



advantage
boating 

Section I: Part B – Terms & Definitions Structures, Rigging, and Docking

Lesson Outline



- Lesson objectives
- Introduction
- Structures
- Rigging
- Docking
- Summary
- Quiz

Lesson Objectives



- In this lesson you will learn the basic terminology and lingo that identifies the structures on a sailboat as well as rigging terms.
- You need to understand the language of sailing and be able to identify the key areas and parts of the boat before you can begin to learn how to sail.
- These terms and parts will be referred to throughout the program in the courseware and on the water.

Introduction



- In Section 1, Part A, you reviewed the basic terminology and parts of a sailboat.
- With the basics covered, you can now learn more about the various structures on a sailboat including rigging.

So let's begin!

Structures and supports

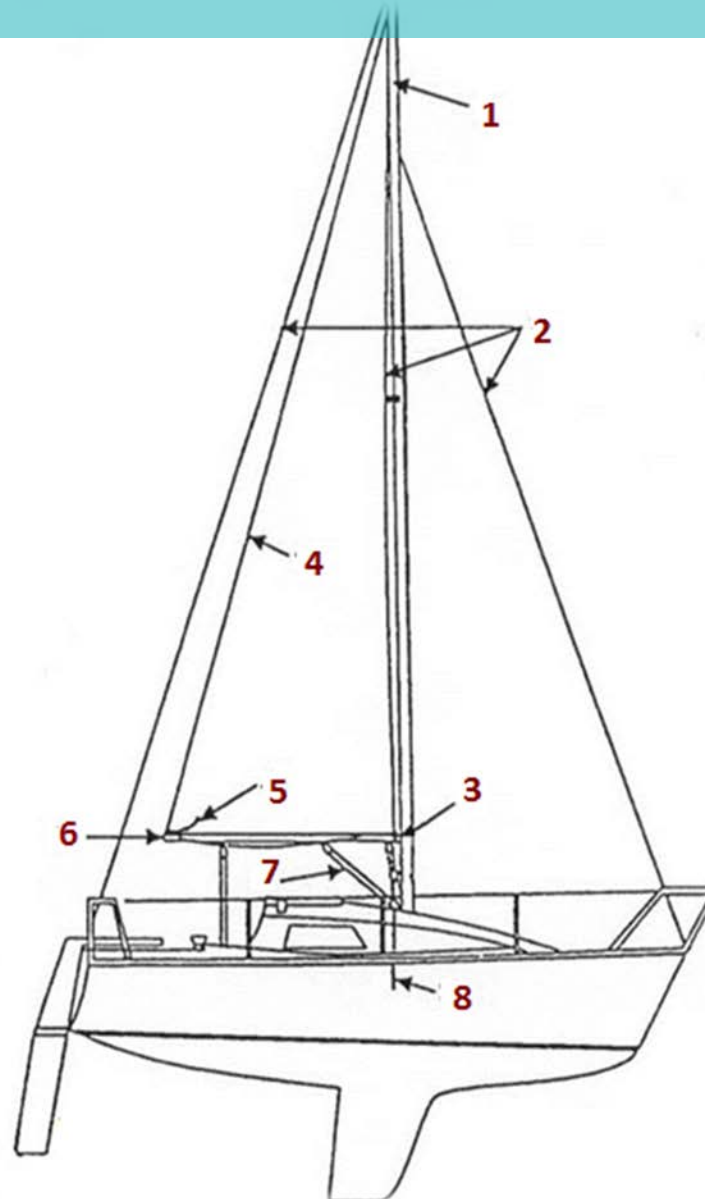


- Sailboats are mechanical beasts that tame the wind and water...harnessing these elements means that a sailboat needs lots of structural elements, rigging, and mechanical parts to manage, control, and direct the boat.
- Let's review the basic mechanical structures...



Basic structures

1. Mast
2. Standing rigging
3. Gooseneck
4. Topping Lift
5. Outhaul
6. Boom
7. Boomvang
8. Chainplate



Structures and supports



1. **Mast:** Genre spar, part of standing rigging and means of supporting sails
2. **Standing Rigging:** Means of supporting mast and foresail. Includes:
 - Forestay: line or cable that supports the mast from the bow of the boat
 - Backstay: line or cable that supports the mast from the stern of the boat
 - Shrouds: line or cable that supports the mast giving lateral stability (typically one or more per side)

Structures and supports



- 3. Gooseneck:** Hinge like device that attaches the leading end of the boom to the mast such that the boom can pivot from side-to-side and also pivot up and down - *works much like your elbow which allows the forearm to swing side to side or lift (pivot) up and down.*
- 4. Topping lift:** Supports the aft end of the boom when the mainsail is down or off the boat.

Structures and supports



6. **Outhaul:** Line that attaches the back corner of the sail (clew) to the boom (aft end) and allows tightening (flattening) of the foot of the mainsail
7. **Boom:** Another spar that attaches to the bottom of the sail (foot), allowing the sail to be adjusted side to side and up and down to allow efficient sail position and shape
8. **Boomvang:** Block and tackle arrangement attached to base of mast and part way along the boom which allows the boom to be pulled downwards



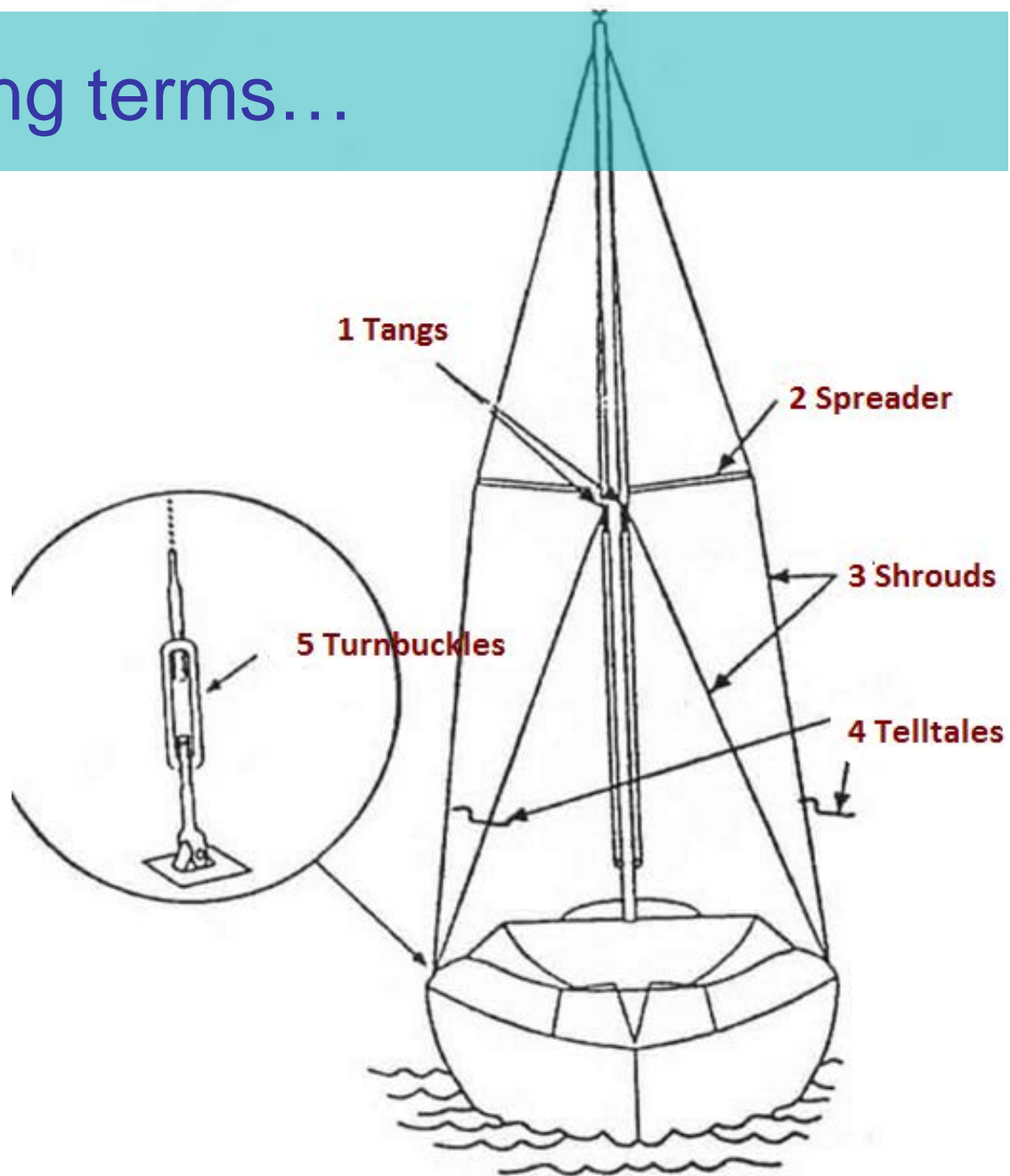
8. **Chainplate:** Pieces of stainless steel attached to or imbedded in the hull allowing the shrouds, backstay and forestay to be attached to the boat hull. The forestay attachment is also referred to as the stemhead fitting.

Standing and running rigging



- **Standing rigging:** Static wire for supporting the mast and foresail
- **Running rigging:** Lines that when dynamically manipulated, can be used to control, raise, lower, and adjust the sails

More rigging terms...





1. **Tangs:** Attachment points along the upper part of the mast for connecting the upper ends of shrouds or forestay and backstay to the mast
2. **Spreader:** Horizontal supports attached to the mast on one end and to the shrouds on the other end. The spreaders hold the shrouds out from the mast which also increases the strength of the rig.



3. **Shrouds:** shrouds connect at the top of the mast.
 - Additional shrouds might connect partway down the mast, depending on the design of the boat.
 - Shrouds terminate at their bottom ends at a turnbuckle which then connects to the chain plates, which are tied into the hull

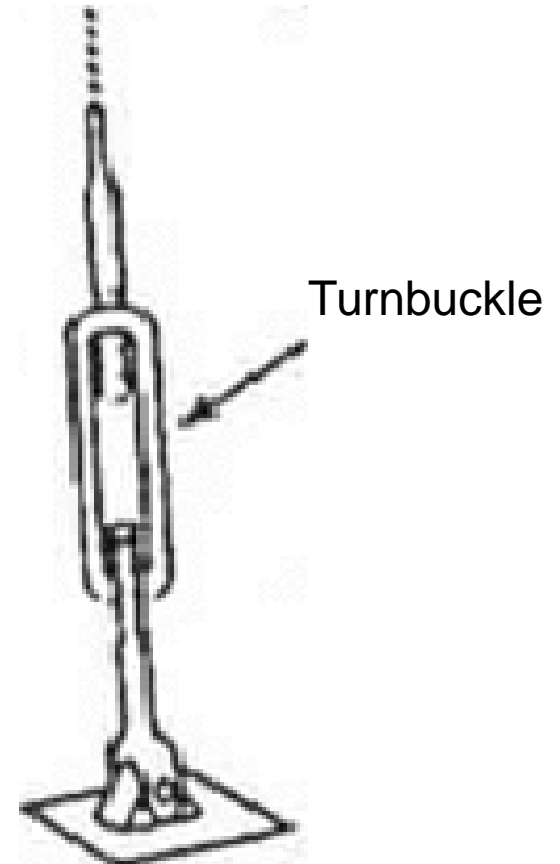


4. **Tell-tales:** a piece of yarn or fabric attached to a shroud (part of the standing rigging which hold a mast in place on a sailboat). Tell-tales are used in pairs, on the port shroud and starboard shroud.

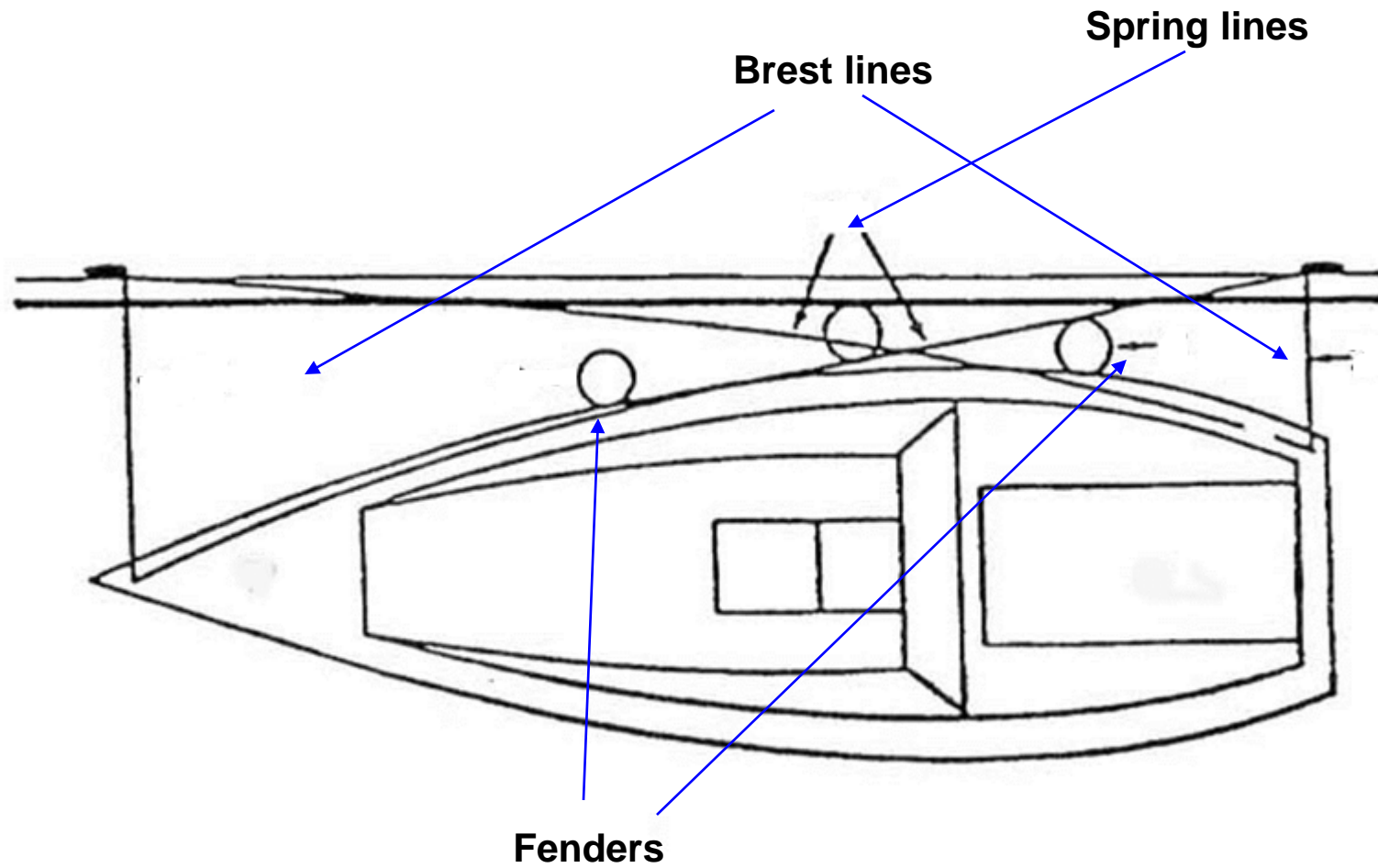
Note: Tell-tales can also be attached to a sail and used as a guide when trimming (adjusting) a sail.



5. **Turnbuckle:** is a device for adjusting the tension or length of lines, cables, tie rods, and other tensioning systems. To adjust tension you rotate the frame of the turnbuckle.



Docking terms



Docking terms



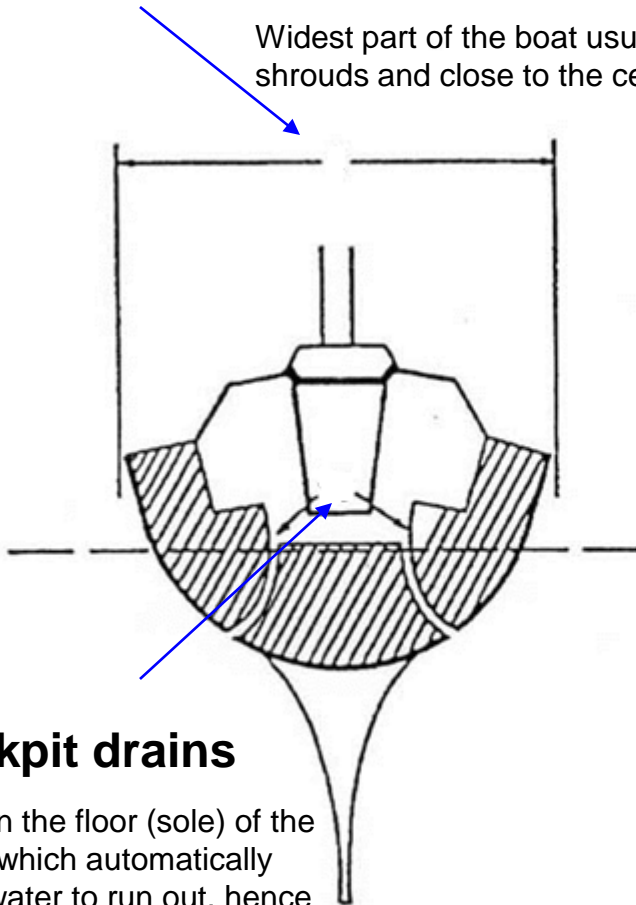
- **Breast lines:** Docking lines that are at approximately 90⁰ to the centerline of the boat and are arranged to keep the boat pulled against the dock
- **Spring lines:** Docking lines that are at an angle to the centerline of the boat and are arranged to keep the boat from moving backwards and forwards along the dock
- **Fenders:** Inflated rubber devices that act as cushions between the hull of the boat and the dock to protect the hull from damage



Other key parts...

Beam

Widest part of the boat usually near the shrouds and close to the centre of the boat

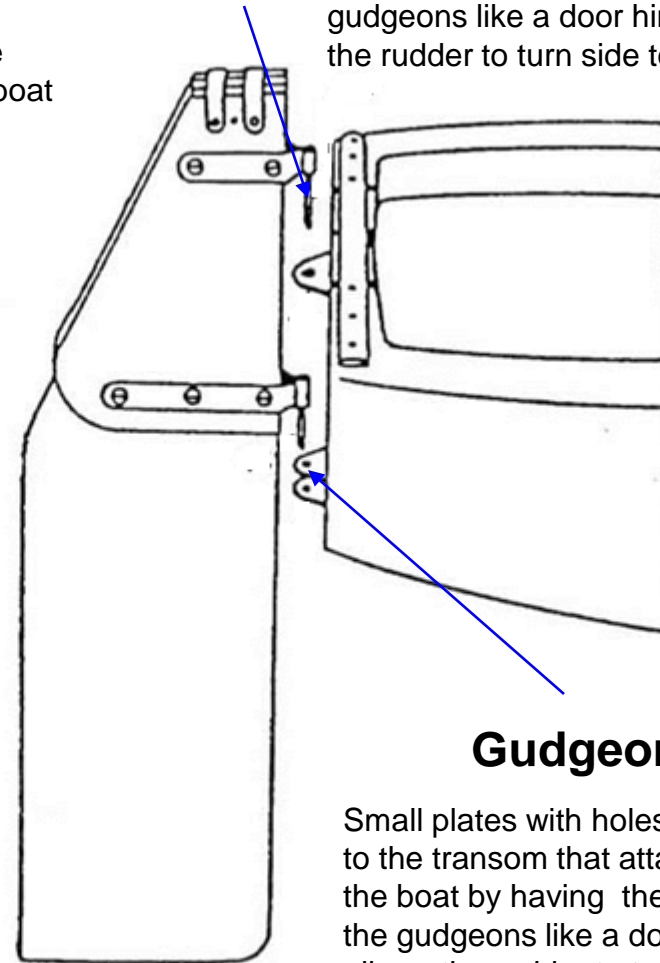


Cockpit drains

Drains in the floor (sole) of the cockpit which automatically allows water to run out, hence the term self bailing cockpit

Pintles

Pins on the rudder that attach the rudder to boat by fitting into the gudgeons like a door hinge and allows the rudder to turn side to side



Gudgeons

Small plates with holes in them attached to the transom that attach the rudder to the boat by having the pintles fitting into the gudgeons like a door hinge and allows the rudder to turn side to side

Summary



- In this lesson, you learned the terminology related to specific structures and rigging as well as docking terms.

Next steps!



You are now becoming more familiar with the basic lingo and terminology of sailing.

Don't forget - you need to understand even more unique terms and nomenclature used in sailing before you can learn to actually sail.

In the next lesson, Section 1, Part C, we will cover specific terms used with sails.

Let's practice our knowledge learned in this lesson!



- Complete the following quiz to test your knowledge of boat structures.



- Name the three types of **Standing Rigging** the support mast and foresail.
- Label the diagram.

