



Deck General – Safety

Sailing Vessels

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In illustration D001SL below, what is the edge of the sail labeled "A" called?

luff

Illustrations: D001SL_WM_111318

As shown in illustration D002SL below, which of the following describes the three corners of the main sail?

head, tack, and clew

Illustrations: D002SL_WM_111318

A sailing vessel with the wind coming from 090° relative would be _____.

reaching on the starboard tack

See REF396

Which statement is TRUE concerning a sailing vessel with the sails properly trimmed?

Sheeting in the sails will allow the vessel to sail closer to the wind but will decrease speed.

You are at the helm of a ketch-rigged sailing vessel under sail on the starboard tack, close hauled, with all appropriate sails set and properly trimmed. You are instructed to "bear off quickly". To utilize your sails to assist with the turn, you should _____.

slack the mizzen sheet

Your 40-foot auxiliary sailing vessel has just run aground on a bar. She has a relatively long, deep keel and the tide is falling. You have checked the bilges for damage and found none. Which is the most prudent action to take immediately?

Strike the sails. Then run a kedge anchor out to one side, hook the main halyard to it, and heave the boat down onto one side.

Your 80-ton schooner is hove to on the starboard tack under storm trysail and fore-staysail in 45 knots of wind. Your heading is averaging about 000° true and the wind is from the northeast. There is a dangerous shoal bearing 270° true, range 5 miles. Which action would be appropriate?

You should tack or jibe to the port tack and make all possible headway to the south.

Most recreational sailing craft have triangular sails and are said to be _____.

Marconi rigged

See REF405

Sideways movement of the mast is resisted by the _____.

shrouds

A sailing vessel with the wind coming from 180° relative would be _____.

running before the wind

See REF396

Your sails are properly trimmed while on a reaching course. Changing to a close hauled course will _____.

cause a greater heeling force to leeward

require you to sheet in for best speed

result in a reduction of speed

All of the above.

You are at the helm of a sloop-rigged sailing vessel under sail on the port tack, on a beam reach, with all appropriate sails set and properly trimmed. You are instructed to "head up quickly". To utilize your sails to assist with the turn, you should _____.

slack the jib sheet

On a sailing vessel, it is best to approach a person in the water by placing them on your _____.
windward side

The term "lee side" refers to the _____.
side of the vessel sheltered from the wind
See REF401

When a sail is reefed, the sail area is _____.
reduced

What is part of a vessel's standing rigging?
Backstay

A sailing vessel with the wind coming from 140° relative would be _____.
on a broad reach
See REF396

To get the best speed when tacking and using a mainsail and jib, the sails should be trimmed such that _____.
an air slot is formed between the two sails

You are at the helm of a schooner-rigged sailing vessel under sail on the port tack, on a beam reach, with all appropriate sails set and properly trimmed. You are instructed to "bear off quickly". To utilize your sails to assist with the turn, you should _____.
slack the main sheet

A marker pole, with a horseshoe buoy and a sea anchor attached, should be used to _____.
indicate location of a man overboard

A shroud is _____.
standing rigging
See REF402

A sailing vessel with the wind coming over the port side is said to be on a _____.
port tack
See REF396

What is the purpose of a centerboard when sailing on a tack?
To reduce side slip of the vessel

A sailing vessel with the wind coming from 290° relative would be _____.
on a close reach on a port tack
See REF396

Your vessel is drifting with the wind broad on the port beam. The marconi sail is set and flapping free. As you sheet in the maximum drive is attained when the sail _____.
first takes the shape of an airfoil

You can slow or stop a sailing vessel by _____.
bring the vessel's head into the wind and let the sails luff

You are running before a strong wind in a sloop. The most dangerous thing to do is _____.
jibe

A sloop is a sailing vessel with _____.
one mast

See REF403

A "reaching" course is one in which the wind _____.
comes over an area extending from broad on the bow to the quarter

You are at the helm of a sailing vessel under sail on the starboard tack, close hauled, and you are instructed to "head up". You should _____.
turn the rudder to starboard

A sailing vessel with the wind coming from 260° relative would be _____.
on a broad reach

See REF396

You are sailing on a close reach when a strong wind suddenly heels the vessel hard over. To reduce the heeling and yet maintain speed, you should _____.
ease the mainsheet and bear more away from the wind

As a vessel falls off the wind from close-hauled to a beam reach, the tendency for the vessel to move sideways through the water will _____.
decrease

You are sailing in a strong wind and may accidentally jibe when _____.
running-free

A yawl is a sailing vessel with _____.
two masts: with the mizzen stepped abaft the rudder post
See REF404

The hinge fitting used to attach the boom to the mast is the _____.
gooseneck

Changing direction by bringing the stern of the vessel through the eye of the wind is known as _____.
jibing

A sailing vessel with the wind coming from 220° relative would be _____.
on a broad reach
See REF396

The sails are properly set and trimmed. As a vessel heads up from a beam reach to close-hauled the _____.
apparent wind moves forward

Your vessel is sailing on a port tack when a sudden gust of wind heels the vessel sharply to starboard. Which action will reduce the heeling of the vessel?
Ease the sheets to allow air flow to spill off the sail
Shift weight to the port side of the vessel
Attempt to sail the vessel closer to the wind
Any of the above.

You are running before a rough sea and a strong wind. Your sailing vessel is yawing. If the wind should catch the mainsail on the reverse side you will _____.
jibe

What fitting on the mast works in conjunction with the shrouds to control side bend of the mast?
Spreader

If you reef a marconi mainsail, the sail area _____.
becomes less

A sailing vessel with the wind coming from 020° relative would be _____.
coming about
See REF396

The sails are properly set and trimmed. As a vessel heads up from a beam reach to close-hauled the _____.
speed decreases

A ketch-rigged sailing vessel is sailing to windward with the wind about 50° on the port bow. All the sails are set and drawing properly. Which statement is TRUE?
If you strike the mainsail, the center of effort of the whole rig will move down.

If you were to jibe in a strong wind, the part of the rigging most likely to fail would be the _____.
backstay

The bottom of the mast rests on a part of the keel called the mast _____.
step

Which fitting is used to connect the boom to the mast?
Gooseneck

Which line would be used to hoist a sail?
Halyard

You are under sail on a close reach, and the wind is steady. While steady on course, you reef the mainsail and your speed slows. The apparent wind _____.
decreases and draws aft

You are attempting to recover a mooring buoy. If you approach the object on the port tack, how would you slow the vessel as you draw near?
Bring the wind directly over the bow and allow the sails to luff.

You are sailing before the wind in heavy weather. The failure of what will affect the vessel's safety most?
The helm

Which statement(s) is(are) TRUE?
Polyester sailcloth, such as Dacron, is resistant to rot due to moisture but susceptible to UV degradation and should be kept covered as much as possible.
Canvas sailcloth is susceptible to rot due to moisture and should never be covered when wet.
Kevlar sail cloth is susceptible to weakening due to repeated folding and therefore should be draped loosely over the boom when stowed.
All of the above.

A schooner is a fore-and-aft rigged vessel with _____.
at least two masts: a foremast and a mainmast

Which statement is TRUE concerning the gooseneck?
It connects the boom to the mast and allows the boom to swing freely.

When repairing a torn sail at sea, you should _____.
be sure to orient the weave of the patch material, on large patches, in the same orientation as the sail cloth being repaired

In order to maintain speed while changing course from a close reach to a broad reach, the sails should be _____.
eased out

You are sailing into a harbor with the intention of picking up your mooring. There is no current. Which statement(s) is(are) TRUE?

On a ketch, you will most likely strike the jib before making your final approach.

A capsized small sail vessel is best righted when what part of the vessel is downwind?

Mast

Dacron sails, when not in use, may be damaged if _____.

left in the sunlight

A ketch is a sailing vessel with _____.

two masts: with the mizzen stepped forward of the rudder post

Which statement(s) is(are) TRUE regarding heaving-to?

A yawl will heave to with her jib aback, main sheet eased, and her mizzen sheeted in.

To prevent a wooden hull from leaking you caulk it _____.

after dry docking, and the hull has dried

When properly set and drawing, a fore-and-aft sail has a cross-section that _____.

is a curve with more curve at the luff

When experiencing heavy winds, you should reef sails to _____.

reduce sail area exposed to the wind

See REF399

How should you try to right a capsized small sailing vessel?

Lock the centerboard in the down position, stand on the centerboard, and pull on a shroud or a halyard.

Canvas sails, when not in use, may be damaged if _____.

stowed wet

The metal horseshoe-shaped pieces used to bend a sail onto a stay are called _____.

hanks

The nautical term "lee shore" refers to the _____.

shore on the lee side of the vessel

On small sailing vessels, the PRIMARY reason for using nylon in a combination chain-nylon anchor line is to _____.

provide elasticity

You are running before the wind in a fresh breeze. The boom may be prevented from accidentally jibing by using a(n)

_____.

preventer

You are Master of a 20-ton ketch. You wish to heave-to on the starboard tack in 35 knots of wind. Which action would be appropriate?

Secure your storm jib aback to starboard and sheet your reefed mizzen in flat. Secure your rudder hard to starboard.

When anchoring a small sailing vessel in rough weather, the best anchor line would be composed of _____.

chain-nylon

Kevlar sails, when not in use, may be damaged if _____.

- left in the sunlight*
- washed with water and bleach*
- folded frequently*
- All of the above.*

A boom vang _____.

- holds the boom down and flattens the main sail*

A deep keel on a sailing vessel increases the _____.

- resistance to lateral movement*

Which action will NOT reduce heeling of a vessel when sailing on a tack?

- Changing to larger sails*

Which radio call-in plan is the most prudent?

- There must be a designated responsible person who knows they are expecting your call at a certain time.*

The old sailors admonition "Beware the lee shore" warns of the danger due to _____.

- the ground swell making it difficult to tack off*

Which statement is TRUE about sail shape?

- You should put more belly in a sail in light airs than in a strong breeze.*

What standing rigging supports the mast in the fore-and-aft and athwartships directions?

- Shrouds and stays*

You are sailing at 8 knots on a beam reach in an apparent wind of 25 knots. Which statement is TRUE?

- None of the above are true.*

Which action will NOT reduce heeling of a vessel when sailing on a tack?

- Changing to larger sails*

When crossing a bar in rough weather, you should enter on a(n) _____.

- flood current*

Every different type of sailing rig can be dangerous in certain circumstances. Which situation would most likely be dangerous?

- A gaff rig is dangerous in a calm wind and large swell.*

See REF400

The major lift-producing part of a sail is the _____.

- leading edge*

Which is standing rigging?

- Stays*

See REF406

What are reef points used for?

- Reduce the area of a sail*

With regard to aerodynamic lift, which statement is TRUE?

- If the thrust on a sail becomes excessive when close-hauled, it is likely to capsize the vessel rather than drive it.*

Which statement about sailing close-hauled is TRUE?

If you ease the sheets and change heading, you can sail faster but not so close to the wind.

See REF398

A sail plan, including the vessel's itinerary, name, number, and persons aboard, should be filed with _____.
a responsible person

Which radio call-in plan is the most prudent?

There must be specific instructions for the designated responsible person to follow if your call does not come in on schedule.

Sails may be wing and wing when _____.
sailing with the wind aft

A stay is _____.
standing rigging

Which line would NOT be used in handling a mainsail?

Uphaul

See REF395

What is the proper method to fix running rigging to a cleat?

A round turn, figure eights, and a half-hitch

Which statement about sailing close-hauled is TRUE?

If you steer closer to the wind, you will slow down.

See REF398

A storm is forecast for the area where your vessel is moored. For its safety you should put _____.
chafing gear on the mooring lines

You are preparing for what promises to be a rough ocean passage. Your 120-foot schooner carries a yard on the foremast, about 50 feet above the water. The yard weighs about 1000 pounds. If you take the yard down and stow it on deck for the trip, you will _____.

increase your vessel's GM

When sailing with the wind aft, a vessel may carry sails on both sides at the same time. The sails are _____.
wing and wing

Which is a part of a vessel's standing rigging?

Backstay

A sailing vessel with the wind coming from 050° relative would be _____.

close hauled on the starboard tack

See REF396

When shifting to a course where the wind comes more from astern, easing the mainsheet will _____.

allow the sail to catch more wind

See REF397

Your 20-ton ketch-rigged sailing vessel is sailing close hauled on the port tack in a moderate breeze with all sails properly trimmed. You wish to bear off quickly to avoid a floating hazard. To utilize your sails to assist with the turn, you should _____.

slack the mizzen sheet

Your sailing vessel is docked during a storm and is in continuous motion. If a mooring line parts due to vessel motion, it will most likely do so _____.

at the chock

You must pick up an individual who has fallen overboard from a sailboat. The final approach should be _____.

on a close reach

Sails may be wing and wing when _____.

sailing with the wind aft

What is NOT running rigging?

Backstay

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REF395

The topping lift (more rarely known as an uphaul) is a line which applies upward force on a boom on a sailboat. ... This line would run from near the free end of the boom(s) forward to the top of the mast. The line may be run over a block at the top of the mast and down to the deck to allow it to be adjusted.

REF396

Close-hauled: A sailing craft is said to be sailing close-hauled (also called beating or working to windward) when its sails are trimmed in tightly, are acting substantially like a wing, and the craft's course is as close to the wind as allows the sail(s) to generate maximum lift. This point of sail lets the sailing craft travel diagonally to the wind direction, or 'upwind'. Sailing to windward close-hauled and tacking is called 'beating'. On the last tack it is possible to 'fetch' to the windward or weather mark. A fetch is sailing close hauled upwind to a mark without needing to tack. The smaller the angle between the direction of the true wind and the course of the sailing craft, the higher the craft is said to point. A craft that can point higher (when it is as close-hauled as possible) is said to be more weatherly. Reaching: When the wind is coming from the side of the sailing craft, this is called reaching. A "beam reach" is when the true wind is at a right angle to the sailing craft. A "close reach" is a course closer to the true wind than a beam reach but below close-hauled; i.e., any angle between a beam reach and close-hauled. The sails are trimmed in, but not as tight as for a close-hauled course. A "broad reach" is a course further away from the true wind than a beam reach, but above a run. In a broad reach, the wind is coming from behind the sailing craft at an angle. This represents a range of wind angles between beam reach and running downwind. On a sailboat (but not an iceboat) the sails are eased out away from the sailing craft, but not as much as on a run or dead run (downwind run). This is the furthest point of sail, until the sails cease acting substantially like a wing. Running downwind: "Dead run" redirects here. For other uses, see Dead run (disambiguation). On this point of sail (also called running before the wind), the true wind is coming from directly behind the sailing craft. In this mode, the sails act in a manner substantially like a parachute. When running, the mainsail of a fore-and-aft rigged vessel may be eased out as far as it will go. Whereupon, the jib will collapse because the mainsail blocks its wind, and must either be lowered and replaced by a spinnaker, or set instead on the windward side of the sailing craft. Running with the jib to windward is known as 'gull wing', 'goose wing', 'butterflying', 'wing on wing' or 'wing and wing'. A genoa gull-wings well, especially if stabilized by a whisker pole, which is similar to but lighter than a spinnaker pole. In light weather, certain square-rigged vessels may set studding sails, sails that extend outwards from the yardarms, to create a larger sail area. Sailing craft with lower resistance across the surface (multihulls, land yachts, ice boats) than most displacement monohulls have through the water can improve their velocity made good (VMG) downwind by sailing on a broad reach and jibing, as necessary to reach a destination. In irons A sailing craft is said to be "in irons" if it is stopped with its sails unable to generate power in the no-go zone. If the craft tacks too slowly, or otherwise loses forward motion while heading into the wind, the craft will coast to a stop. This is also known as being "taken aback," especially on a square-rigged vessel whose sails can be blown back against the masts, while tacking. Tacking or coming about is a sailing maneuver by which a sailing vessel, whose desired course is into the wind, turns its bow toward the wind so that the direction from which the wind blows changes from one side to the other, allowing progress in the desired direction.

REF397

The mainsheet is the primary pressure-relief valve when the boat heels too far. Ease and let the sail luff to let the boat get back on her feet. On monohulls, ease whenever the heel is greater than twenty-five degrees, or whenever there is too much weather helm on any type of boat.

REF398

points of sail

REF399

Reefing is the means of reducing the area of a sail, usually by folding or rolling one edge of the canvas in on itself. The converse operation, removing the reef, is called "shaking it out." [1] Reefing allows the carrying of partial sail in strong winds, and is the primary safety precaution in rough weather. Reefing improves vessel stability and minimizes the risk of damage to the sail or other gear. Proper skills in and equipment for reefing are crucial to averting the dangers of capsizing or broaching in heavy weather.

REF400

Gaff rig is a sailing rig (configuration of sails, mast and stays) in which the sail is four-cornered, fore-and-aft rigged, controlled at its peak and, usually, its entire head by a spar (pole) called the gaff. ... A sail hoisted from a gaff is called a gaff-rigged (or, less commonly, gaff rigged or gaffrigged) sail.

REF401

Lee: The downwind side; the direction or side towards which the wind is blowing. The lee side of a boat is sheltered from the wind by the hull of the boat; likewise, the lee of an island is sheltered from the wind.

REF402

Shrouds - support wires for the mast that run from the gunwales on each side to support the mast.

REF403

Sloop - a single masted, fore and aft rigged vessel (gaff rigged, or triangular sails) with a foresail to the bowsprit; thus allowing a larger jib than a knockabout

REF404

Yawl - a dual masted, fore and aft rigged vessel whose aftermost mast is much shorter and is abaft the cockpit

REF405

A Bermuda rig, Bermudian rig, or Marconi rig is a configuration of mast and rigging for a type of sailboat and is the typical configuration for most modern sailboats. This configuration was developed in Bermuda in the 17th century; the term Marconi, a reference to the inventor of the radio, Guglielmo Marconi, became associated with this configuration in the early 20th century because the wires that stabilize the mast of a Bermuda rig reminded observers of the wires on early radio masts. The rig consists of a triangular sail set aft of the mast with its mainsail raised to the top of the mast; its luff runs down the mast and is normally attached to it for its entire length; its tack is attached at the base of the mast; its foot (in modern versions of the rig) controlled by a boom; and its clew attached to the aft end of the boom, which is controlled by its sheet.

REF406

Standing rigging comprises the fixed lines, wires, or rods, which support each mast or bowsprit on a sailing vessel and reinforce those spars against wind loads transferred from the sails.