Abaft
Towards the stern

Abeam
At right angles to the centerline of the boat (broad on the beam)

Abreast
A second boat parallel to

Accuracy
Bearing can be held to about 5° - distance determined to 10 %

Advection Fog
Fog on the water due to warm moist air moving over a cooler water surface

Aft
Towards the stern of the boat

Aids to Navigation
(ATON) Markers, beacons, buoys, lights and ranges

Aloft
Above the deck

Amidship
Between fore and aft, the middle of the boat

Anchors
Danforth
Has double pointed triangles. All purpose light weight anchor.
Plough (CQR)
Shaped like a plow. Heavier cruising anchor that digs into hard bottom.
Can have swivel shank that reduces pull out when boat changes direction
Bruce
Curved flukes that cause it to right itself and reset if boat changes direction.
Kedge
Traditional anchor shape with offset stock bars to force flukes into bottom.

Anchor Lights
For vessels under 50 meters - A single white all around light Over 50 meters one white light on stern and one forward

Anchor Watch
A person assigned to stay on deck and cope with unexpected anchorage problems

Anchoring procedures

Cruising guide and charts are studied and kept handy. Sails are dropped and secured, dingy painter is shortened and fenders are placed if crowded anchorage. Open rode storage and check windlass operation. Slowly idle towards anchorage locations into the wind. Swing through possible anchorage locations first and then re-approach the better locations. Helmsman shouts depth readings to Bowsman. Note that depth readings are from transducer location under the hull. Add additional height from transducer to bowline to determine the final scope. Bowsman indicates boat course and speed with pre-determined hand directions.

Ideal anchor drop location:
Bottom has good holding (look for sandy spots in clear water)
Least amount of depth but still allows 360° swing if wind changes direction.
Visualize scope length in boat lengths to judge final boat position
Final boat position at least two boat lengths from other anchored boats

Head slowly into the wind following Bowman's directions. Allow boat to come to a complete stop as Bowman determines best drop location. Bowman drops anchor as boat drifts back with wind. Slowly reverse to pay out the rode in wind direction. After scope is out, slowly reverse boat to be windward of anchor location. Increase reverse engine RPM when properly lined up with anchor. Helmsman picks a reference point to get visual of boat movement while in reverse. Bowman keeps foot on rode to feel anchor set and signals Helmsman when anchor has set. If possible swim down to anchor to check hold. Should have at least half a boat length of rode laying on bottom after the anchor.

Once wind has drifted boat back record a compass reading on the boat direction and closest land reference perpendicular to wind direction to check for boat movement and anchor drift. Use land reference that can be seen at night or with a spot light. Check both compass readings more often if windy.

If no other boats are anchored nearby and wind is light, boat swing can be reduced by setting a second anchor with less rode off the stern. Alternative is to motor 90° off 1st anchor and set second anchor with same length of rode. In rough waters a buoy can be attached to the rode to act as a shock absorber if anchor is unlikely to drag. To increase anchor holding a sentinel (kellet) weight can be attached halfway down the rode to increase horizontal run of rode from the anchor. If waves are hitting the boat from a different direction than wind, attach a bridle line from stern to the rode to angle the boat into the waves.

Anchorage

A harbor suitable and usually designated as a place to anchor

Angle of Incidence

The angle at which the leading edge of the sail meets the apparent wind. Sails need to be angled off wind to produce momentum. The angle of incidence of the upper most section of the main sail can be increased during a close hauled sail by

easing the main sheet and allowing the boom to

Apparent Wind
: The wind strength and direction measured from the deck of a moving boat. Except for downwind sailing, apparent wind is always stronger than true wind As wind strength increases the angle of apparent wind moves further aft

Arming the Lead
: Hollowed bottom of sounding lead filled with grease to sample bottom

Astern
: Behind the stern of the boat

Athwart or Athwartship
: Across the beam of a boat

Aweigh
: Anchor off the bottom

Backstay
: Mast support wire running from the upper part of the mast to the stern. Usually attached to a stem fitting

Backwinding
: Jib is too tight compared to the main. Set Jib trim 1st, then set main sail leech to match creating an effective slot
Also means pushing the boom out by hand when headed into the wind to slow the boat down or move in reverse

Bahamian Moor
: Two anchors set opposite each other, parallel to the current with the boat attached in the center to minimize swing into a shore or because of current shift. Must let out twice the necessary rode to set the second anchor.

Ballast
: Weight place in the bottom of a boat to give it stability

Bar
: Sand, mud or debris shoal

Barometric effect
: One inch drop in barometer will raise the tide approximately one foot. Dropping barometer (> 0.057hour) indicates bad weather coming

Batten
: Sail stiffening bars. The second from the top batten should be parallel with the

boom.

Batten Down
: Close all openings and hatches, fasten down lose gear

Beacons
: Fixed lighted daymarkers - visible 3 to 4 miles

Beam
: Widest width of the boat

Beam Reach
: Wind coming off the beam and sails let out

Bear Right (to starboard)
: When heading straight on another vessel, if entering same corner, return the signal with the same blast

Bearing
: Compass direction from one location to another. Give in 3 digits "098°"

Bear Away or Bear Off
: Steering away from the wind (Falling off)

Beating
: Sailing to windward

Becket
: A loop or eye made in the end of a rope or wire

Berth
: A place to sleep in a boat or a place to make fast a boat

Bight
: Loop or middle part of a line

Bilge
: Lowest interior portion of a boat where water could collect

Binnacle
: Post the steering wheel or compass is attached to

Bitt
: A strong piece post at the bow or stern to attach a towing, anchor or docking line

Bitter End
The end of the rode that is not attached to the anchor

Blind Bend Signal
When approaching a blind curve in a narrow channel sound a 4 to 6 second blast and keep right Block pulley

Boat Hook
A pole with a hook on one end used to catch a ring bolt or line when coming alongside a pier or mooring

Boat Speed
Speed on the water not including current versus True Speed which includes current

Bollard
Massive metal post on a dock or pier that heavy ship lines can wrap around.

Bolt rope
Rope sewn into luff edge (front edge) of a sail to hold it in a track in the mast

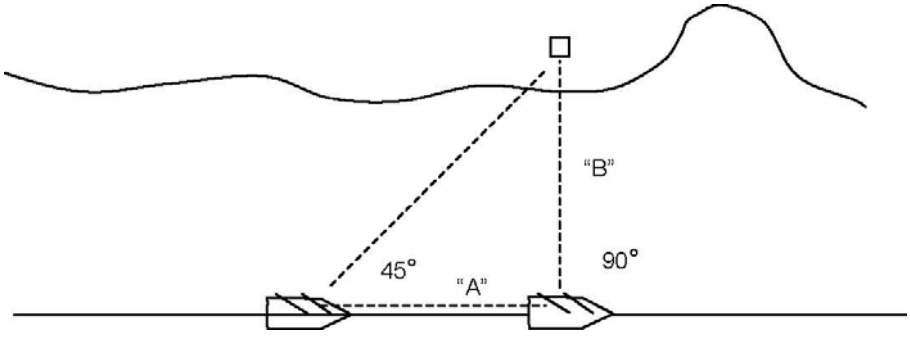
Boom
Spar to which the foot of sail is attached

Boom Vang
A line or pole to steady the boom when off the wind

Bosun's Chair
Plank or canvas seat attached to the main halyard to hoist a person aloft

Bow
Front of the boat

Bow & Beam Bearings
Distance traveled when a stationary landmark moves from 45° off the bow to 90° (abeam) is the distance from the landmark when boat was abeam the landmark (you can double any angle from 15° to 45°)



Bowsprit
: A spar extending forward from the bow

Bow Line
: Docking line that runs from the bow to further forward on the dock. This allows some boat movement with the tide

Breast Line
: Docking line that runs at right angle from side of the boat as compared to spring lines which are angled from the boat to the dock. Not to be used with a significant tide.

Bridle
: Short rope with each end secured to the boat so that another line can be attached to its center. Often used when towing another boat. Can be used while anchoring to angle boat into the waves

Broad Reach
: Wind coming from aft of the beam

Broaching
: Sudden, unplanned and uncontrolled turning of a vessel so that the hull is broadside to the seas or the wind.

Buoy
: Any floating marker that is secured in place. (Can shape, green, odd, left on return) (nun shape, red, even, right on return)

Burdened vessel
: Vessel that must "give way" to another vessel in a crossing or overtaking situation

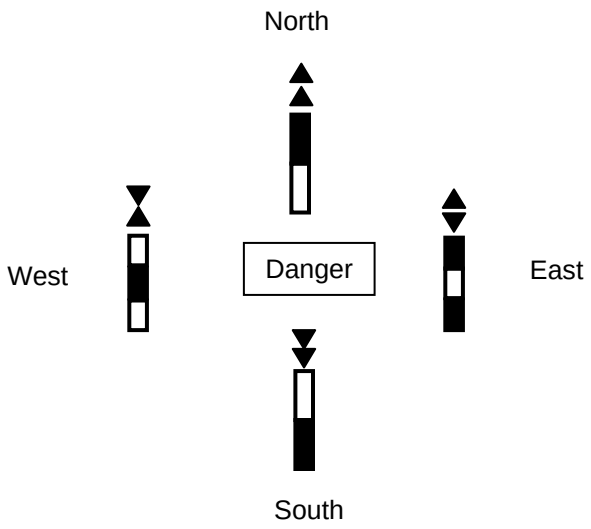
By the Lee
: Sailing on a run with the wind slightly on the same side as the sails. Accidental jibe is possible

Camber
: Curved edge of the sail, keel or deck. Curvature of the sail is also called draft.

Can
: A floating channel marker colored green or black with odd numbers on the port side returning to the harbor

Cardinal Points

Cardinal points indicate the direction to head to avoid dangerous situation



Cast off

Let go of the lines when leaving the dock or mooring

Center Channel markers

Red and White Vertical strips - Keep right in channels

Center of Effort

The center of all the lift and drag forces at work on a sail

Center of Lateral Resistance

The center of all the lift and drag forces at work on the hull and rudders. When in balance with CE the boat travels straight.

Chart symbols - Cans = C, Nuns = N, Colors = R-G-W-Y

Gp = group flashings, R Bn = radio beacon, sec = total cycle time of lights
RW = mid-channel, Mo(A) = Morse code letter A (dot dash pause)
Oc = occulting light (light on more than off),
Fl (2+1) = two flashes pause one flash pause
RG = Red over green with main channel left - secondary channel right,
GR = Green over Red with main channel right - secondary channel left
PA = Position approximate - location not exactly known
Qk Fl R = Quick Flash Red
35ft 7M = Marker light that is 35 feet tall and light can be seen 7 Nautical miles
"3" = buoy number is three
R Bn 295 Radio beacon at frequency 295 mgHz with long and three short beeps
Bell, gong, horn = ringing bell or gong or horn

Chart Scale
50,000 to 1 = large scale 500,000 to 1 = small scale

Chafe
To damage a line by rubbing

Chainplates
Metal plates bolted to the side of a boat to which the mast shrouds are attached.

Channel Split Marker
Green/Red un-numbered buoys that indicating a split in the channel. Use the top color to determine the side the main channel is on.

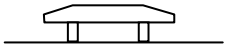
Chart
Navigational Maps showing water depth and ATON's. Don't call a chart a map.

Chock
A metal guide attached to the edge of the deck which is used to guide mooring or anchor lines

Clam Cleat
Cleat that has locking cams to hold a line in place

Claw off
Clear a Lee Shore

Cleat
A fitting used to secure a line under strain



Clew
Bottom corner of the aft portion of a sail that holds the leech down as compared to the Tack, front bottom corner.

Close Hauled
Most windward point of sail, 45° off wind direction Head up in a gust and Bear Off in a lull

Close Reach
Wind coming in forward of the beam but not 45°. Bear off in gusts and head up in lulls. (Opposite of close hauled moves). In light wind place crew leeward and forward. In heavy weather place crew aft and windward to hold tiller down

Coaming
Wind protection around a cockpit

Cockpit
: Recessed area lower than the deck that the tiller or wheel is located in

Collision Course
: A unchanged relative bearing with another approaching vessel

Come About
: To change direction by turning into the wind (after "Ready about" command)

Compass Rose
: Double circle with magnetic degrees in the inner circle and true degrees in the outer circle

Compensated Compass
: Compass that has been adjusted to correct for Deviation

Corrected Compass Readings
: Binnacle boat compass has deviation that varies with boat direction that is cause by metal in the boat that is within a few feet of the compass. Add degrees for westerly deviation and subtract for easterly deviations

Course - Intended direction of travel
: If plotted DR course on a chart write compass heading with "M" or T" if course is compass reading is magnetic or true

Cringle
: A metal ring sewn into the sail

Crossing Channels or shipping lanes
: Do at a right angle

Crutch
: Support for the boom when the sails are furled

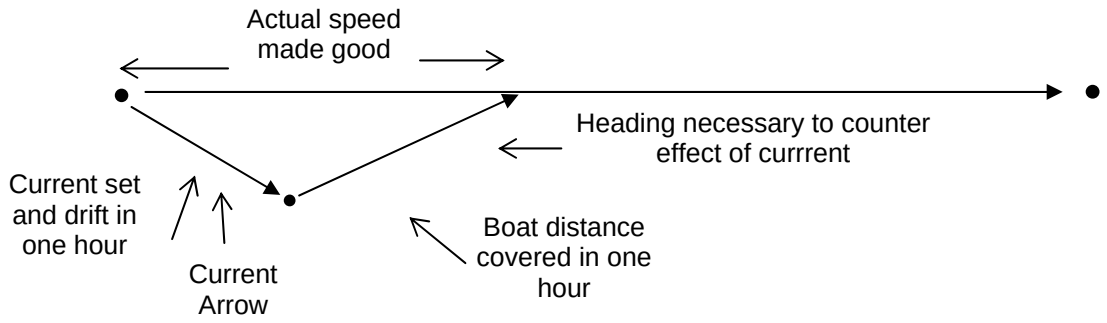
Cunningham
: A line used to exert tension on the luff (forward edge) of a sail not the boom

Current
: Tidal current, ocean current, Leeway, minor steering errors

Current Arrow
: A line drawn the distance the current travels in one hour from a fixed position on the chart.

Current Triangle

Heading necessary to counter effect of current. Draw line the distance the boat covers in an hour from ending point of the Current Arrow to where it intersects the Course line. This is the current corrected heading. Distance from original fixed point is True Speed or speed made good (SMG)



Cutter

Single mast sail boat with two head sails in front of the mast. Forward sail is the jib, the sail between the jib and the main is the Staysail

Danger Signal

At least five short blasts which means there is a failure to understand Intentions or action is not being taken to avoid collision

Danger Bearing

A bearing to a marker that needs to be greater or lesser compass direction in order to be sure that a dangerous condition can be avoided

Danger Zone

A powered vessel must give way to any approaching other vessel from dead ahead to 22.5° past abeam on the starboard side. The give way vessel should not turn to port for approaching vessels forward of it's beam but starboard to pass to the stern of the approaching vessel

Datum

Chart sounding water depth that would occur at average lowest tide

Daymarks

Markers that are permanent structures

Displacement

Weight of the water displaced by the boat

Distress Signals

The following signals indicate need for immediate help:

Firing gun or explosions at one minute interval Continuous blast of fog horn
Red rockets or flares
SOS made by any means
Call VHF channel 16 radio - include name, location, type of distress
Orange smoke signals
Slow and repeated raising of your out stretched arms
Orange signal flag with black square and black ball
International Code Flags "N" over "C" (not in command)
Visible open flames on the vessel (rags burning in a bucket)
An operating Emergency Position Indicator Radio Beacon

Dead Reckoning

Plotting of a boat's location on a chart based on a previous known location. Include boat speed and plotting time. Used to be called "Deduced Reckoning". Indicated on a chart with a circle through a line indicating the boats direction. Indicate time with four digits 13:26, compass with three digits 078° and boat speed that is prefaced with S. Avoid plotting DR near dangerous areas.

Depth meter or fathometer

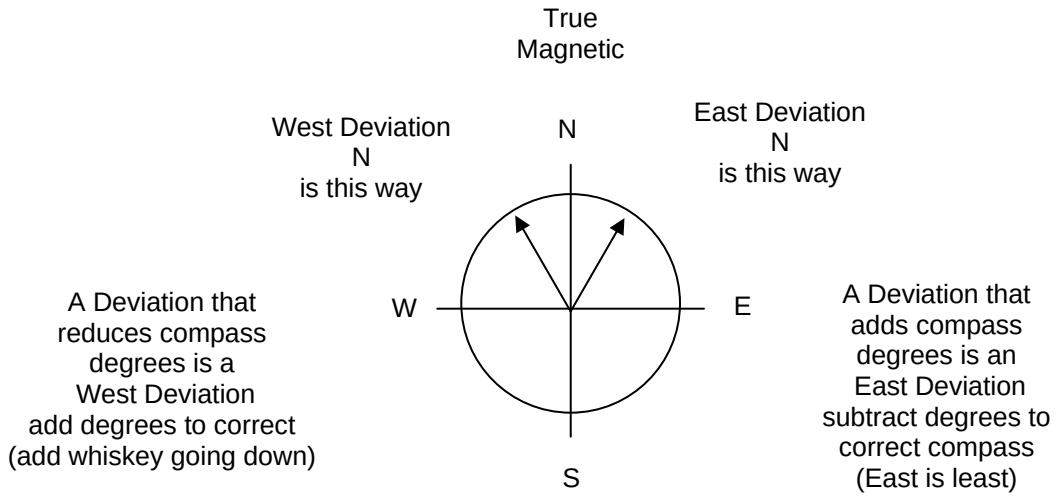
Instrument used to determine soundings or depth of water

Deviation Table

Lists the amount of compass deviation depending on boat bearing. Maximum error will be either east-west or north-south headings. There will be no error midway between the two maximum errors. Error will be the equal but reversed at 180°.

Deviation

Deviation is the affect of metal within 3 to 5 feet of a boat compass. The deviation will vary depending on the direction of the boat. To determine deviation take handheld compass readings of the centerline of the boat well behind the compass and away from metal rigging lines. If boat compass has fewer degrees than the handheld compass it is a West deviation. If boat compass has more degrees than hand held compass it is an East deviation. To get Corrected Compass add degrees for West deviation (add whiskey going down) or subtract degrees for East deviation (East is least).



Distance from a Marker of known height

Upon first viewing of a light on the horizon with a known height, multiple the square root of the lights height in feet times 1.15 to get distance in nautical miles. Must also add the same calculation for viewers height above water

Distance = speed X time Time = distance + speed Speed = distance + time

If minutes instead of hours are used then "60 D Street" to signify 60 x D = S x T

D = (S x T) / 60 S = 60D / T T = 60D / S

Distance covered in 6 minutes X 10 equals knots

Dividers

Charting tool with two pointers that can be spread apart a distance on a chart and compared to the latitude lines on the side of the chart to determine the distance in nautical miles.

Docking

Approach the dock into the wind. Attach a bowline first. Reverse motor with tiller turned towards the dock. Use the outboard motor in reverse with a catamaran.

Douse

Bringing in a sail or spinnaker. Also called dousing

Downhaul

Line attached to the tack of the sail (forward edge) to hold it down or forward

Downwind Sailing

Sailing with the wind coming from the stern, Main sail fully out, Boom Vang should be tightened, Be careful of accidental jibing

Draft

Depth of the keel or centerboard in the water. Can also be the curvature of the sail, (camber). Best sail draft is 1/3 to 1/5 of the way from the leading edge. A flatter sail draft that is closer to the leading edge is better for Upwind sailing Flatten the draft by adding tension to the backstay to curve the mast or by tightening the outhaul

Draw Bridge Signal

One long blast and three short blasts.

Drift

The boat movement leeway or sideways - can be speed of the current in knots

Drogue

A sea anchor is attached to the bow. A drogue is attached to the stern. It can be a line with knots towed astern off a dingy to keep it from running into the back of the boat in a following sea

Drying Height

Height above water an obstacle (rock) will be exposed if water is at Datum Tide height will define how much is actually exposed

Ease

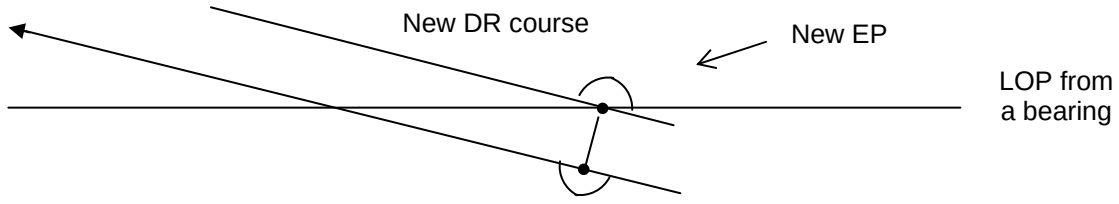
To let out a line "Ease the sheets"

Eddy Currents or Tidal Eddies

Counter current to main body of water flow along shoreline - Happens on the inside portion of turning water

EP - Estimated Position

Plot DR on chart and line of position (LOP) from a marker then correct the dead reckoning (DR) location by plotting 90° from DR location to LOP. This is not a FIX



Fairlead - Fitting used to change direction of a line

If the foresail fairlead is too far forward it will cause the foot to flutter If the foresail fairlead is too far aft it will cause the foresail leech (rear edge) to flutter. May need to adjust jib fairlead forward when reefing the jib

Fall Off

To bear away from the wind

Fathom

Six feet - Chart may list fathoms and feet together or fathoms and a fraction

Faraday Cage

Lightening protection provided within the standing rigging if the mast is grounded below the water line

Fender

Bumper placed beside the haul to protect it when docking

Fetch

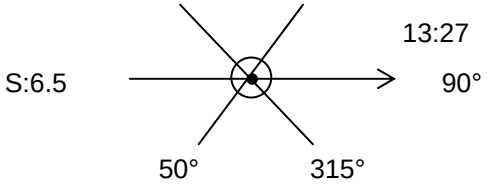
Windward course in which a sailboat can reach her destination without a tack

Fiddle Block

Block with multiple pulleys - two fiddle blocks create a Handy-Billy

Fix

A position determined by plotting the intersection of at least two compass readings from known locations and including the time the compass readings were made.



Flake

Folding lines loosely or in figure eights so they can run out without fouling Folding a sail in layers on a spar or boom or before packing away

Flashing buoy

Determine its position on chart using flash color and sequence. Flash itself is 1 second duration - if color not listed then its white

Flemish

To coil excess line in a spiral on the deck or dock

Float Plan
: A plan given to a responsible person on shore of your intended cruise or destination

Flood
: Incoming tide

Fluke
: Digging spade portion of an anchor

Fluxgate Compass
: Electronic compass with a remote magnetic direction sensor

Fly or windex
: Wind directional arrow typically mounted on top of the mast

Fog
: Any form of haze or restricted visibility - plot DR carefully in fog

Fog Horn Signals
: Fog signals every 2 minutes required for all vessels over 12 meters One long - Two short = Any vessel with restricted maneuverability One long = Power vessel underway Two long = Power vessel stopped One short - One long - One short = Any vessel at anchor Signals may be 5 to 10 minutes apart in open water

Fog Signal Response
: Stop or reduce to minimum forward motion if fog signal is heard: forward of the beam in close proximity or another vessel or lights are seen loaming ahead Turn off the motor occasionally to listen for 2 minutes

Following Sea
: Waves coming from your stern

Foot
: Bottom length of a sail

Foremast
: The most forward mast on a boat that has more than one mast

Foresail
: The jib

Foretriangle
: Space between the mast and the forestay

Fouled
: Entangled or clogged

Freeboard
: Distance from the top of the hull to the top of the water

Furl
: To fold or roll a sail on a boom and then secure with ties

Gaff
: A pole extending from the mast to support the head (top) of the sail

Gasket
: A piece of rope or canvass used to secure a furled sail

Genoa
: An oversized jib that hangs past the mast

Gimbal
: A device used for suspending the compass or a stove so it remains level

Give Way Vessel
: Vessel that must change course or stop. Never cut across the bow of Stand-on Vessel.

Give Way to any vessel that is:
: Too large to maneuver, a fishing vessel, restricted to a channel, not under command, a vessel you are passing, a vessel to your starboard, another sailboat on your leeward side, a sailboat on a starboard tack when you are on a port tack

Global Positioning
: Latitude is expressed first with "N or S" to define if it is above or below the equator. Longitude is expressed second noting "E" or "W" of Greenwich

Gnomonic Projection
: A chart with Longitude lines that are straight while Latitude lines are curved so that the shortest distance between any two points is a straight line. This straight line becomes a "Great Circle Route" on a Mercator Chart which is a curved path but the shortest route. A Rhumb-Line course is a straight line drawn on a Mercator Chart

Gooseneck
: A device that secures the boom to the mast

Great Circle
: Shortest distance between two points because of the curvature of the Earth

Green Running Light
: Forward facing starboard light used at night when running.

Grommet
: A metal ring fastened into the sail

Ground Tackle
: Anchor, rode, etc used to secure a boat to a mooring

Grounded
: 1st check for leaks - check tide status - check motor inlets - make soundings all around the boat - try rocking boat or shifting weight - Be careful trying reverse as it can push sand around the keel - set up kedging anchor

Gudgeon
: A fitting attached to the hull into which the rudder's pintles are inserted

Gunwale
: The railing of the boat at deck level

Guy
: A line or wire used to adjust and position the spinnaker pole

Gypsy
: Windlass wheel that rotates the chain up or down

Gypsy Lock
: Windlass lever that locks the gypsy. Not all windlass's have them.

Halyard
: A line used to haul the sails up and down

Handsomely
: Something done slowly and carefully, "ease out the line handsomely"

Hank
: Small snap hook that secures the jib luff to the forestay

Hard Alee
: The command used in coming about to inform the crew that the helm is being pushed hard to leeward, which turns the boat into the wind

Head

Top of the sail

Head Seas
Waves coming towards the bow - best to steer over waves at a 45° angle

Headsail
Any of several sails set forward of the mast

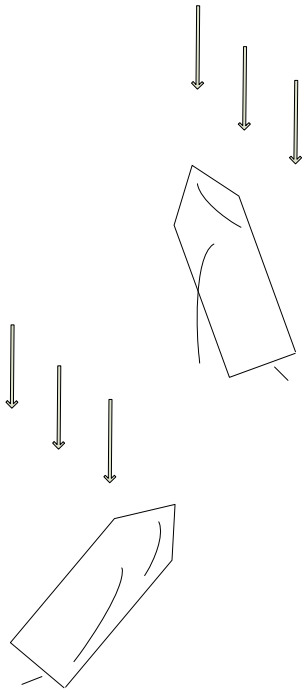
Headstay
A forward rigging supporting the mast

Heading
Direction boat is pointing at any moment

Heading Up
Moving the boat more into the wind versus "Falling off'.

Headway
Moving forward

Heave to
To stop a boat by turning into the wind until the boom swings around but leaving the jib locked, then locking the tiller or wheel fully turned to head the boat back in the opposite direction so that the boat stays dead in the water with a drift to Lee. Better to start with a port tack. When done you are "Hove to"



Heel or Heeling
The leaning to one side from the force of the wind or uneven weight

Helm
Tiller or wheel mechanism by which the boat is steered

Helmsman
Person steering the boat as compared to Skipper who is in charge of the boat.

Hike
To lean over the side of a boat to counterbalance heeling

Horseshoe Buoy
PFD in the shape of a U, mounted on the stern for emergency MOB

Hull Speed
Multiply square root of the waterline length in feet times 1.3 equals maximum Knots (49 foot water line 7 * 1.3 = 9.1 knots)

Inland Barges
Yellow flashing bow light with normal white stern light, red port light, green starboard light

Inmast Furling
Main sail furls inside the mast. Must be furled in and out so as not to jam the sails or the furling lines.

Insetting Effect
Current tends to flow into coastal bays - dangerous at night or in fog

In Irons
Heading into the wind, losing all headway and unable to turn

In the Lee
Protected from the wind

Jack Line
Safety line from the stern to the bow which a safety harness is attached to

Jamcleat
Holds a line when tension is put on the line

Jetty
A solid structure projecting out from the shore. Sometimes used to protect a harbor

Jib
Triangular sail set forward of the main mast - sometimes called the head sail Jib foot flutters - move fairlead back, jib leach flutters move fairlead forward

Jib Fairlead
A block used to change the direction of the jib sheet

Jib Hank
Clip attached to the jib which slides along the forestay to secure the jib

Jibe
Change tack in downwind direction while sailing. Boom swings rapidly across the deck. Jibe begins with the boom crossing the boat centerline.

Jibe Ho
Command to the crew that the jibe is about to take place

Jibing
Changing tack by turning away from the wind - (boom swings rapidly). Helmsman announces "Prepare to Jibe" and turns a bit windward as the main sheet is hauled in and the foresail sheets prepared. As the main boom approaches centerline the helmsman turns leeward ands calls “Jibe Ho” until the wind catches the main and the crew eases it out.

Jibstay
Wire supporting the mast to which the luff of the jib is attached

Keel
Heavy fin filled with lead under the hull

Kedging Anchor
Dropping an anchor behind a grounded boat using a dingy or even swimming it out using a flotation cushion to support the anchor.

Ketch
A sailing vessel similar to a Sloop but with a small mizzen mast just ahead of the rudder post. If mizzen mast is behind the rudder post it is a Yawl

King Spoke
Spoke of the steering wheel that indicates the rudder is centered when it is vertical.

Knot
Nautical unit of speed - one nautical mile per hour (1.15 mph)

Lanyard
A line fastened to an object, such as a bail or knife or other small object for the purpose of securing it

Latitude

Lines that are parallel to the equator - Parallels of Latitude each degree is 60 nautical miles - each minute is 1 mile. Only use latitude minutes on side of chart for stepping off mileage Note: each chart uses different scales Equator is 0°, north and south poles are 90°

Lazarette

A small space below deck, usually aft, where an outboard motor or spare parts are kept

Leaving a Berth

Inland rule is one prolonged blast

Lee Helm

A boat which has a tendency to turn away from the wind. Can happen to some boats in light wind. It could be a dangerous condition in high winds causing un-intentioned jibe

Lee Shore

Shore that has wind blowing onto it from the water. Where as "In the Lee" refers to a being protected from the wind

Leech

The after (rear) edge of a sail as compared to the Luff (forward edge of the sail)

Leech Line

Extra line on the trailing edge of the main to achieve greater tension on the leech

Leeway

Sailboat side slip (4° to 8°) which is greater when close hauled sailing,

Leeway correction

Add 180° to bearing of the center of the aft wake which is taken from the center of the boat and compare to boat heading. Apply correction into the wind

Leeward

Away from the direction the wind is coming from. Same side as the boom is on.

Leeward boat

Both boats on the same wind - Boat farther from the direction the wind is coming from is the Leeward Boat and is the Stand on Vessel.

Length at the water line = LWL, Length Overall = LOA

Lifelines
: The lines around the perimeter of the deck attached to the stanchions that are used to prevent falling overboard

Lightening Storm
: If boat is not grounded wrap chain around the mast and put remaining portion in the water

Line
: A rope in use aboard a vessel

Line of Position
: A single magnetic bearing from a stationary marker. "Magnetic Bearing" (MB) is another term for LOP

List
: Continuous leaning to one side

Log
: A device that gives a direct readout of miles run - distance measuring device

Local Attraction
: Additional compass magnetic variation in specific locations

Longitude
: Lines that meet at the North and South poles - Meridians of Longitude Prime Meridian runs through Greenwich, England -A degree length is 60 NM at the equator but decreases with Latitude

LORAN
: Long Range Aid to Navigation - Pairs of Radio beacons that has a distance of 800 Miles. Difference in receiving time of each signal indicates your Line of position

Lubber's line
: A short post or line inside a compass used as a reference point for steering or determining a bearing

Luff
: Forward vertical edge of a sail as compared to the Luff (rear edge of sail). Can also be the flapping of the sail because boat is headed into the wind

Lubberly
: Doing any duty on board sloppily.

Lying Ahull

In a severe storm the sail is dropped and the helm lashed - everyone below.

Macerator

Motor that grinds up discharge from toilets and pumps out holding tank. May also include a chlorinator.

Magnetic Variation

Difference between true compass (TC) and magnetic compass (MC). If variation is west add degrees to TC to get MC. Magnetic variation changes every year. Always check how current is the magnetic variation of a chart.

Magnetic Rose

Inner circle of chart compass gives magnetic corrected compass for a particular year. Always correct magnetic rose for older charts. * Be careful to plot magnetic course using inner circle *

Mainsheet

The line used to control the main sail boom. Typically the main sheet is tensioned during lulls and eased out during gusts

Make Fast

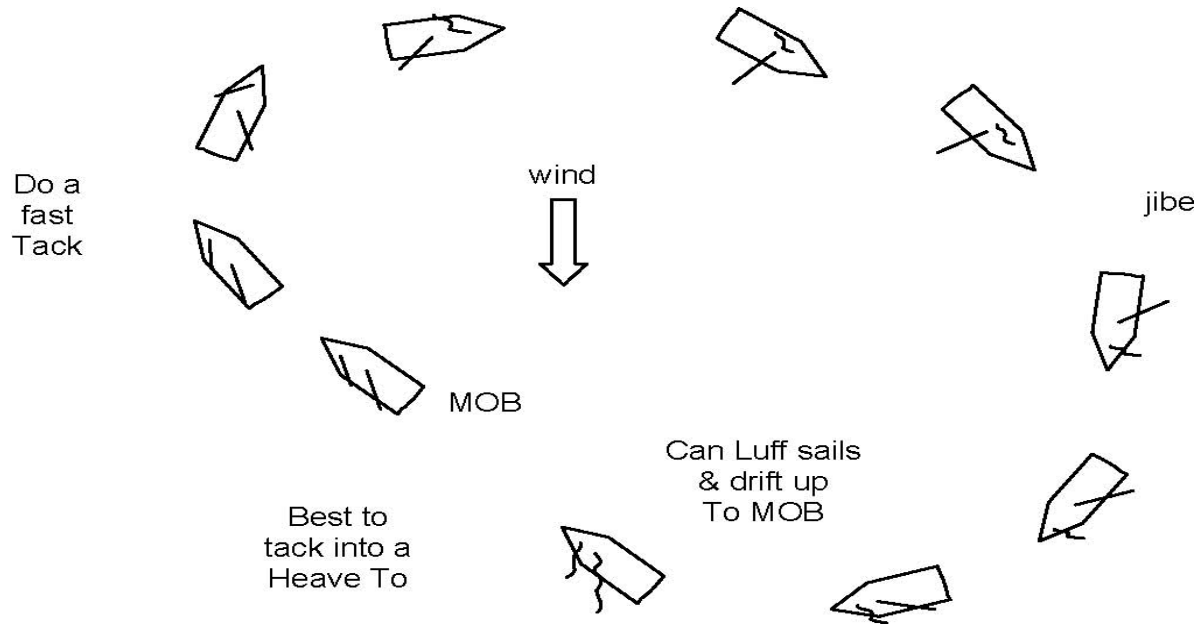
Securing a boat at a dock or landing (You don't tie up a boat)

Man Overboard

Shout "Man Overboard (Starboard/Port), All hands on deck", assign a spotter to do nothing but keep site of and pointing at the MOB, throw a flotation device overboard, note present location, heading and speed,

Put boat on a beam reach and get everyone organized to tack and then jibe. Every crew member should have a PFD on. Come about but don't release the jib to help turn the boat. Keep turning in a wide arc and prepare to Jibe. After the Jibe release the jib and come up on the MOB into the wind on a close reach. Luff the main and coast up to the MOB

Put boat in a heave to position to stall the boat 10 feet from MOB on windward side unless waves might push boat onto MOB. Use the boom tackle to assist lifting MOB. Can Luff sails & drift up To MOB Flotation device and/or life raft, spotting pole, signaling equipment



Marlin spike
Pointed tool used for prying tight knots apart

Mast Head Light
White light - must shine from front to 22.5° aft of the beam. Used when under power. Also called running light.

Maximum Velocity
Maximum velocity of tidal current half way between slack periods

May Day
A radio or telephone distress signal only used if people or the boat are in imminent danger. Use “Pan Pan” to indicate you have an urgent issue but not life threatening.

State clearly:
- Boat Name
- Your general and specific location (latitude & Longitude)
- Nature of emergency
- What assistance you require
- Number of people onboard
- Boat description
- What channel you will be listening on
- This is “boat name” over

Mediterranean Mooring

Anchor is set straight out from dock. Boat is reversed into the dock with fenders in place. Cleat anchor rode to keep boat just off the dock. Use spring lines off the stern to hold boat to dock

Meeting Situation

Two vessels directly approaching each other should:

Give other boat clear signal of which side to pass on
Preferable to pass Port to Port

Right of Way (Stand on Vessel) belongs to:

Vessel not able to easily change course (Freighter, fishing trawler)
Vessel that restricted to a channel
Sailing vessel over powered vessel
Sail boat on Starboard tack
Sail boat that is Close hulled
Boat being over taken
Downwind sailboat on same tack

Each vessel can sound one short blast to agree on passing port to port. Or two short blasts to indicate intention to pass starboard to starboard. Never return a different blast signal

Mercator Chart

Takes a globe and flattens it out so that Lat - Long lines intersect at 90° Meridian - Line running from North to South Poles that cross the equator at right angles.

Mid-Channel marker

Red and White stripes, may have a white light. Channel split will indicate direction of primary channel with the top color

Minor coastal lights

Lights that are visible 10 miles away - major lights visible 20 miles

Mizzen

Shorter aft mast on a yawl or ketch

Mooring

Heavy anchor or weight permanently in position

Mooring Buoy

A buoy fitting with a ring and short tie up line used for mooring a boat to itself

Navigation Time

Use 24 hours (1400 = 2 pm) and tenths rather than minutes

Nautical Mile

Mi on nautical maps is Nautical mile 1.15 land miles = 1 nautical mile equals about 2000 yards

Navigation Safety Valve

Steer boat 5° to 10° upwind from destination and make final correction downwind

Navigation Lights

Red over Red - Broken down but not in distress - not under command
Red over White over Red - Can not deviate course
Two vertical White = towing < 200 meters
Three vertical White = towing > 200 meters
combined with Red over White over Red - can not deviate course
Three vertical Red - can not deviate because of draft depth
Green over White - Fishing trawler at night dragging nets
Red over White - Fishing at night using lines or trolling
White over Red - Pilot ahead

Neap Tides

Weakest tides happening during middle of first and third quarter of the moon versus Spring Tides at the full and new moon.

Noise Making Buoy

Floating buoy with a bell, gong, whistle or horn that sounds as the buoy is rocked in the water

Nun

A buoy with a conical top, numbered evenly, painted red, found on starboard side entering the harbor. (red right return)

Off Station

Buoy that is not where it's suppose to be

Off the wind

Sailing downwind

On a Reach

Sailing with a beam wind

On the wind

Sailing close hauled

Outhaul

Line just above the boom that pulls the main sail away from the mast.

Overtaking Situation

Overtaking vessels must keep out of the way of the vessel being overtaken - Vessel being overtaken must hold course. Over 50 Meter vessels must have second mast light higher and aft of the first light

Overtaking Signals (not required for sailing vessels)

International Waters (do not require a reply) Two long blasts - one short blast - Overtaking you on the starboard side Two long blasts - two short blasts - Overtaking you on the port side (Preferred side) One Long - one short - one long - one short blast - I'm OK with your overtaking me. Inland signals (requires same signal reply) One short blast - I'm overtaking you on your starboard side Two short blasts - I'm overtaking you on your port side Same return signal if I'm OK with you overtaking me If overtaken vessel gives danger signal - cease overtaking

Padeye

Metal loop that a line runs through

Painter

Short rope secured to bow of a small boat and used for fastening her to the dock

Pan Pan

A radio or telephone distress signal used to indicate you have an urgent issue but not life threatening. Only use “Mayday Mayday” if the situation is life threatening.

Parallel Rulers

Used to determining Line of Position (LOP)

Passing an oncoming sail boat

Preferable to pass Port to Port - Red light to Red light. The sail boat on starboard tack and/or close hulled is stand on vessel however always pass so close hulled boat can fall off to avoid since it can turn into the wind.

Pay Out

To release a line in a controlled manner such as the anchor rode

Pelorus

Compass like card that can be clamped in a fixed position. The card has 360° markings & sight vanes. 0° is pointed to either magnetic north (Dumb Compass) or the boats current heading

Pennant

A small signal flag hanging from the side stays

Permission to Come Aboard

Never step onto another person’s boat without asking permission first

PFD

Type I for off shore. Type II for near shore. Type III is only a flotation aid. Type IV throw able floatation (horse shoe shape)

Pitch Pole

Riding down such a steep wave that the bow plows into the wave trough and the wave pushes the stern up and over

Piloting

Navigating by using visual references and water depth

Pinch

To sail so close to the wind as to allow the sails to luff

Pinch-up

Head up into the wind to de-power the sail during a gust.

Pintle

A bolt or metal secured to the rudder that fits into a gudgeon attached to the stern that allows the tiller to turn.

Pitching

Rising and falling of the bow versus Roll which is sideways rocking

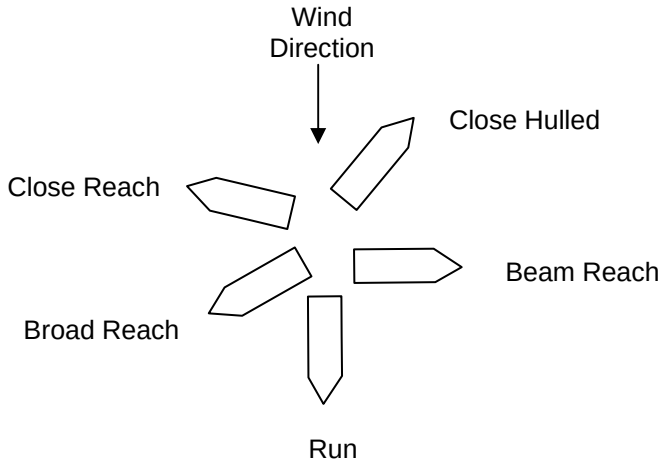
Plotting on a Chart

S = speed in knots, MC = Magnetic Course, MB = Magnetic bearing, M or Mi = nautical miles, Kn = knots

Point

To head close to the wind

Points of Sail

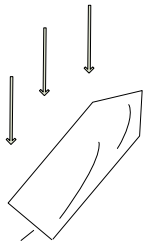


Prepare to Jibe
Signal to the crew that the helmsman is about to jibe

Pooped
Water entering the boat from the stern (large waves or excessive rear weight)

Port
The left side of the boat as one faces forward - red light side light near the bow. Also an opening for light or ventilation in the side of a vessel or a shore location to dock and maintain a vessel.

Port Tack
A course with the wind coming from the port side and the sails trimmed on the starboard side. Give way tack



Position by line of Soundings
Measure distance between sounding depths and make scale drawing to use to match chart soundings near plotted course to determine approximate position

Prepare to Jibe
Signal to the crew that the helmsman is about to jibe

Privileged Vessel
Vessel having the right of way in a crossing situation

Preventer
A line attached to the middle of the boom, forward to a cleat that prevents the boom from swinging due to an accidental jibe.

Propellers
Right hand propeller spins clockwise, left hand spins counter clockwise. Most single screw driven vessels are right hand props.

Prop walk
Sideward force created by a spinning propeller. Right hand prop (clockwise) pulls the stern to Starboard in forward and to Port in reverse. Opposite effect for Left hand prop (Counter Clockwise). Prop walk mostly affects reverse.

Q Flag

Yellow flag flown from starboard shroud to indicate you desire boarding by customs agents upon entering a foreign port or waters. Hosted on the starboard spreader

Radar

Can seen 20% beyond the horizon. Not useful in the rain

Radiation Fog

Cooler land mass causes fog over land

Radio Channel

Monitor Channel 16. State person or company you are trying to reach and then state your boat name and purpose of your call. Once communication is establishe agree to move to another channel.

Radio Direction Finder (RDF)

Instrument used to obtain a bearing to a marine radio beacon Radio beacons identified on the chart with signal frequency. Locate direction when signal is null. Can be 5° to 10° off

Rafting

Two or more vessels made fast side by side. Boats are held by first anchor. Rafted boats should set their own anchor 45° off the first boat to allow them to swing free later on their own anchor.

Rail

The outer edge of the deck

Rake

The angle of the mast from vertical

Range

The distance a boat can travel using the fuel it can store

Range Markers

Two stationary lights or markers at different elevations that will line up with each other when your boat is in the center of a channel. Steer towards the lower light to re-gain alignment.

Raw Water Strainer

Strainer used to prevent seaweed from entering the engine cooling system.

Reach
Sailing with a beam wind

Ready About
Command give to prepare the crew for coming about as the helmsman bears off a few degrees to gain extra turning speed. Windward foresail sheet is prepared for tensioning by wrapping it twice around the winch and the leeward foresail sheet is uncleated but kept tight. Windward winch handle is at hand. Mainsheet traveler is prepared for adjustment. Helmsman determines temporary heading 95° to 100° off original course until sails are trimmed again.

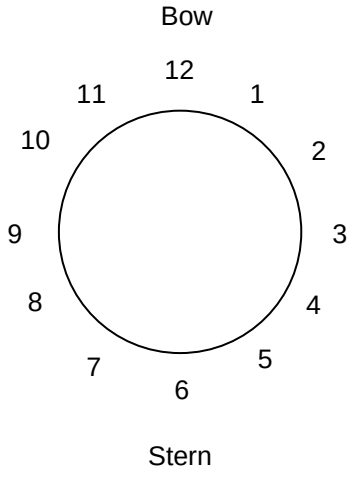
Red, Right / Return, Nun, Even #, Triangle, Bell (ring) - May have red reflective tape

Reef the Main
Reduce the main sail. Head into the wind, (may need to tighten the topping lift), loosen the halyard and outhaul while dropping the main. Firmly attach the first, second or third reefed rear clew and forward tack. Tighten up Halyard.

Reef the Jib
Can head into the wind or go on a broad reach to shelter the jib with the main. The jib sheet fairleads should be moved forward when the jib is reefed

Reeved
A line that is passed through a block or hole

Relative Bearing
Direction of an object or other boat in reference to the bow. It can be given in degrees, points per quarter or the twelve hours of a clock with the bow being 12 o'clock and the stern being 6 o'clock



Reverse
Most right hand prop single screw boats will easily reverse to port but need right rudder to back up straight and will reluctantly turn to starboard with reverse headway

Reverse Direction
Slow down, set right rudder and use forward and reverse propeller to swing boat in a small area without changing the rudder position (right prop only)

Rhumb line
: A straight line on a Mercator chart. Over long distances the Great Circle is the shortest route.

Rigging
: The wire or lines used to adjust the sails

Right of Way
: Stand on Vessel that should hold its course. Vessel that have right of way includes: starboard tack, leeward boat, boat being passed, close hauled boat or boat unable to alter course.

Rode
: The line and/or chain used to secure the anchor to the boat. Chain requires at least 5 to1 rode to depth while line requires at least 7 to 1.

Roll
: Sideways rocking of a boat versus pitch which is forward to rear rocking

Roller Furling
: Furling of a sail by winding it on a stay or inside a mast.

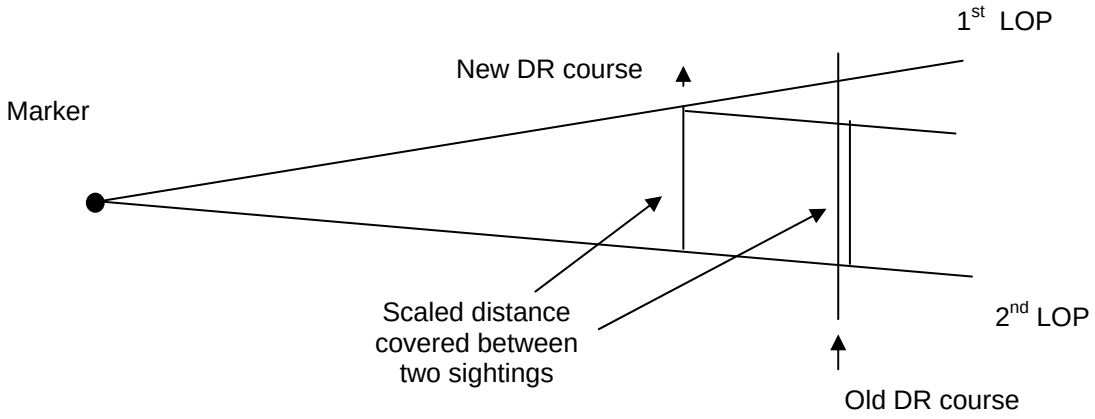
Roller Reefing
: Reducing roller furling sail by winding some of it in.

Rolling Hitch
: Clove Hitch with two wraps around the bar or rope before knotting

Run
: (Running or sailing downwind) Wind is coming from the aft (wind is astern)

Running Fix

Two bearings of the same marker taken at different times and the LOP plotted on a chart. Use Time and Speed between Bearings to determine distance. Measure true distance with calipers. Move calipers parallel to DR line until they intersect the two LOP line



Plot second line of magnetic reading of same marker. Draw line of boats distanced covered between magnetic readings. Move line perpendicular to boat direction until it fits between compass readings. Intersection of newest compass reading is new dead reckoning position. Include course direction, speed & time

Dead reckoning location determined from previous location is plotted on a chart so that it intersects a magnetic reading taken off a marker. Include course direction, speed & time

Roller Reefing

Ability to reef the sails by rolling them into the mast or around the fore stay.

Running along a Depth Curve

Guiding a boat parallel to a shore line by following a single depth - can use to help locate a buoy in known depth

Running rigging

Adjustable sail controls

Safety Harness

Secure harness worn on a person with a loop that a tether can be attached to. Tether should have a quick release shackle on one end that can be attached to a jackline.

Sail Ties

Lengths of webbing used to secure a furled sail to a boom

Sailboat lights

Mast head forward shining white light is only used when under power . Sailboats under 12 meters international or under 20 meters inland may have tri color - Red - Green - White on the mast head. Port side bow light is red. Starboard side bow light is green. Sailboats under 7 meters can use flashlight or other white light to prevent collision. Shine a light on your own sails if another vessel approaches

Scope

Length of anchor rode compared to depth of water at high tide and height to the bow. Use at least 5 to 1 for all chain rode and at least 7 to 1 for rope lines

Scull

To move the rudder rapidly back and forth to propel the boat forward (sculling)

Schooner

A sailing vessel with at least two main masts (some have seven masts) Second mast is taller than the forward mast.

Scuppers

Drain holes above the waterline (found in the cockpit area)

Sea Anchor

If drifting without sails or motor set a long line from the bow to a heavy fabric cone that is slightly submerged. This will hold the bow into the wind and reduce drift up to 90%. Large opening in the sea anchor should be 1 inch for each foot of a boat's waterline.

Self-Tailing Winch

Winch that requires three clockwise wraps around the winch and then the tailing line is wound into a v shaped wedge that secures the line. Winch handle can be rotated in reverse direction to gain geared down leverage advantage. Always keep palms toward the winch and thumbs up but out of the way.

Sea cocks

Valves just inside of the Through Hulls to close off water or drain lines.

Secure
: To make safe

Sentinel
: Extra weight attached to the rode that is lowered halfway down to pull the anchor line farther down

Set
: Direction that the current is flowing towards or the direction a boat is drifting.

Shackle
: A u-shaped stainless fitting with two eyes that a shackle pin attaches to, to close the circle. Can be a quick release.

Shake out
: To let out a reef and hoist the main sail

Sheave
: The wheel of a block pulley

Sheet
: The line used to control the sideways movement of a sail

Shoaling Effect
: Faster flowing water over a shallow area causing rough surface condition

Shrouds
: Vertical side wires that support the mast

Sidelights
: Port side bow is red light - Starboard side bow is green light

Slack Water
: Brief period between flood and ebb when horizontal flow stops (2-20 min)

Sloop
: Single mast with a single jib

Spar
: Broad category for booms, masts or gaffs

Spinnaker
: A balloon sail used on a downwind course

Splice
: To join rope by tucking the strands together

Spreader
A horizontal support that holds the shrouds away from the mast

Spring Line
A line used to keep the boat from moving forward and aft when docked versus the breast lines which are at right angles to the boat. Bow spring line starts at the bow while stern spring line starts at the stern.

Spring Tides
Strongest tides caused by alignment of sun and moon during full and new moon period

Sound Bearings
Close eyes to determine direction of sound to obtain a rough bearing to a sound Marker. In desperate situation zig in and out of hearing range of breakers

Sound Signals
Daylight Warning when boats are within eyesight and there is no fog. One short Blast - I'm altering my course to Starboard. Two short Blasts - I'm altering my course to Port. Three short Blasts - I'm backing up. In International waters no reply is needed. In Inland Waters show agreement with same return signal. Never reply with a different number of blasts

Soundings
The depth of the water based on the average of the lowest tides

Stanchions
Upright bars that hold the lifelines around the deck

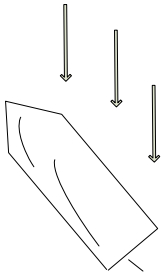
Stand-on Vessel
Vessel that has the "Right of Way" and must hold its course as compared to a “give-way vessel”. Stand on vessel is: starboard tack, leeward boat, boat being passed, close hauled boat or boat unable to alter course.

Standing Rigging
Rigging that is permanently secured and not moveable

Starboard
Right side. Any boats on the starboard side that are forward of the starboard beam have right of way. Pass on the stern side of approaching vessels on the starboard side.

Starboard tack

Wind is coming from the starboard side and sails are trimmed on the port side of the boat. Starboard tack has right of way over a Port tack



Stay

Wire or hemp rope that supports the mast from the aft or bow

Stay sail

A small triangular sail used forward of the mast on a reaching course.

Steerage

Minimum speed required to control a boats movement

Stem Fitting

Metal anchor that holds the mast stays to the hull

Stern

Aft section of the boat

Stern Lights

White light that shines 67.5° each side of stern

Stern Lines

Docking line that often runs from the stern fitting farthest from the dock to further astern on the dock. This allows the boat movement with the tide.

Sternway

Moving backwards

Stow

To put away

Stuffing box

Fitting that seals and lubricates the propeller shaft where it protrudes through the hull

Sumlog (Knotmeter)

Electronic boat speedometer that also gives distance covered

Tack

Forward lower corner of a sail that holds the Luff (forward edge of the sail) down. Also refers to changing course by passing into the wind or any course on which the wind comes from the side of a boat (port tack)

Tackle
: An arrangement of ropes and blocks to give mechanical advantage

Taffrail log
: Mechanical distance measuring device - usually a dial indicator

Take a Bearing
: Use either a hand held compass or the boats compass to get a magnetic bearing on a buoy or marker or land feature - include deviation with boat compass

Take a Fix
: Determine boats location. Always do this before nightfall, or when: visibility is decreasing, approaching shallow areas, entering a harbor, and sailing unfamiliar waters

Tang
: Fitting at the top of the mast that holds the stays and shrouds

Telltails
: Small ribbons hanging on the sail that depict the wind direction across the sail Telltails are useful for upwind sailing - not for a beam or broad reach Fluttering Leeward Telltails - ease out sail or head up Fluttering Windward Telltails - Trim in the sail or Fall Off. Fluttering leech telltails indicates the leech (rear edge) needs to be tightened. Move Sail towards the Flutter or steer away from Flutter

Tenth of an Hour
: Equal to six minutes

Tender
: A small boat to go back and forth between the shore and the main boat - can also mean healing easily when close hauled

Tether
: Line attached to a safety harness that is attached to something secure on the boat

Thimble
: A ring with a grooved on the outside to make a rope grommet

Through Hull
: Where fittings pass through a hull below the waterline

Tidal Current Tables
: Gives Set and drift, time of the maximum current and slack water time. Note that Set is given in True Compass not Magnetic Compass and time is not adjusted for daylight savings

Tidal Current
: orizontal flow of coastal water (flood = inflow - ebb = outflow). Tidal Day is 24 hours and 50 minutes
Tide peaks gain 50 minutes a day

Tide
: Rise and fall of coastal waters - 6 hours and 13 minutes between high and low tides

Tide Tables
: Yearly published water height above charted soundings

Tiller
: Steering mechanism that controls the rudder

Topping Lift
: Line or wire that runs from the top of the mast to the aft end of the boom used to suspend the boom when the sail is down. Can also be a line from the mast to a spinnaker pole controlling its height

Topside
: On deck

Towing Light
: Yellow light above white stern light indicating vessel has a tow astern. Two whites on the mast < 200 meter tow Three whites on the mast > 200 meter tow

Track or Course Made Good (CMG)
: Actual path of the boat

Transom
: Most stern portion of the hull

Traveler
: A sliding fitting to which the mainsheet is attached. Mainsheet block attached to the traveler is adjusted leeward on a broad reach to put more tension on the leech edge

Trim
: To adjust the sails relative to the wind. "Trim the sheets" (tighten main or jib)

Trip Line
: Line attached to the crown of an anchor to pull a suck anchor loose

Trough
Bottom section of a wave

Turnbuckle
Threaded link that pulls two eyes together to add tension to standing rigging

True Speed or Speed Made Good (SMG)
Actual speed which includes effect of current

Turning
Remember in tight quarters the stern needs to move in opposite direction of the Bow and Prop Walk predominates in reverse. Brief burst of forward throttle with right rudder will drive stern to port. Only in forward does the rudder re-direct the prop thrust Reverse rudder is much slower to respond

"True virgins make dull company"
To determine corrected compass (C) from true compass (T) add or subtract the magnetic variation to obtain Magnetic heading (M) then add or subtract the compass deviation (D) caused by metal near the compass to obtain the Compass (C) heading

Heading	T=True compass
	V= Variation (caused by earth magnetic variation)
Heading	M=Magnetic
	D=Deviation (caused by metal near the compass)
Heading	C=Compass

West variation/deviations add degrees (add whiskey going down), East variations/deviations subtract degrees (East is least)

Reverse order to go corrected to true compass "Can dead men vote twice"

Tug Lights
Tug with a tow - Two white vertical mast lights and yellow light over white stern light. Tug with tow over 200 meters astern - Three white vertical mast lights. Tug along side or pushing a vessel - two white vertical mast lights in International waters no yellow stern light in Inland waters two yellow vertical stern lights

Underway
A boat moving through the water

Variation
The difference between magnetic North and true North. West variation drives compass pointer towards the west so add degrees

to correct. (add whiskey going down). East variation adds degrees so subtract from true compass (East is least). Variation changes every year. Include yearly variation that has taken place since the chart was created. (written on compass rose)

Veer

A change of direction

Visibility Table

Lists the distance from a light appearing on horizon for each foot of height Square root of height times 1.17

Wake

The astern waves created by the boat

Wash

Flow of water from the action of the propeller(s)

Watches

Periods of on deck duty, usually four hours long (dog watches are two hours)

Weather Helm

The tendency of a sail boat to turn into the wind. The force required to keep a sailboat on course by over steering off the wind. A safety feature because boat will automatically turn into the wind. To reduce weather helm, reef the sails or flatten them to spill air

Weather Shore

Wind is blowing from the land, over the shore towards the water

Weather Indicators

If wind shifts opposite of the movement of the sun (coming from the West and then coming from the East) expect bad weather.If it shifts with the sun expect good weather. Lightning from West or Northwest will reach you, South or Southwest will pass by

Weigh Anchor

Lift the anchor

Well Found

Well equipped and if everything is in order it is "Ship-shape"

Whip

To bind the strands of a line's end with yarn or cord

Winch

A mechanical device to aid in trimming the sails. A self-tailing winch

consists of a coil on which the line is wound clockwise around and a crank is used to give mechanical advantage.

Windlass
: A rotating drum used to haul in a line or a chain

Windward side
: Side of the boat the wind is hitting - opposite side boom is on

Windward Boat
: Both boats on same wind - Boat closer to the direction the wind is coming from is the "Give Way Vessel"

Windward
: Toward the wind, opposite of leeward

Wing and Wing
: Running before the wind with sails set on both sides of the boat. Also called goosewinged. May require a whisker pole on the foresail

Wisker pole
: A light spar extending from the mast and used to hold the jib out when sailing off the wind

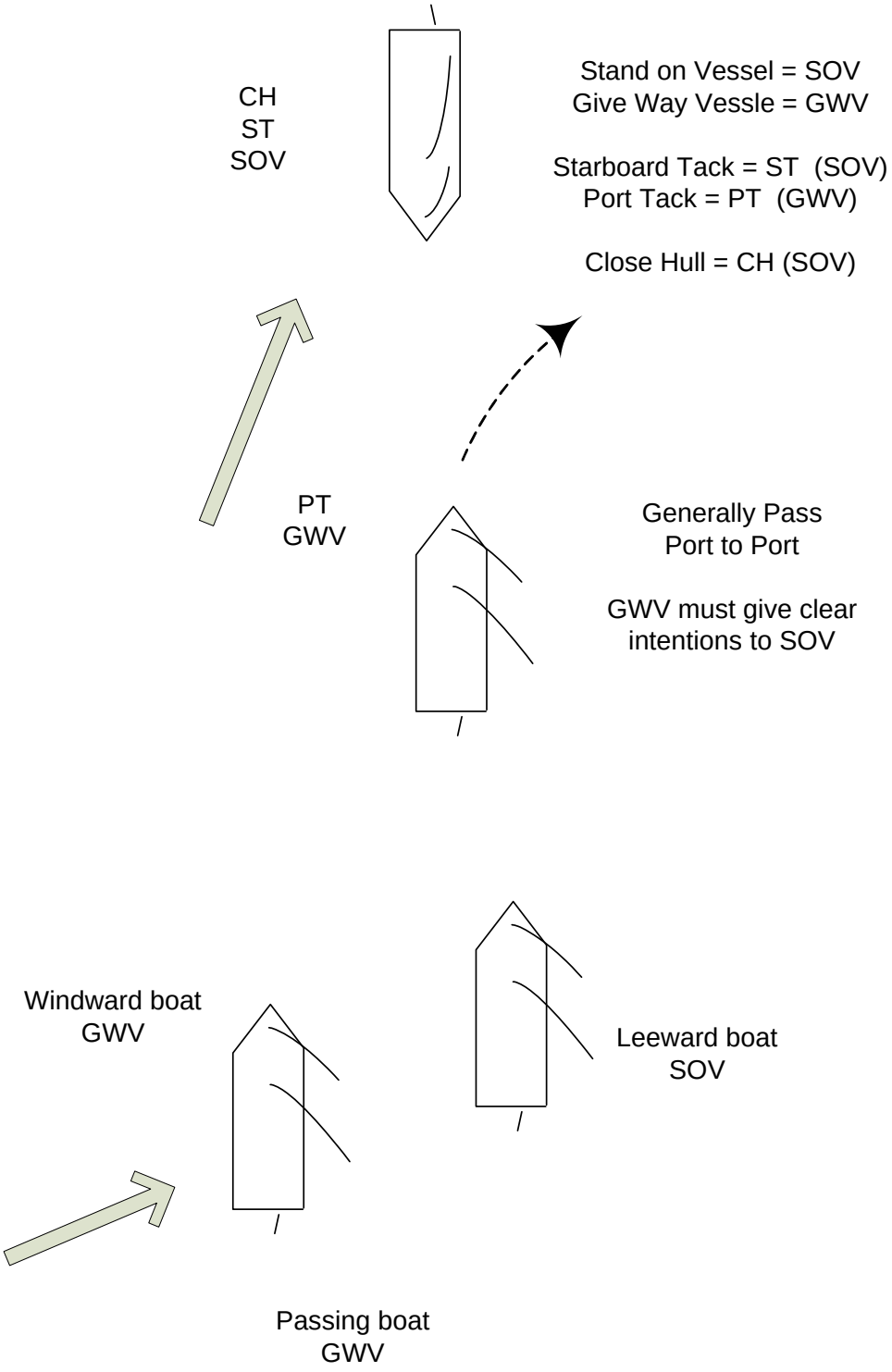
Yaw
: Pushed off course by wave action or other force

Yawing
: Tendency of a powerboat at anchor to drift around

Yawl
: A sail boat with two masts. A small after mast is located abaft the steering gear

Yellow buoys
: Indicate specific areas (military, fishing, anchorage, etc)

Rules of Passing

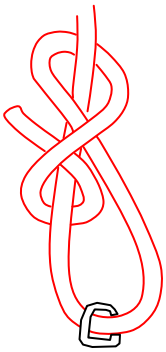


Knots

Bowline - King of all knots

Buntline Hitch

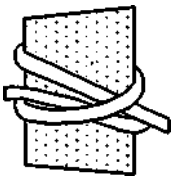
Used to fasten a halyard to a shackle. Also called "Inside Clove Hitch"

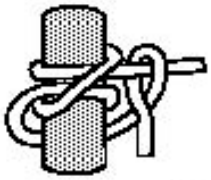


Clove Hitch

Knot is around the bar versus half hitch which knots itself

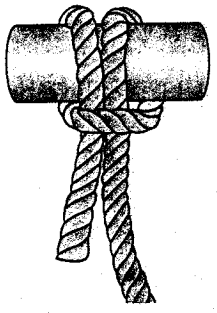
Add half hitch to secure



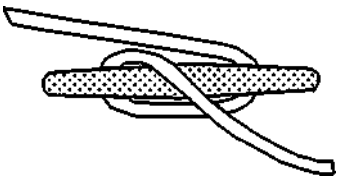


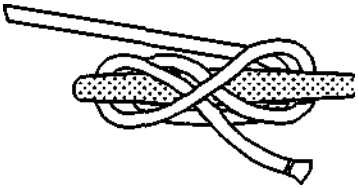
Cow Hitch or Ring Knot

Used to hold a fender to a lifeline (reversed half hitches)



Cleat Hitch





Double Sheet Bend

Has two final loops

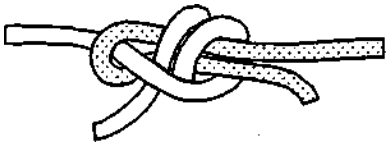
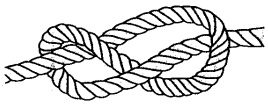
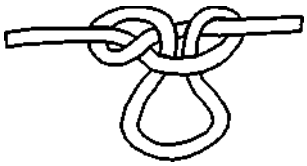


Figure Eight

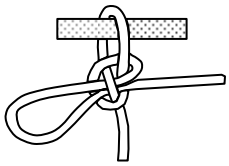
Used at the end of a line to prevent it slipping out of a block. Easy to untie



Harness Loop

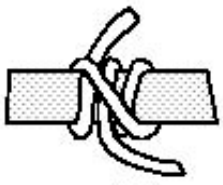


Mooring Hitch



Rolling Hitch

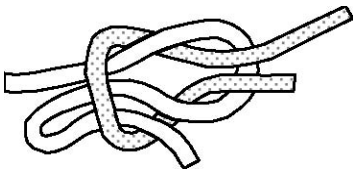
Used to attach a line to a rail or other line so that it will not slip down the rail or other line



Sheet Bend

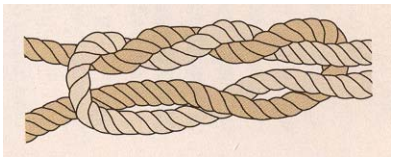
Knot used to attach one line to another.

Slippery Reef or Slippery

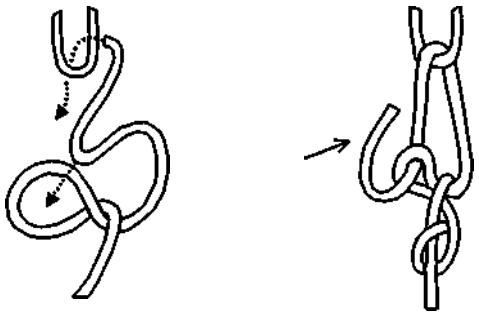


Square Knot are used to secure furled sail (no diagram of this knot)

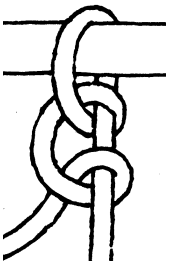
Surgeons Knot
Square knot with an extra twist



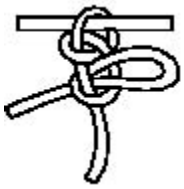
Truckers Hitch
Tie off with half hitches



Two half-hitches
Simply knot that is often part of another knot. Make two wraps around a post to make it more secure



Two Half Hitches Slipped
Easy to release



Sailing Route and Chart Briefing recommendations

Bring your own Cruise Book, originals or copies of Charts and a Notebook
Plan out a complete Sailing Route with the Charter Company.
Ask for best routes, anchorages and places of interest. Take extensive notes of all recommendations, areas to be cautious and inaccuracies of the charts.
Ask about weather forecast and consistency of prevailing breezes. Get emergency VHF channels and cell phone numbers. Leave a Float Plan

CHECK FOLLOWING ITEMS with CHARTER CO. EMPLOYEE

On Deck Items

Sails ☐ Lines ☐ Winch operation ☐ Winch Handles ☐

Mooring Line Hook ☐ Fenders ☐ Docking lines ☐ Mop ☐

Front anchor ☐ Front Rode ☐ Windlass motor ☐ Hand Crank ☐

Bailing bucket ☐ Rear Rode ☐ Rear anchor ☐ Emergency hand tiller ☐

Dingy ☐ Dingy motor ☐ Painter ☐ Dingy fuel ☐ Dingy anchor ☐

Cabin & Dingy locks ☐ Propane tank full ☐ Diesel & Water fill caps ☐

Standing rigging ☐ Mast & side lights ☐ Standing rigging ☐ Turnbuckles ☐

Charcoal ☐ Grill Water topped off ☐ CW or CCW Prop ☐

RPM Cruising _____ Charging _____ Idling _____

Below Deck Items

Battery switches ☐ Battery & Water level gauges ☐ Cabin Lights ☐

VHF radio operation ☐ Hand held compass ☐ Binoculars ☐

PFD's for everyone ☐ Flares ☐ Signal horn ☐ Fire Extinguishers ☐

Flashlight & spare batteries ☐ First aid kit ☐ Tool Kit ☐

Charts ☐ Parallel rules ☐ Dividers ☐ GPS ☐ Cell Phone & charger ☐

Engine oil ☐ Water/fuel separators ☐ Sea water filter ☐ Belt condition ☐

Engine start & stop sequence ☐ Engine water discharge ☐ Bilge pump work ☐

Through-hulls ☐ Head operation & Valve positions ☐ Shower pumps ☐

Daily Pre-sailing Check off list

Hatches batten down Everything secured Engine oil checked

Unnecessary switches off Depth & Speed on VHF on

Bilge checked Compass direction from Cruising guide & charts

Suntan lotion applied GPS available Propane off

Fenders put away Dingy painter secure

Wind direction Slowly motor as bowman directs and lifts anchor

Daily Pre-Sleeping Check-off List

Propane off Dingy secured Bilge checked Showers pumped down

Hatches Partially Opened Everything Secured Anchor light on

Only electric to lights left on

Bare-Boat Charter What to Bring List

Equipment
Extra GPS, Wind Speed Indicator, I-Pod, combination I-Pod charger & FM signal, LED Dive Light, LED Head Lamp (for everyone on board), Quick battery charger run off cigarette lighter, cigarette lighter multiple head splitter, flame striker, USB flash card reader, wrist watch with good night light, small calculator, walkie talkies

Clothing
Bring as much quick dry clothing as possible especially underwear, one long pants, two shorts, quick dry shirts, waterproof deck shoes (Keens or Crocs), hiking shoes with good treads, old beach towels, light rain gear, two hats

Misc items
Large & small dry bags, soft waterproof camera case, lots of clothes pins, extra eyeglass holders, 220 to 110 convert plugs, small notebook, island guidebooks, Small lines to ties things down, small notebook (travel log)

Snorkel & fishing
Mask, fins, short booties, snorkels, swimming cap (prevents sunburn), diving gloves, alcohol ear drops, extra mask strap, anti-fog drops, underwater camera, dive lights, fishing gear

Health items
Sun burn lotion, zinc ointment or other 100% sun block, Arnica, wax ear plugs (sleeping aid), Ibuprofen, band aids, salve for stings, insect repellant, bovine or other sea sickness medicine, ginger.

Kitchen & wash items
Scour pad, laundry bar soap, small container shampoo, small kitchen dish soap, extra cup holders, six small plastic trash bags, different size zip lock bags

Sailing
Print out extra copies of anchorages and maps from cruising guide and put in notebook (take to pre-sail briefing), cruising guide, sailing gloves, tide chart for area, hand held compass, tide charts, small notebook (captains log), handheld VHF,

Food
Nuts, nutrition bars, maple syrup, pancake mix, organic peanut butter, tea, espresso coffee, French press or espresso maker, noodle packages, favorite granola or special cereals, rice pilaf, quinoa, salt, pepper, spices, tuna packages, favorite block cheese, dried humus, salad dressing packages, large jar of salsa