

SS&S Chapter 2 Instructor Guide

How a Boat Sails

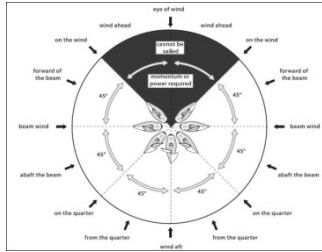
General

Some instructors find it beneficial to use a toy sailboat to demonstrate some of the principals covered in this course.

Starting this chapter with the cliché of “How long it take to learn to sail?... will lead into making the point that the serious sailor will be required to apply all the rigging adjustments covered in this course (plus others) to be truly competitive. However, the casual weekend sailors, who are not competitive, can ignore many of these instructions and still enjoy their less-efficient sailing. Obviously, all the warnings should be taken seriously. The main objective is to have fun. *This suggestion is to dispel the students’ fear that they must follow every instruction, or they will not be able to sail.*

Topics	Sub-topics/Comments
Slide 1: Title	No comment
Slide 2: How a Boat Sails	No comment
Slide 3: Lesson Objectives	No comment
<ul style="list-style-type: none">• How to read the wind• Judging direction to sail• The points of sail• How sails work• Responding to high winds	
Slide 4: Reading Wind in Motion	
<ul style="list-style-type: none">• You always feel apparent wind• You sail by apparent wind	Get help from telltales, wind vanes, wind gauges
Slide 5: Telltales	No comment
<ul style="list-style-type: none">• Valuable helpers	

Slide 6: Points of Sail



Less formal popular terms:
windward, close reach, beam reach, broad reach & running

Slide 7: Running

- Wing on wing
- Jib blanketing
- Accidental jibes
- Avoiding accidental jibes

Requires using “whisker pole”

Slide 8: Close Hauled

- Also known as
 - On the wind
 - Beating
 - Windward
 - Upwind
- Excessive heeling
- When to head up

Watching sail shape & telltales important
Sailing about 45° off winds eye is average limit
More chance of a blow-over/capsize in high winds

Slide 9: How a Sail Drives Upwind

Sail Forces-airplanes wing forces similar

No comment

Slide 10: Sail Telltale Trim Indicators

- Telltales on both sides of sail
- Windward telltale seen by helmsman
- Leeward telltale usually seen through sail

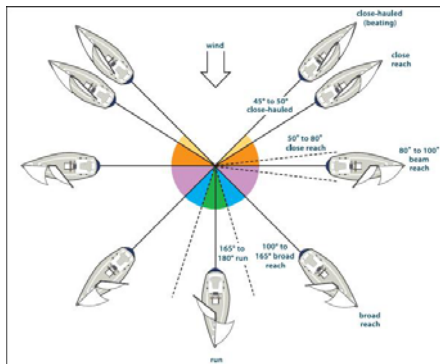
Sometimes have multiple sets vertically

Slide 11: Telltale Indicating Signs

- Windward / leeward telltale horizontal or slight elevated
 - Well trimmed for efficient sailing
- Windward telltale horizontal and Leeward telltale lifted
 - Sail trimmed too tight or boat needs to come up into wind
- Windward telltale facing upwards
 - Sail trimmed too loose or boat need to fall off

Holding a folded piece of string will help demo

Slide 12: Reaching



Reaching is probably the most comfortable and safest point of sail

Slide 13 Reaching Traits

- Faster than beating
- Easier to control
- Easier maneuvering

No comment

Slide 14 Sail Shape

- Big belly sails
 - For light winds
 - Overpowering in high winds
- Flat sails
 - For heavy winds
 - Ineffective in light winds
- Sail can be optimized for a specified wind speed

No comment

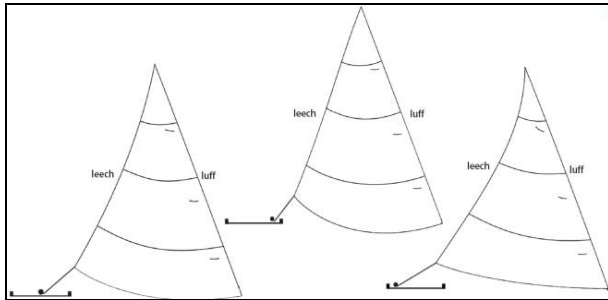
Slide 15 Sail Adjustments

Drive can be altered with sail adjustments

- Drive can be altered with adjustment
- Jib adjusted by jib sheets & turning block
- Mainsail adjusted by mainsheet tension and other devices (later)

Slide 16 Jib Adjustments

Figure 2-20 gives complete explanations but it's hard to envision. A toy sailboat can show these shape variations.



Slide 17 Not Clear Yet?

No Comment

- Experimenting with sails underway helps understand concepts
- Experiencing different winds helps understanding
- You will develop a "feel" for the boat & helps evaluate sail adjustments