Vessels powered solely by wind power face the problem of not being able to sail directly into the wind. Thus, to move in any direction upwind, a sailing vessel must conduct a series of turns to put the wind on alternating sides of the vessel in order to fill the sails. Such turns are known as "tacking" and "wearing/jibing." The difference is in their execution.

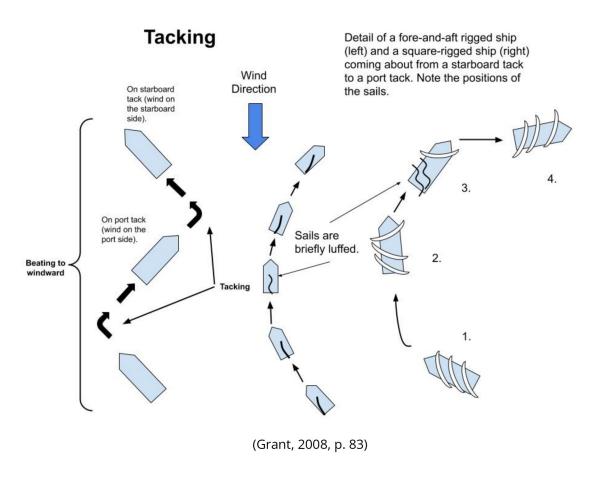
Tacking

Tacking is the process of turning a ship's bow into the wind to change direction. "To come about/coming about" is another term for tacking. As the vessel tacks back and forth to move upwind, it creates a zig-zag pattern (Grant, 2008, p. 83).

Beating to windward

Tacking is generally the term for turning the vessel's bow through the wind. "To beat/beating to windward" refers to the overall task of sailing upwind which may or may not involve tacking.

- o April 2021
- o March 2021
- February 2021
- January 2021
- o December 2020
- November 2020
- o October 2020
- September 2020
- o August 2020
- o July 2020
- o lune 2020
- May 2020
- April 2020
- o March 2020
- February 2020
- o January 2020
- o December 2019
- November 2019
- o October 2019
- September 2019
- August 2019
- o July 2019
- June 2019



In the above illustration, the vessel is on a starboard tack, with the wind on the starboard side. Upon tacking/coming about, it turns to starboard and the bow moves through the wind. The wind is now on its port side and the vessel is said to be on a port tack. As the vessel moves upwind, it will tack back and forth as its bow moves through the wind.

For the square-rigged vessel above:

- o May 2019
- o April 2019
- o March 2019
- o December 2018
- November 2018
- o October 2018
- September 2018

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- 1. The vessel is on a starboard tack and sailing as close to the wind as is possible to maintain sufficiently high speed.
- 2. As she turns to starboard and puts her head into the wind, the wind is taken out of the sails and her momentum carries her through.
- 3. To avoid going "in irons" her foresails are backed while the main and mizzen are luffed and braced onto a new tack.
- 4. The head of the ship falls onto a port tack. The foresails are braced around to the new tack.

Wearing/Jibing

The opposite of tacking in square-rigged vessels is known as wearing. (Jibing is the term for the same practice in fore-and-aft-rigged vessels). In contrast to tacking, which moves the bow through the wind, wearing is the process of turning the stern of the vessel through the wind to change direction. The objective of moving upwind is the same, but in wearing/jibing the ship moves in a figure-eight pattern which requires more room to maneuver and is slower.

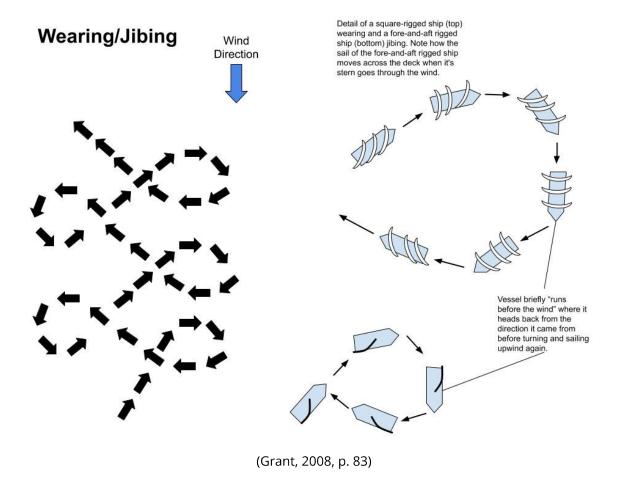
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In the above illustration, the ship is on a port tack. By wearing/jibing ship, the vessel turns to starboard and moves the stern through the direction of the wind before circling around with the wind now on the starboard tack. The next time it wears/jibes, the vessel will turn to port and complete the same maneuver to come around on a port tack again.

For fore-and-aft rigged vessels, there is the issue that the boom will swing



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across the vessel as it moves onto the opposite tack. This can be dangerous if the wind is strong and it puts wear on the gear and crew. Thus, the main sheet can be hauled in before the boom swings across which would reduce the strain during the jibe. Alternatively, a trysail, which is smaller in area and lacks a boom, can be rigged in place of the mainsail. When running before the wind, an involuntary jibe due to poor steering or a sudden squall from an unexpected quarter is very dangerous. If the vessel doesn't have permanent backstays, then a weather runner will be to be set up before the jibe occurs. The lee runner will need to be overhauled, as well, to allow the boom to swing forward as it's taken by the wind (Kemp, 1988, p. 365).

Tacking and wearing are general sailing tactics and not necessarily combat tactics, per se. However, they do have applications in naval warfare as it pertains to sailing ships powered by the wind. If the vessel is solely powered by sails, then its maneuverability in combat relies on entirely on harnessing the wind and obtaining an advantageous position relative to its opponent. The position of enemy vessels relative to each other with respect to the direction of the wind (upwind/downwind) is known as the weather gage. However, that's for a different post.

References

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Grant, R.G. (Eds.). (2008). Battle at Sea: 3,000 Years of Naval Warfare. D.K.

Kemp. P. (Eds.). (1988). *The Oxford Companion to Ships and the Sea*. Oxford University Press.

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