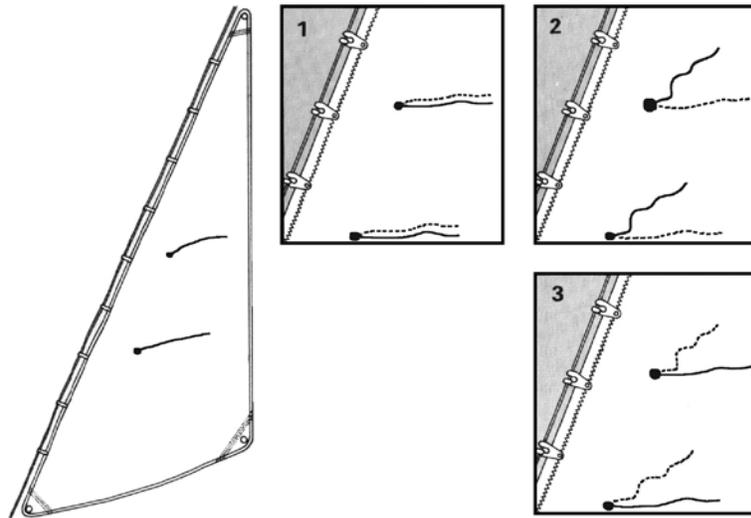


Fig. 12 Sail trim

Checking Sail Trim.

1. Tell-tails parallel. Sail is trimmed properly.
2. Tell-tails on windward side are too high. Sheet in on the jib sheet.
3. Tell-tails on the leeward side too high. Sheet out until your tell-tails are horizontal.

Luffing

When a sail is fluttering it is said to be luffing. The sail starts luffing at the leading edge (the luff) and travels back towards the leech (rear edge). Luffing the sail can be an effective method of reducing speed and reducing excessive heeling (boat leaning over).

Casting Off

When leaving a dock there are several things that must be done:

1. Check the rigging to see that everything is rigged properly.
2. Check the tiller to ensure that the main sheet is not wrapped around it.
3. Look around to see where other boats are so that you avoid collisions.

When leaving the dock be sure to get a push in the direction you intend to sail.

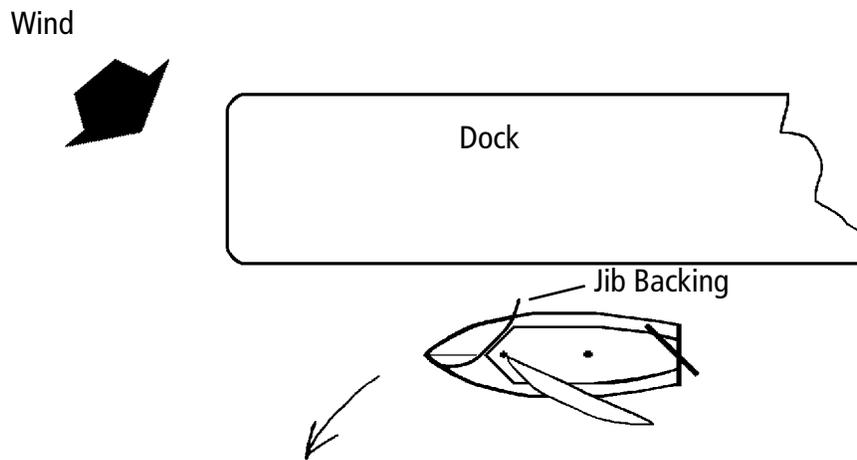


Fig. 13 Casting off

Beam Reaching

Beam reaching is sailing 90 degrees to the wind.

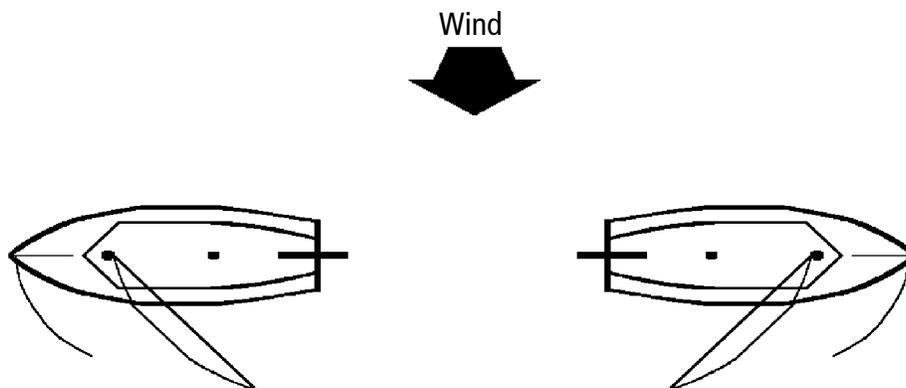


Fig. 14 Beam reaching

Coming About

The first turning maneuver of sailing (turning toward the eye of the wind) is called COMING ABOUT (also called tacking).

Coming about is a turning maneuver in which the bow of the boat passes through the eye of the wind. This causes the sails to change from one side of the boat to the other.

Procedures to follow in executing a turning maneuver;

1. Ensure the way is clear
2. Have sufficient forward speed, remember a sailboat that is not moving cannot turn and a sailboat not moving is out of control

3. Move tiller 45 degrees (half way) toward sail (Hold tiller until turn is complete)
4. As boom crosses boat, step across boat facing forward
5. Reach sheet hand (still holding sheet) behind back and grab tiller, trapping the main sheet on the tiller
6. Turn body and take main sheet with empty hand.
Adjust heading, center tiller and adjust sail for new tack

An alternative method is to lock the mainsheet into the cam cleat on the barney post momentarily until you reach the other side of the boat. Then immediately release the mainsheet and trim the sails.

Sailing Commands

The commands when sailing with a crew are:

1. Skipper – “Ready to come about” or “Ready About”
2. Crew – “Ready”
3. Skipper – “Helms a lee” or “Go”

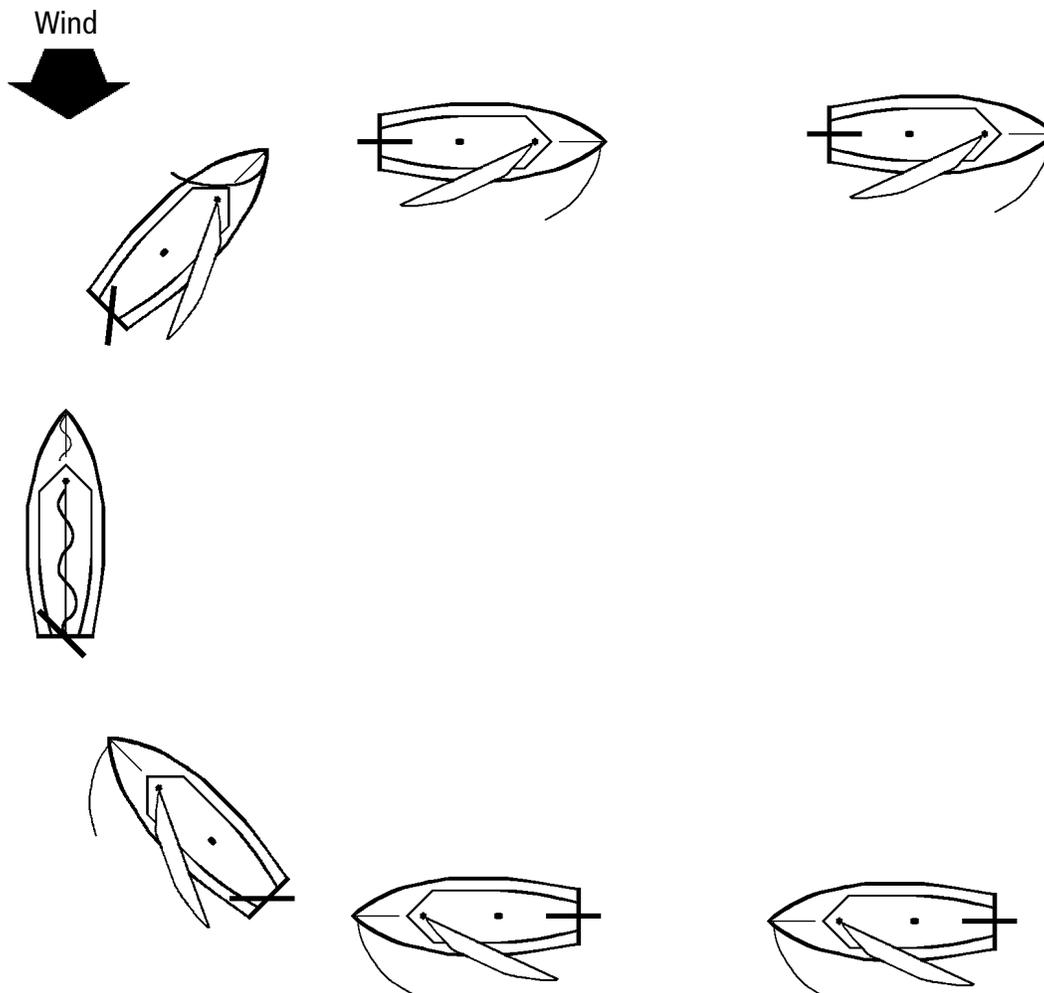


Fig. 15 Coming About

Safety Position

The safety position allows you to stop your boat so that all you need to do to resume sailing is to sheet in your sails. Simply sail with the wind coming across the side of the boat (approximately a beam reach) and sheet out your sails until they are completely luffing (fluttering).

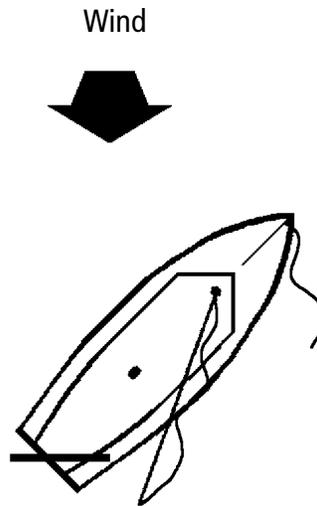
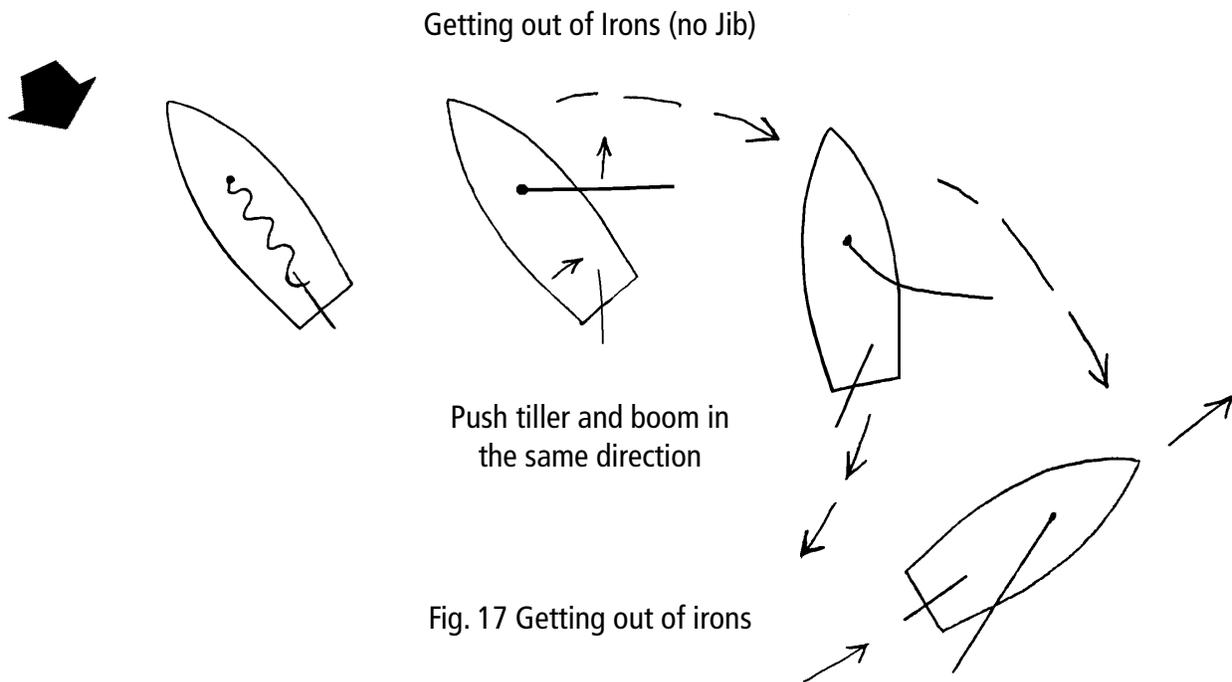


Fig. 16 Safety position

The boat will slow down and stop. If the boat does not come to a stop, push the tiller slightly toward the sail. To resume sailing, simply sheet in the sail.

Getting Out of Irons

If you stay in the no-go zone too long you will go into a condition known as "In Irons". This is indicated by the sails luffing and the boat stopping and drifting backwards. To get out of irons in a boat with a single sail, move the sail and tiller in the direction you want to sail. The boat will back up and turn. When the wind is coming across the beam, center the tiller, sheet in the sail and you are again sailing.



Avoid Collision

To avoid collision point the tiller towards the danger. The only exception is if the danger is directly in front of you, in which case move the tiller either way.

Dock Landings

A sailboat cannot stop suddenly because, unlike a car, it has no brakes. To come to a stop, the sails must be luffing completely and the hull must exhaust its forward motion. In order to do this we release the sheets and turn toward the wind. Practice will help you determine the glide distance of your boat. Try to have an escape route in mind in case you miss your approach and have to go around. Following are illustrations of different types of dock landings. If you're going too fast, push the tiller toward the dock. You'll turn around and can try again.

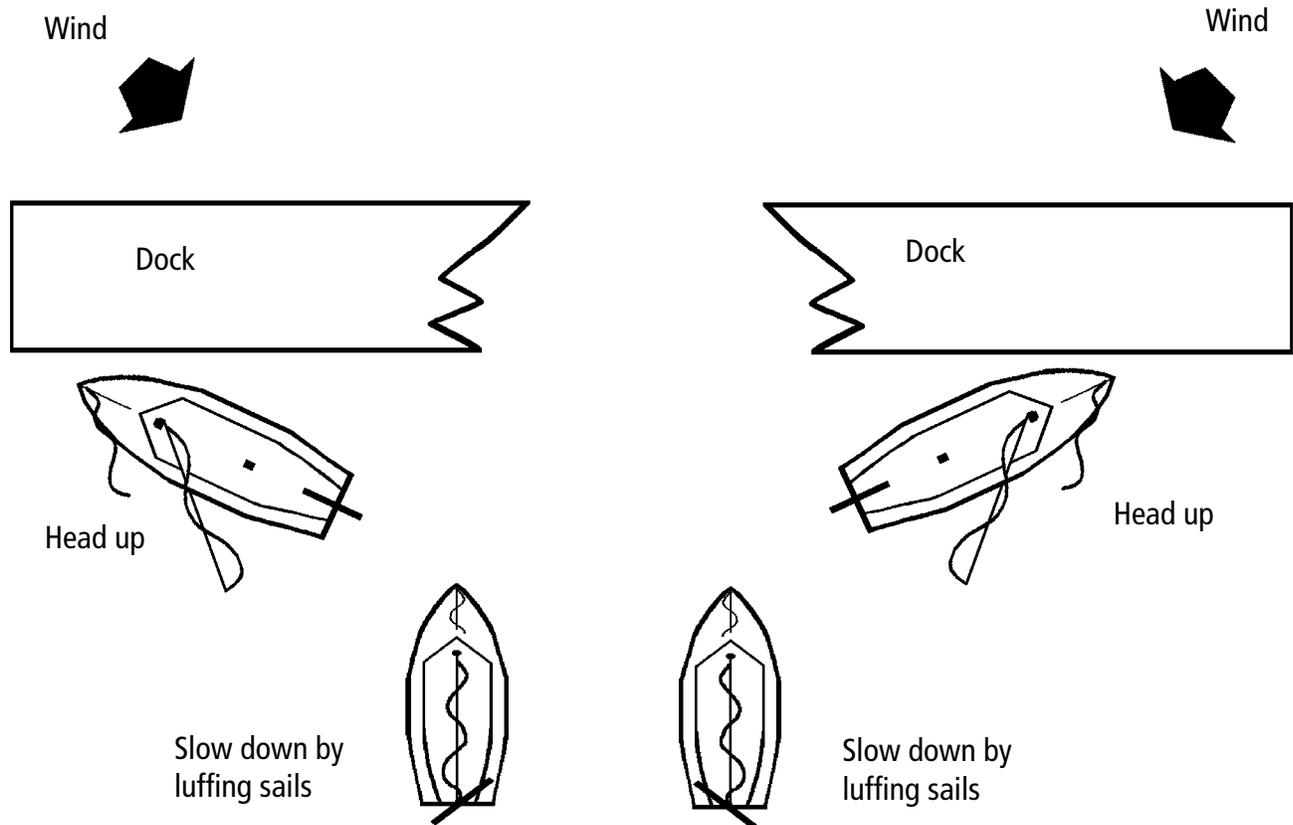


Fig. 18 Dock landing

It is better to make several tries than to crash once.

Sailing Exercise

- Figure Eight course.

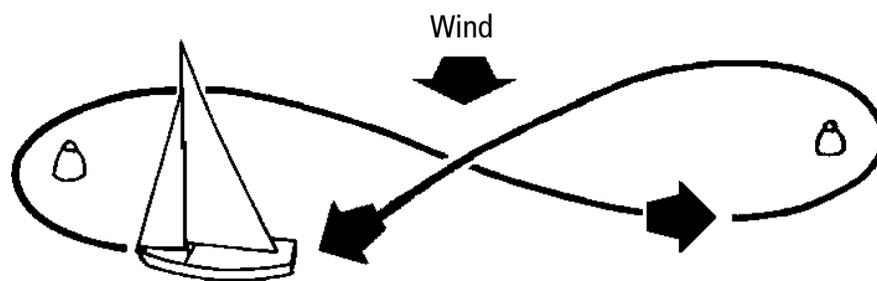


Fig. 19 Figure Eight course

- Knots. Demonstration and practice in handling and securing a mooring line from a boat.
 1. Cleat Hitch
 2. Figure Eight or stopper knot
 3. Bowline

Beginning Sailing

Chapter 2

Gybing

Gybing (turning away from the wind) is the downwind version of coming about. When gybing, the stern of the boat passes through the eye of the wind and the sails change sides much quicker than when coming about. Following is the proper sequence for completing a gybe:

- Check to see that the way is clear
- Move the tiller away from the sail and sheet in the main to keep it from slamming across the boat.
- Change sides of the boat as the sail crosses (quickly in strong wind) and ease the sheet.
- Center the tiller on new course and trim sails.

Sailing Commands

The commands when sailing with a crew are:

1. Skipper – “Prepare to gybe”
2. Crew – “Ready”
3. Skipper – “Gybe-Ho” or “Gybing”

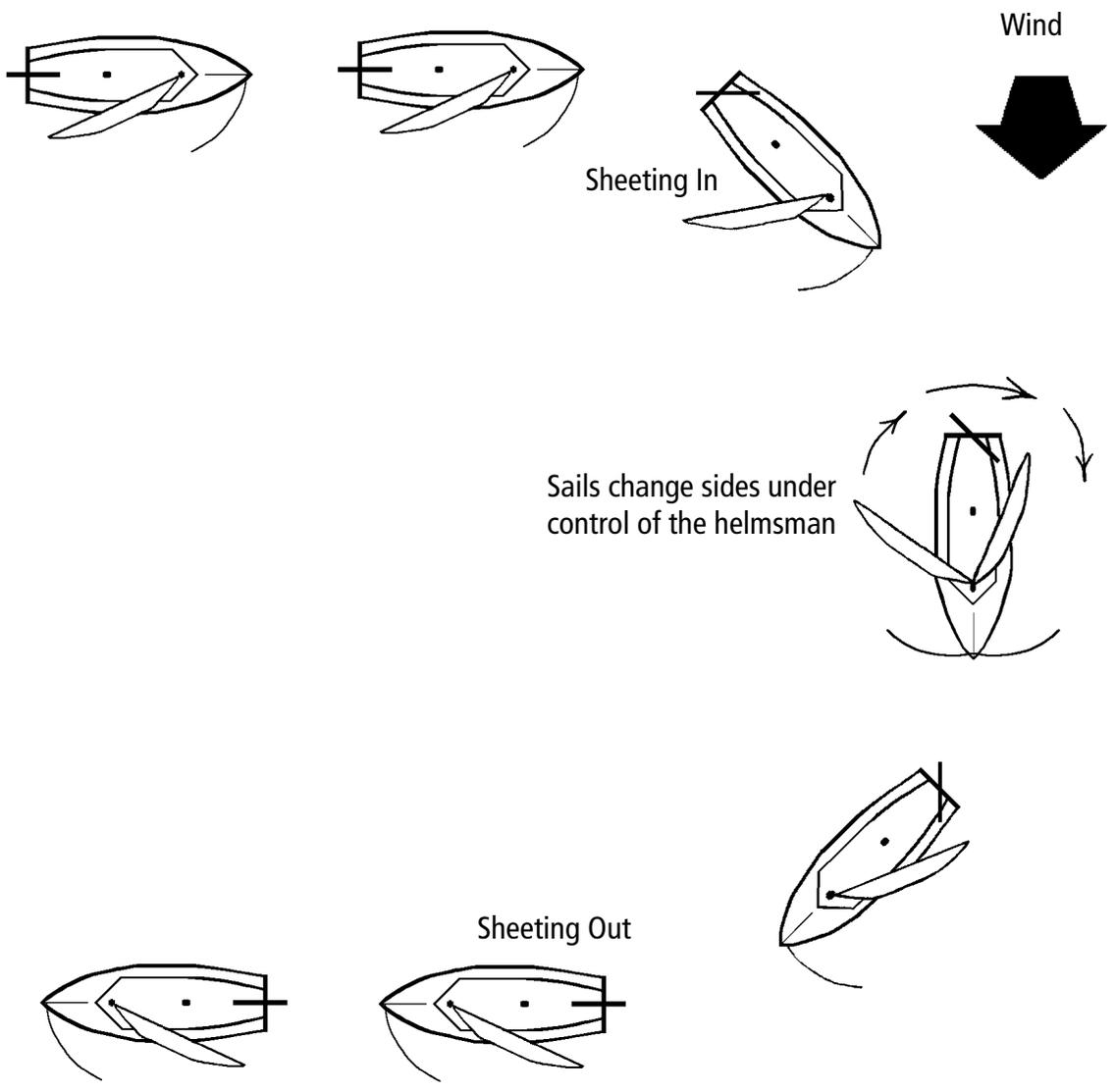


Fig. 20 Gybing

Simple Turn

A simple turn is a turn in which neither the bow nor stern of the boat passes through the eye of the wind. The sail does not change to the other side of the boat.

Points of Sail

Starboard tack

Close hauled (beating)
(sail: in tight)

Close reach
(sail: 1/4 out)

Beam reach
(sail: 1/2 out)

(Starboard tack)

Broad reach
(sail: 3/4 out)

Port Tack

Close hauled (beating)

Close reach

Beam reach

(Port tack)

Broad reach

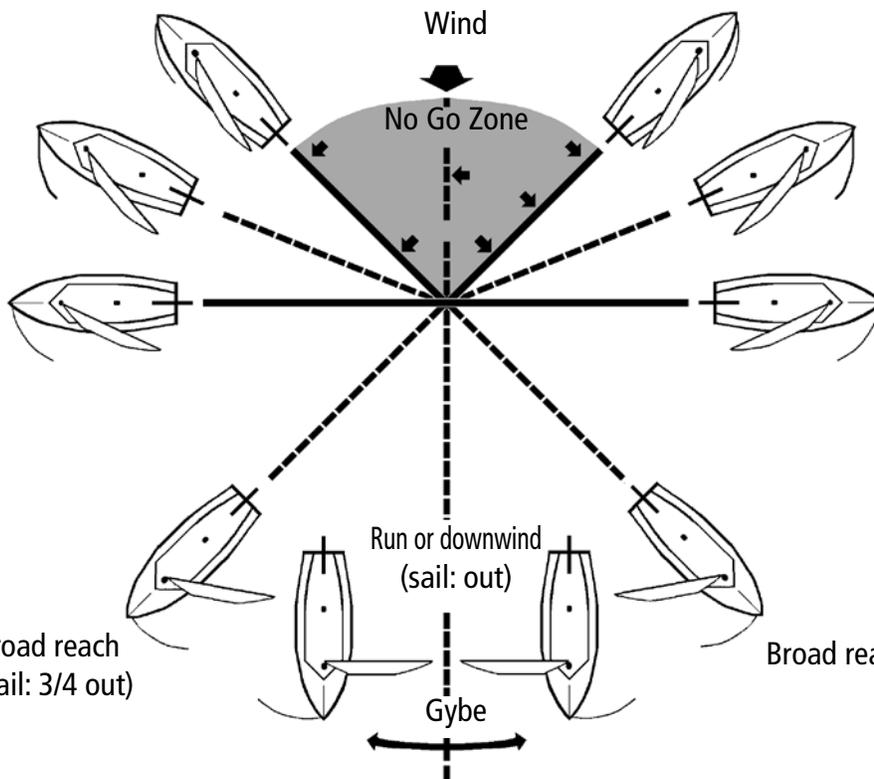


Fig. 21 Points of sail

There are 5 Points of Sail

1. Close Hauled/Beat Sail in tight
2. Close Reach Sail is 1/4 out
3. Beam Reach Sail is 1/2 out
4. Broad Reach Sail is 3/4 out
5. Run Sail all the way out or wing-and-wing

When dropping below a beam reach, sails must change from airfoils to airbags

Rules of the Road

Just as there are traffic rules for automobiles, there are right-of-way rules for boats. There are general rules involving all boats, and rules of the road for when two or more sail boats are on a collision course. Power boats give way to sailboats (Remember sailboats under power are considered power boats).

Boats Under Sail

1. Starboard tack rule

When two sailboats on different tacks meet, the boat on starboard tack has right-of-way over the boat on port tack.

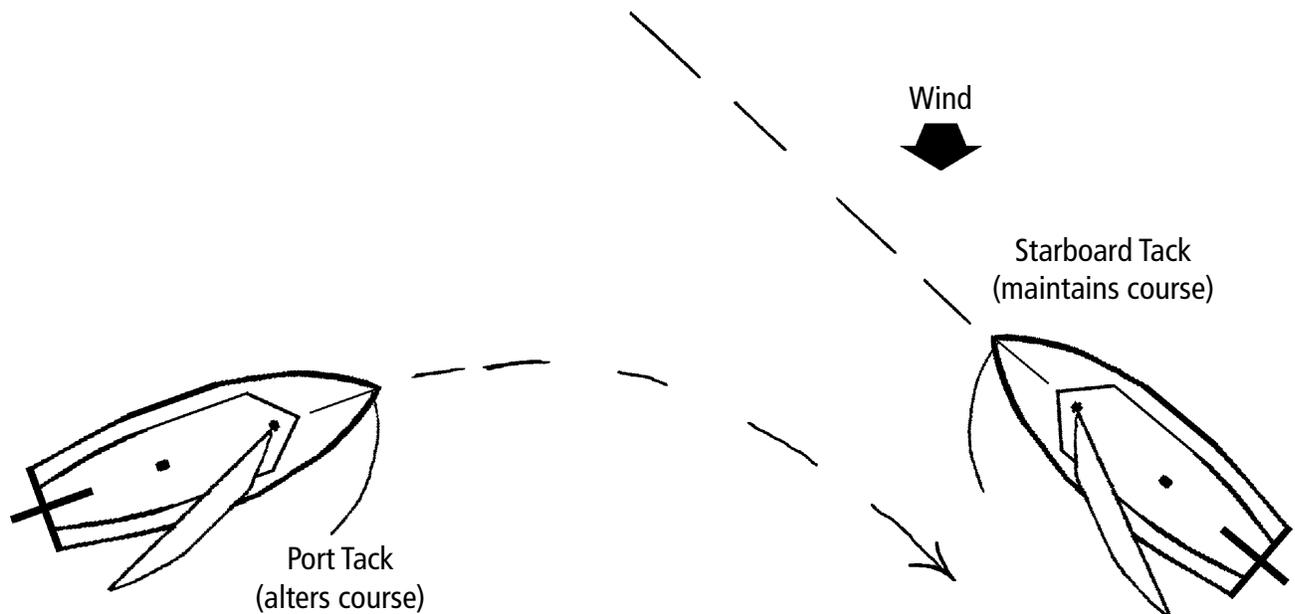


Fig. 22 Starboard tack rule

2. Windward-leeward rule

When there is more than one boat on the same tack, the leeward boat has the right-of-way.



Fig. 23 Windward - Leeward rule

3. Tacking-gybing rule

A boat on a straight course has the right-of-way over a boat that is tacking or gybing.

General Rules of the Road

Some sailors mistakenly believe that sailboats always have the right-of-way over power boats. This is not true. For instance large boats in a narrow channel always have the right-of-way. Vessels with flashing lights. And vessels under tow have right-of-way. Remember that a sail boat is considered a powerboat when its engine is running.

Sailing Exercise

Figure Eight course.

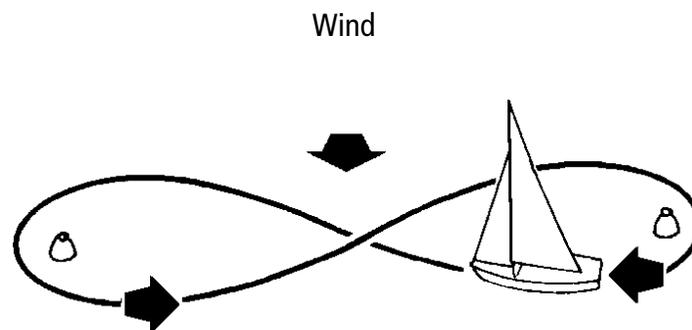


Fig. 24 Gybing on a figure eight course

Beginning Sailing

Chapter 3

How the Wind Acts on Sails

Telltails are short strips of yarn or tape sewn on each side of the sail to indicate smooth or turbulent airflow over the sail. When the sail is properly trimmed both telltails will flow straight back indicating smooth airflow on each side of the sail except that the windward telltale is allowed to lift slightly if desired. If one telltale is fluttering it indicates turbulent air on that side of the sail. As a general rule, sheet the sail in the direction of the fluttering telltale.

Push Pull Principle

The wind acting on the sails both pushes and pulls (lifts) a sailboat through the water. Push occurs when the wind is behind the boat and is joined by pull as the direction of the wind moves forward.

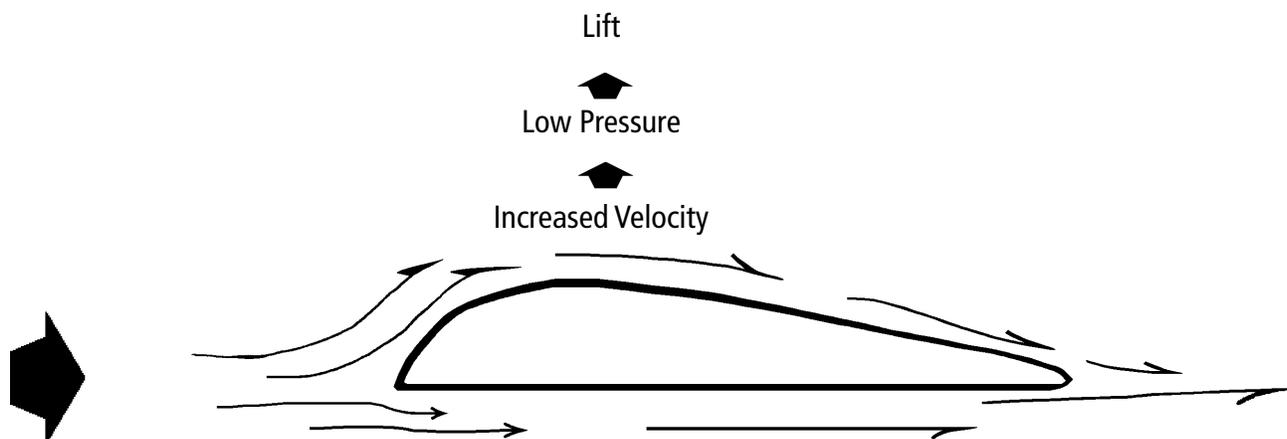


Fig. 25 How pull (lift) is created

Imagine a sail as the wing of an airplane viewed from the top of the sail. As the air passes over the top of the wing, or leeward side of the sail it has a greater distance to travel than across the windward side of the sail. This greater distance results in an increase in velocity which in turn causes a decrease in pressure (low pressure). This decrease in pressure is what pulls or lifts the boat through the water. The windward side is the high pressure side that provides the push.

Sailing a Sloop

The Skipper

When sailing, the skipper and crew work as a team. The skipper usually sits on the windward side of the boat and faces the mainsail, steers the boat and controls the mainsail using the main sheet (on larger boats the main sail is controlled by a crew member). The skipper and the crew communicate by command and response, thus ensuring that safe procedures are followed.

The Crew

The crew normally sits on the same side as the mainsail and is responsible for balance, maintaining a lookout, trimming the jib by tending the jib sheets, and anything else the skipper requests. The crew reports to the skipper when the jib is luffing, the approach of other boats or obstructions, or any other information pertinent to the safety of their boat. The jib is normally sheeted in on the same side of the boat as the mainsail, while maintaining the correct distance between them for smooth airflow. When the jib is properly trimmed it generates maximum power in both sails. When it is not trimmed properly the jib acts as a brake, taking control of the boat away from the skipper.

When leaving the dock the crew gives a push in the proper direction and backs the jib if needed.

The commands and responses are as follows:

Skipper	Crew
1. "Ready to come about"	"Ready"
2. "Helms Alee"	
1. "Prepare to Gybe"	"Ready"
2. "Gybe Ho"	

How to Handle a Capsize

A capsize is a normal part of dinghy sailing. Most modern dinghies are self-rescuing and have built in buoyancy which aids in capsize recovery. Most capsizes are caused by the following:

1. Sudden gust of wind
2. Poorly executed gybe
3. Quick turns in heavy air
4. Letting go of tiller or main sheet
5. Broken tiller or hiking strap

If you should capsize, the most important thing to remember is **STAY WITH THE BOAT**. If you are unable to right the boat climb up on the hull where you will be more visible to rescuers. Avoid swimming under the hull or sails and by all means, do not try to swim to shore. Distance is hard to judge and many times the shore is father away than it appears. Modern boats float; hang on and wait for help. It is a good idea to accept help from people you know are experienced.

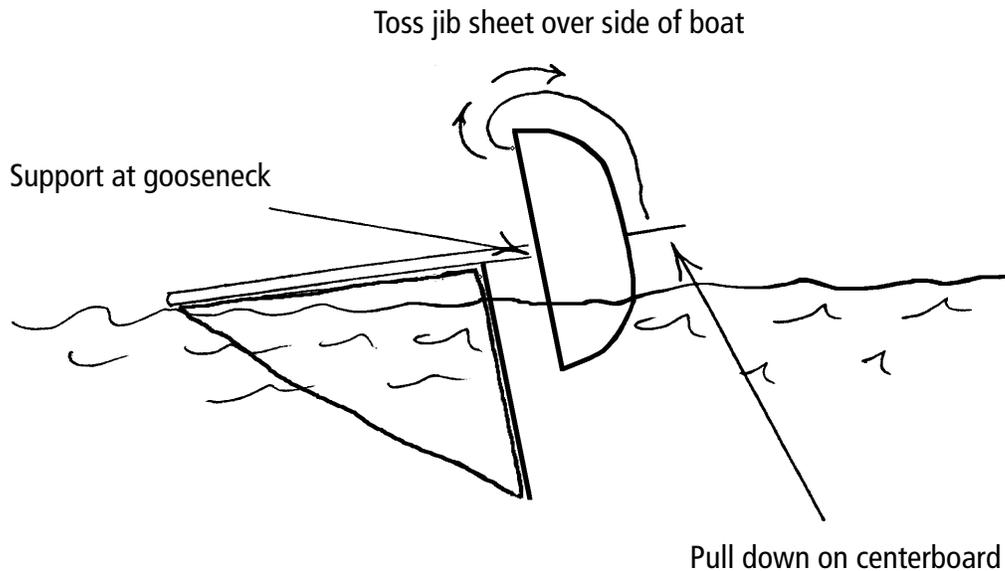


Fig. 26 Capsize

When sailing with two or more people, the scoop recovery is the best method to use for capsize recovery, with boat on its side. The procedure is as follows:

- The crew's job is to support the mast at the gooseneck preventing the boat from turtling (turning upside down).
- The skipper releases the main sheet and swims around the boat to the centerboard, remaining in contact with the boat.
- The crew member throws the jib sheet over the side of the boat. The skipper pulls down on the centerboard preventing the boat from turtling.
- The crew holds onto the mast and stays close to the side of the boat waiting for the boat to right and scoop him.
- The skipper pulls down on the centerboard to right the boat.
- If the boat does not come upright the skipper holds onto the jib sheet, pulls himself onto the centerboard and leans back pulling the boat up out of the water. As the boat comes upright the skipper climbs towards the boat and tries to get into it. If the skipper cannot climb into the boat he will swim to the stern of the boat to be hoisted into it by the crew.

- The crew member places the boat in the safety position and releases the jib sheet preventing a backing action from the jib. Once the boat is under control the crew member helps the skipper aboard over the windward side of the stern by lifting on the shoulder straps of the skippers P.F.D.

Turning Turtle

Normally when a sailboat capsizes it lays on it's side with the mast on the surface of the water. Sometimes the boat rolls all the way over (mast pointing to bottom). This is called turning turtle. To return the boat to the horizontal position, lead a sheet across the boat from the cockpit to the outside of the boat. When pulling on the sheet, stand on the windward rail leaning back until the boat rotates to the normal capsize position. From this position follow the regular procedure to right the boat.

If the boat turtles in shallow water the mast could become stuck in the mud. Outside assistance may be required to free it.

Casting Off

Before leaving a dock there are several things that should be done:

1. Check the rigging to see that everything is ready.
2. Check the tiller to ensure that the main sheet is not wrapped around it.
3. Look around to see that the way is clear so that you avoid collisions.
4. The skipper sits in the boat with his back to the wind or what will become the windward side.

The crew will back the jib to the side opposite to the side you want to go. The crew member holds onto the shroud and pushes off so that boat gets started in the proper direction.

WHEN LEAVING THE DOCK BE SURE TO GET A PUSH IN THE DIRECTION YOU INTEND TO SAIL.

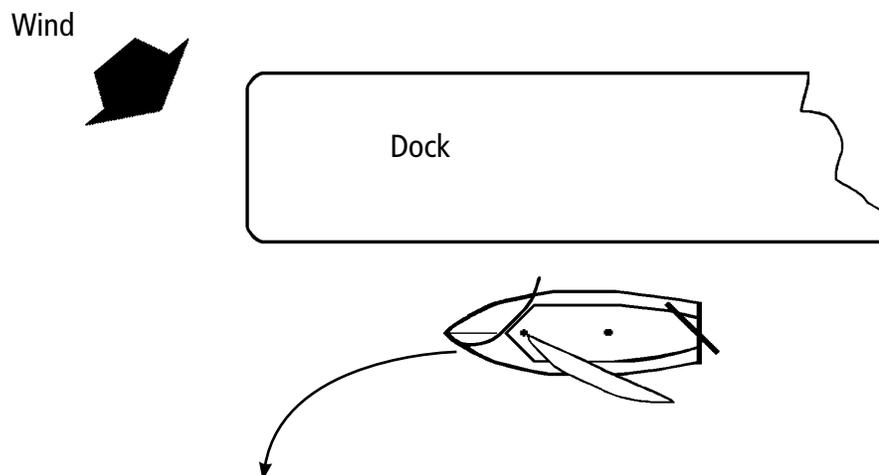


Fig. 27 Casting Off

Safety Position

The safety position for a sloop using both the main and jib is similar to a sailboat with one sail. It also allows you to stop the boat so that all you need to do to resume sailing is to simply sheet in your sails. Again, you sail on a beam reach, only this time you sheet out both sails until they are completely luffing.

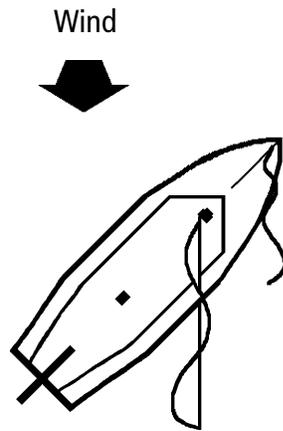


Fig. 28 Safety Position

The boat will slow down and stop although you may still need to push the tiller slightly toward the sail. To resume sailing, simply sheet in the sails.

Backing the Jib

Sheeting the jib to the side of the boat opposite to the direction you want to sail. When coming about through the eye of wind. (see illustration)

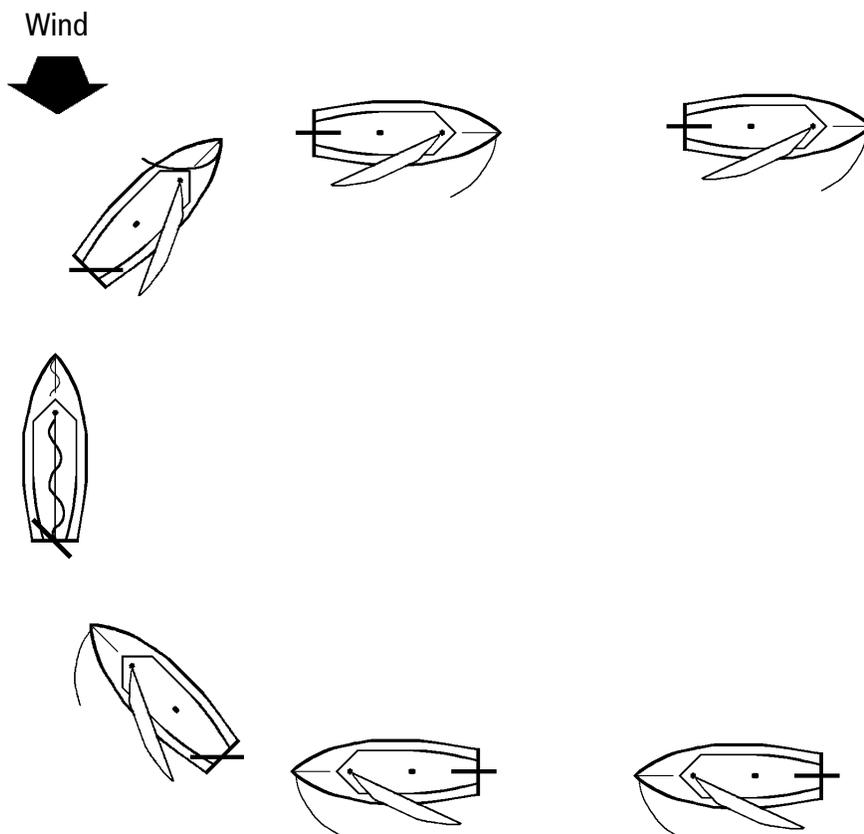


Fig. 29 Backing the jib to aid in coming about

Irons

To get out of irons in a sloop (two sails) *back the jib* to the side of the boat opposite to the direction you want to sail the boat. The bow of the boat will come off the center of the wind and you are again sailing at which time you should change the jib to the same side of the boat the mainsail is on.

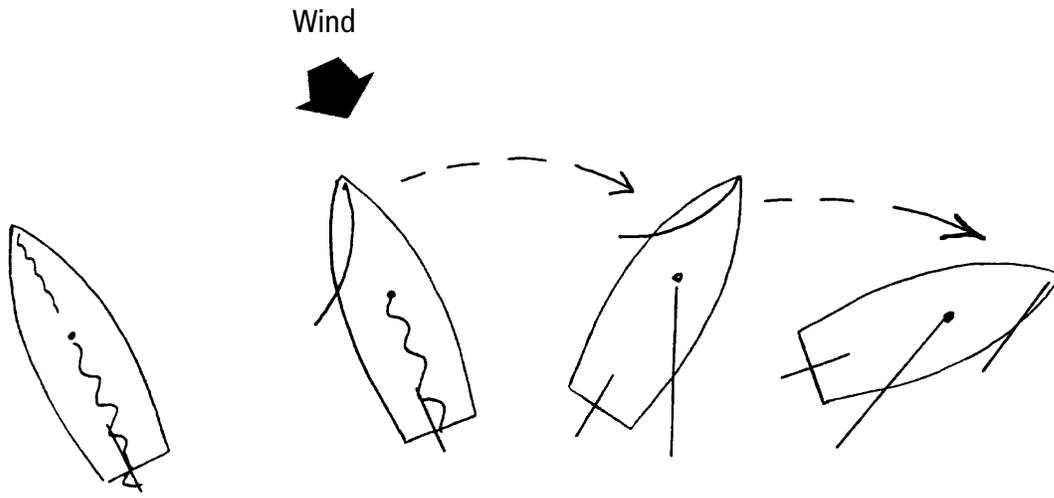


Fig. 30 Getting out of irons

Sailing Exercise

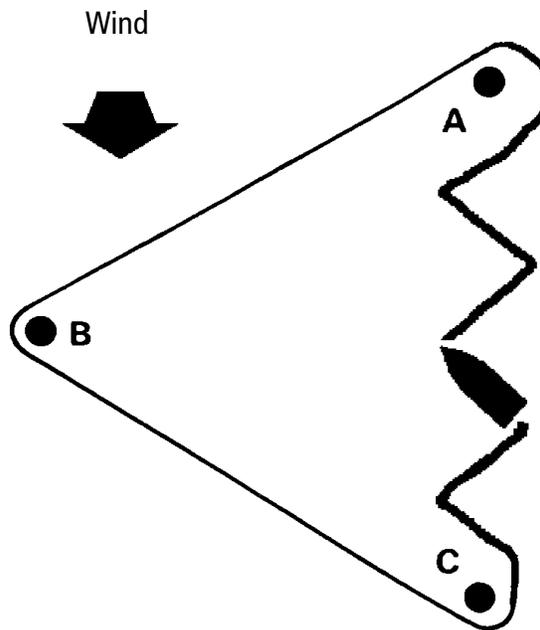


Fig. 31 Course Three

Beginning Sailing

Chapter 4

Leeway

Leeway is the sideward movement a boat experiences on a course caused by the action of the wind and or current. Some leeway is normal.

The centerboard (or keel) helps to prevent leeway while also acting as a stabilizer for the boat. Leeway can be compensated for by steering a course to windward or up current of your intended destination.

Sailing Wing & Wing

When sailing downwind you are in the push mode and the jib is often sheeted out on the side opposite the main sail. This is called sailing wing and wing. To aid in holding the jib out in this position a whisker pole is often used.

A whisker pole holds the jib out on the side opposite to the main. One end attaches to the sheet at the clew of the jib with the other end attached to a ring on the front of the mast. When sailing down wind we should always be aware of the wind direction in order to prevent an accidental gybe. Avoiding "sailing by the lee" is important. Sailing by the lee occurs when the wind comes down the same side of the boat the main sail is on and flows across both the leeward and windward sides of the sail. If we do this, we can experience an accidental gybe which can capsize the boat!

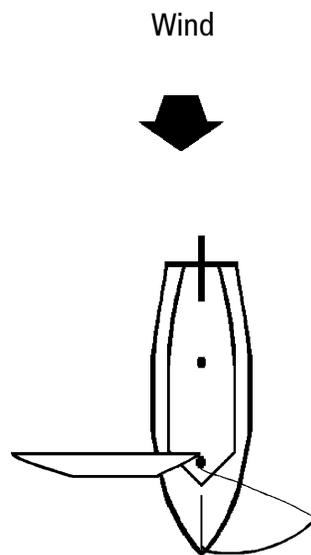


Fig. 32 Sailing wing and wing

Boat Trim

When sailing, the skipper and crew work as a team. The skipper steers the boat, controls the main sail, gives commands and ensures that safe procedures are followed. On larger boats the main sail is controlled by a crew member.

Light Wind Techniques

When sailing in light wind.

- Ease the outhaul and downhaul to put a 'sag' in the sail. (tighten in high wind to flatten the sail).
- When sailing upwind allow the boat to heel to leeward and when sailing downwind heel the boat to windward.

Steering the Boat

Steering a boat properly takes practice. Maintaining a straight-line course is much faster than a crooked one. There are three methods of controlling the direction a boat sails.

Using the rudder – remember, every rudder movement slows the boat.

Using the sails – by operating the main and jib independently directional control may be maintained. Sheeting in the jib turns the boat to leeward. Sheeting in the main turns the boat to windward. Simultaneously sheeting in the jib and out the main accelerates a leeward turn (gybe), and sheeting out the jib and in the main accelerates a windward turn (coming about).

Heeling the hull – Heeling away from the wind causes the boat to head up. Heeling to windward causes the boat to fall off.

Appendix A

Abeam	At right angles to the centerline of a boat.
Aboard	On or in a boat; close to a boat.
About	To go about, to tack.
Aft	Near the stern, towards the stern.
Amidships	In the middle of the ship.
Apparent wind	Wind felt on a moving vessel.
Astern	Behind the stern of a boat.
Backstay	A wire support from the mast to the stern of the boat.
Battens	Thin wooden, metal or plastic strips placed in a pocket in the leech of a sail to help hold its form.
Beam	The width of a boat at its widest point.
Beam wind	A wind that blows across the boat from side to side.
Beat	To sail to windward close-hauled.
Belay	To make a rope fast, secure.
Ballast	Any weight used to increase the stability of a vessel.
Block	A nautical pulley.
Bolt rope	Rope secured to the edge of a sail to give it strength and to facilitate adjusting foot and luff tension.
Boom	The spar to which the foot of the sail is attached with lacing, slides, or a groove.
Boom vang	A line to hold the boom down when off the wind.
Bow	Forward part of the boat.
By the lee	Running with the wind coming from slightly to leeward and tending to get behind the sail.
Capsize	To turn a boat over so that she will not right by herself.
Cast off	To let go of a line when leaving the dock or mooring; to ease sheets.
Centerboard	Metal or wooden board, which is lowered through the boat's bottom by way of a slot in order to reduce leeway.
Cleat	A fitting used to secure a line under strain.
Clew	Lower after corner of a fore and aft sail.
Clew outhaul	Line or tackle for tensioning the foot of the sail.
Close-hauled	Sailing as close as possible to the wind or The most windward point of sail, on which the wind is at about 45 degrees.

Close-reach	Slightly freer than closehauled.
Close-winded	Describes a craft capable of sailing very close to the wind.
Course	Direction in which the vessel is being steered.
Dagger board	Centerboard which moves vertically up and down.
Dinghy	Small open boat for either sailing or rowing.
Downhaul	A line or tackle attached to the tack of the sail used to put downward pressure on a sail or spar, used to trim the draft forward.
Downwind	To leeward; running before the wind.
Drift	The leeway or movement sideways of a boat.
Ease	To let go a line or sheet gradually, To let out.
Eye of the wind	The exact point from which the true wind is coming.
Fairlead	A fitting used to change the direction of a line, giving it a better angle from a sail or block to a winch or cleat.
Fall off	When the head or bow of a vessel moves away from the wind.
Fast, make	To belay a line or sheet.
Fend off	To push another vessel away or hold vessel off dock.
Foot	The bottom edge of a sail from tack to clew.
Fore-and-aft	Lengthwise, along the boat's centerline, hence fore and aft rig.
Foresail	A jib, or other sail forward of the mainsail.
Forward	Near or towards the bow.
Furl	To fold or roll a sail on a boom and then secure it with sail ties.
Give way	To allow another vessel right of way.
Go about	To tack.
Gooseneck	Fitting on the mast to which the boom is attached and which has a universal joint.
Grommet	A metal ring fastened in a sail.
Gudgeon	A fitting attached to the hull into which the rudder's pintles are inserted.
Gybe	To change from one tack to the other on a downwind course. A boat begins to gybe at the moment when, with the wind aft, the foot of her mainsail crosses her centerline. The boat completes the gybe when the mainsail fills on the new tack.
Halyard	A line used to haul sails up and down the mast.
Hard-a-lee	The command used in coming about to inform the crew that the helm is being pushed hard to leeward, turning the boat into the wind.

Head	The topmost part of the sail; the wind is said to head when it moves farther forward forcing the boat to change direction to leeward or, alternatively, to harden in the sheets.
Head to wind	With the bow headed into the wind and the sails luffing.
Heading	Direction in which the vessel is pointing.
Headsail	Any sail used forward of the mast, a foresail.
Headstay	A forward stay supporting the mast, attached at the top of the mast.
Headway	Motion forward.
Heave	To throw, e.g. heave a line.
Heel	Very bottom of the mast; also said of a vessel when she is inclined either to port or starboard by the action of the wind and/or sea.
Helm	General description of the means of steering, i.e. tiller or wheel.
Hike, hike out	To sit on the side deck and lean outboard to add to the stability of the boat. To lean over the side of a boat to help counterbalance heeling, often assisted by hiking straps around the feet.
Hitch	A knot used to make a line fast to an object.
Hoist	The vertical edge of a sail; to haul aloft.
Hull	The main body of the boat.
In irons	Said of a sailing vessel which is head to wind, In the wind's eye, and is unable to turn one way or the other and having lost all headway. A boat in irons will not go off on either tack. Also called in stays.
Jib	A triangular sail set forward of the mainmast.
Jib sheet	Line that controls the set of a headsail / jib.
Jibstay	A wire supporting the mast to which the luff of the jib is attached (see Headstay).
Knot	A nautical unit of speed: 6,076 feet or one nautical mile per hour.
Lanyard	A line fastened to an object, such as a pail, whistle, knife, or other small tool for purposes of securing it.
Lay	To be able to steer a chosen course without diverting from the straight line; the direction of twist in the strands of a rope.
Lee	The side away from the wind direction In the lee of = sheltered from the wind by land, another vessel, etc.
Leech	After-edge of a fore and aft sail.
Leeward	Direction away from the wind, downwind or lee side.
Leeway	The drift of a boat sideways due to the side force of the wind or current.
Let fly	Let a sheet go completely.
Life jacket	Buoyancy aid, P.F.D. (Personal Flotation Device).

Luff	1) The forward vertical edge of a sail. 2) To alter course toward the wind until the boat is head to wind. 3) The flapping of a sail caused by the boat being head to wind.
Luffing	Sail fluttering.
Luff up	Come up towards the wind; see Head up.
Main boom	The spar to which the foot of the mainsail is attached.
Mainmast	The principal mast of a sailboat.
Mainsail	The largest regular sail on a modern sailboat set on the mast; set on the mainmast if there is more than one mast.
Mainsheet	Sheet (line) used to control the mainsail or the main boom.
Make fast	Secure
Monohull	Vessel with one hull.
Multihull	Vessel with more than one hull, i.e. catamaran, trimaran.
No-Go Zone	Vessel pointed head-to-wind.
Outhaul	The line that pulls the mainsail away from the mast and tightens the foot of the sail along the boom.
Overboard	Over the side, into the water.
Painter	A short piece of rope secured to the bow of a small boat and used for making her fast to a dock.
Pinch	To sail too close to the wind so that the sails start to luff.
Pintle	A bolt of metal secured to the rudder and fitting into the gudgeon. The pintle gives a swinging support to the rudder.
Point	The ability of a sailboat to sail close to the wind well or badly.
Port	Left-hand side of the boat facing forward.
Port tack	When the wind comes from the port side and the boom is on the starboard side. Port tack vessels give way to starboard tack vessels.
Reach	Any point of sailing between close hauled and running.
Ready about	The command given to prepare for coming about.
Rig	General term for spars, sails and rigging; also the way the masts and sails are arranged,- i.e. sloop rig, ketch rig, cutter rig, etc.
Rigging	See Running rigging, Standing rigging.
Rudder	A flat wooden shape fitted on the sternpost by pintles and gudgeons, used to steer the boat.
Running rigging	Rope or wire used in setting and adjusting sails as opposed to standing rigging, i.e. halyards, sheets, guys, topping lifts, etc.

Sail track	Track on mast or boom to which sail is attached by slides.
Secure	To make safe.
Set	To hoist and trim sails.
Shackle	A U-shaped piece of iron or steel with eyes in the ends, closed by a shackle pin.
Sheet	The line used to trim or control the forward or athwartships movement of a sail.
Sheet in	Haul the sheets in.
Shift, wind	Change in wind direction.
Shrouds	Rigging that supports the mast athwartships, or vertical wires that hold the mast upright.
Turtling	Boat turned bottom up.
Spreader	An athwartships support that holds the shrouds away from the mast.
Stall	A sail stalls when the airflow is so disturbed that the sail ceases to operate efficiently as an aerofoil and produces no lift over the whole or part of its surface.
Standing rigging	That part of a ship's rigging that is permanently secured and not movable (stays, shrouds, and spreaders).
Starboard	The right side of a boat as one faces forward.
Starboard tack	A course with the wind coming from the starboard and the sails trimmed on the port side.
Stay	A wire used for supporting a mast fore-and-aft.
Stern	The after section of the boat.
Stow	To put away.
Tack	<ol style="list-style-type: none"> 1) The forward lower corner of a sail, where the luff and foot meet. 2) Any course on which the wind comes from either side of the boat. 3) To change course by passing into the wind.
Tack downwind	To sail first on one broad reach and then the other, gybing each time tacks are changed.
Take in	Reduce or take down sail.
Tiller	Steering instrument that controls the rudder.
Transom	The stern facing of the hull.
Traveler	Device for altering the position of the mainsheet lead athwartships to suit varying weather conditions.
Trim	<ol style="list-style-type: none"> 1) To adjust the sails to get the best performance from them. 2) The position of the sails relative to the wind. 3) The attitude of a boat in the water.

Tuning	The delicate adjustment of a boat's rigging, sails, and hull to the proper balance to assure the best sailing performance.
Turnbuckle	Screw device for adjusting the tension of the rigging (N. America).
Underway	When a yacht is moving through the water.
Upwind	In the direction of the wind, to windward.
Vang	Tackle to prevent boom rising, kicking strap.
Veer	A change of direction, as in the wind.
Wake	The waves from a boat.
Weather	The side from which the wind is blowing; windward; also to go past a boat or obstacle on the windward side.
Weather helm	When a sailboat has a natural tendency to come up into the 'wind unless rudder correction is applied (opposite lee helm).
Whisker pole	A light spar extending from the mast and used to hold the jib out when sailing wing-and-wing.
Windward	Toward the wind, the opposite of leeward.
Wing-and-wing	Running before the wind with the sails set on both sides.
Working sails	The regular sails-on a boat.

Appendix B

Commands Used in Sailing

Sailing has a language all of its own, which has been developed over the centuries. It is usual for orders on a sailboat to be given in that language so that there can be no mistake about what is meant.

Usually, and if time permits, two commands are given for each action to be performed. The first is to tell the crew to prepare themselves and the boat for whatever is to be done, the second to tell them to perform the action. The expression 'Stand by', followed by a description of the action (like 'to hoist the main'), warns the crew to get ready to do something. In this case they will uncleat the main halyard and hold it in their hand to await the order to hoist. The correct reply to give, so that the skipper knows that he has been heard and understood, is 'Ready'. When the order to perform the action is given it can be acknowledged by the crew by repeating the word. The skipper then knows that the order has been heard and understood.

Here are some useful commands:

Tacking

Preparatory command

'Stand by to come about' or 'Ready to come about'

Execution

'Hard-a-lee'

Gybing

Preparatory command

'Stand by to gybe' or 'Prepare to gybe'

Execution

'Gybe-ho'

Hoisting and lowering sails

'Up main' or 'Hoist the main'

'Down jib/main' or 'Lower the jib/main'

Trimming sails

'Trim the sheets' (adjust the sheets using your own initiative)

'Sheet in jib/main' (take in sheets)

'Ease sheets' (let sheets off by a small amount or as necessary for a new course)

'Back the jib/main' (accompanied by the word port or starboard, push or pull the sail aback)

Steering

'Head up' (come up, luff up)

'Fall off' (bear away)

'Hold her', 'Steady' (keep steering as you are)

Appendix C

Suggested reading: **Start Sailing Right**, by Derrick Fries

California Boating Safety Course,
Published by California Department of Boating and Waterways

Copy available to download at:

www.dbw.ca.gov/BoaterInfo/BoatSafeCourse.aspx