



**advantage**  
**boating** 

## Section I: Part F Wind/Boat Relationships - Concepts

# Lesson Outline



- Lesson Objectives
- Introduction
- Tacking
- Gybing
- Summary

# Lesson Objectives



- In this lesson you will learn how to change the direction the boat is moving
- You need to understand the language and relate that language into commands in order to communicate future actions to your crew

# Introduction



- In the last lesson we learned where the boat could sail in relation to the wind. Now we are going to learn how the boat can change direction and the terminology related to that action.
- You will also learn the required commands to perform these manoeuvres.

# Tacking



- Tacking is a sailing manoeuvre that turns the bow of the boat through the wind so that the wind is on the other side of the boat.
- Tacking is generally performed from close hauled to close hauled. For example, from port tack – close hauled to starboard tack close hauled.

# Tacking commands

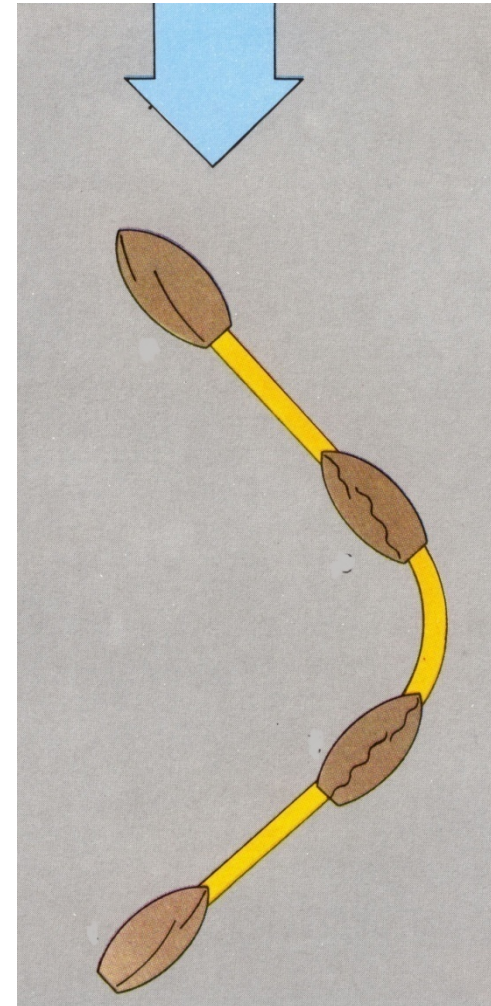


- To have a very concise communication process, the helm and the crew uses very specific command and response terminology.
- Let's review some key commands between the helm and crew...

# Tacking commands – Prepare to tack!



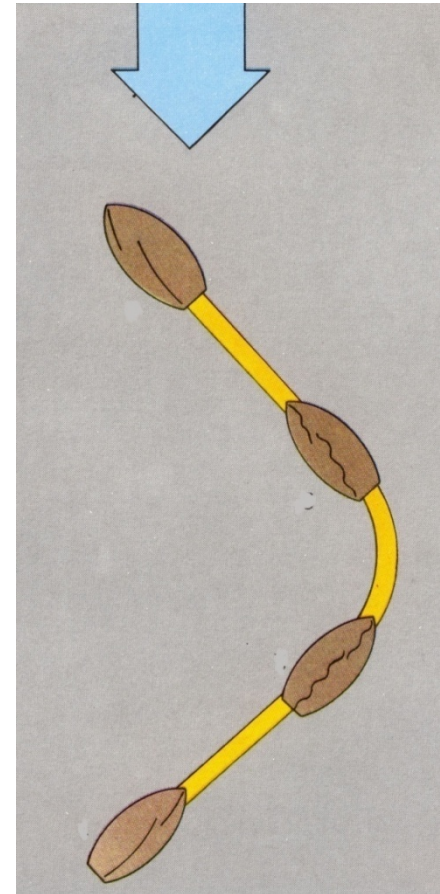
- **Helm:** “Prepare to tack” or “Ready about” and picks a target 90 to 100 degrees off windward beam
- **Crew:** Prepares to release the loaded jib sheet and puts a minimum of one wrap (clockwise) on the windward winch then says “Ready”



# Tacking commands – Helms a lee!



- **Helm:** “Helms a lee” and pushes the tiller to the lee side of the boat. As the bow approaches the target the tiller is centered, then pushed to the opposite side to stop the turn and finally centered to maintain your new course (tack)
- **Crew:** waits for foresail to come across to other side, then releases sheet from winch by pulling straight up on sheet off winch. Crew on the other side quickly hardens sheet and puts on one or two more wraps.
- **NOTE:** Review proper winching procedures for releasing and hardening up before attempting!

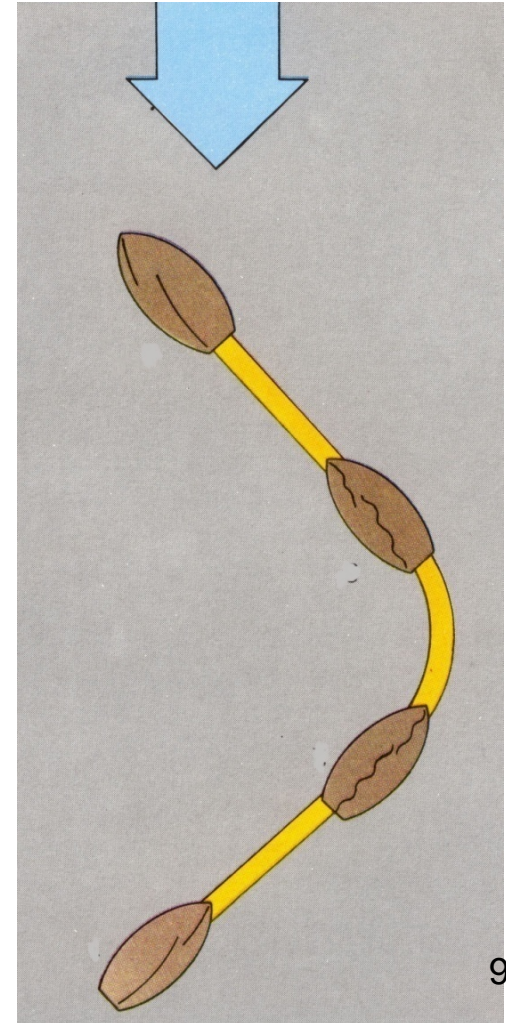




# Tacking commands – Trim for...



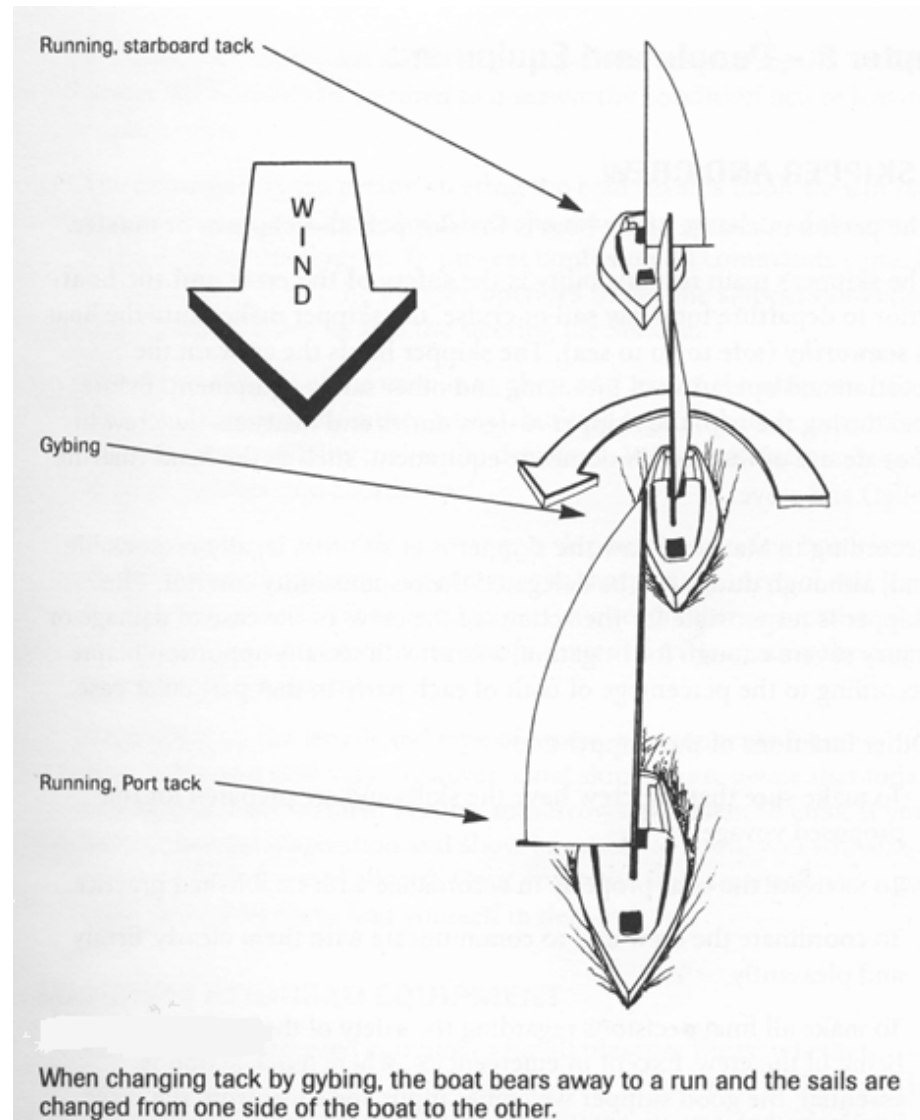
- **Helm:** “Trim for (new point of sail)”  
e.g. close-hauled
- **Crew:** Trims the sail in or out until  
teltales are flying correctly





- Gybing is a manoeuver for bearing off when on a broad reach or a run until the stern of the boat passes through the wind so that the boat is on the opposite tack (for example, going from starboard to port tack)
- The manoeuver requires gently turning the BOW of the boat away from the wind (bearing off) so that the stern turns through the wind and the wind changes from one side of the boat to the other

# Gybing



# Gybing – key points

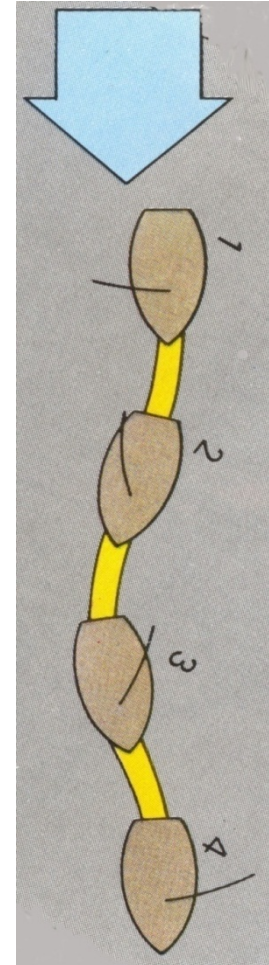


- The boom swings from one side to the other (opposite from the wind).
- The foresail changes from one side to the other
- The angle the bow turns thru is approximately 60-90°
- **Safety note:** Because this is a manoeuver from a broad reach and the boom is far from the center of the boat, the boom must be centered before the vessel makes any course change.

# Gybing commands



- **Helm:** “Prepare to gybe” or “Ready to gybe” and picks a target 60 to 90 degrees off leeward beam
- **Crew:**
  - Prepares to release the loaded (leeward) jib sheet and puts a minimum of one wrap (clockwise) on the windward winch then says “Ready”
  - Mainsheet trimmer centers the boom and then says “Ready”





## Helm:

- “Gybe-ho” and gently pushes the tiller to the windward side of the boat (away from boom).
- Stop the turn briefly as the stern passes through the wind.
- As the bow approaches the target the tiller is centered then pushed to the opposite side to stop the turn and then centered to maintain your new course (or tack).

# Gybing commands



## Crew:

- Waits for foresail to come across to other side, then releases sheet from winch by pulling straight up on sheet off winch.
- Crew on the other side quickly hardens sheet and puts on one or two more wraps around the winch.
- Mainsail trimmer lets boom out.

# Gybing commands



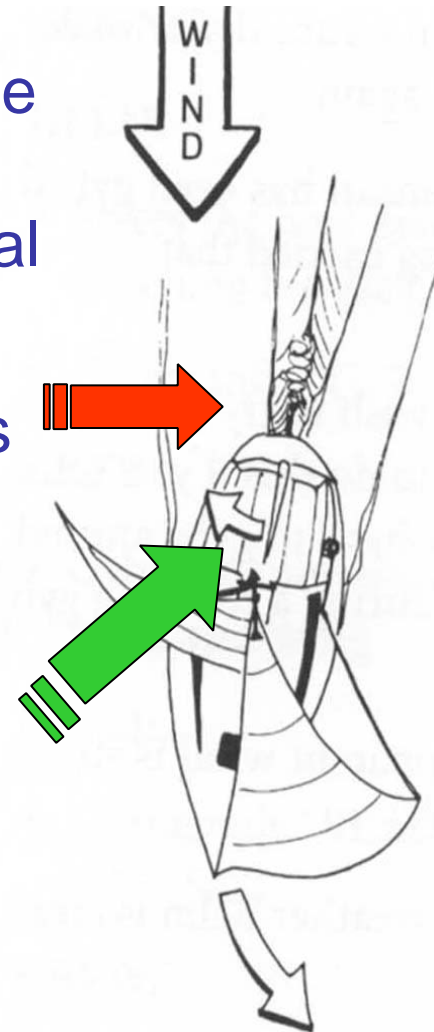
- **Helm:** “Trim for (new point of sail)” e.g. broad reach
- **Crew:**
  - Mainsail trimmer trims the sail in or out until approximately 90 degrees to the wind.
  - Jib trimmers let out foresail until 90 degrees to the wind or until it starts luffing in wind shadow.



# Uncontrolled Gybe



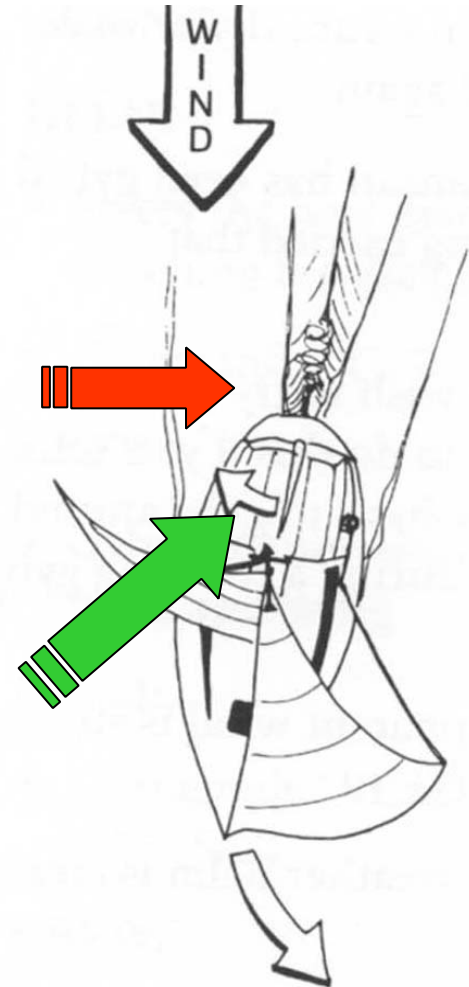
- Sails are set for port tack and the wind is allowed to move over to the leeward (starboard) side of the vessel which leads to an accidental or uncontrolled gybe.
- In a seaway with larger waves this can happen quite easily if the helmsperson isn't paying close attention to their course



# Uncontrolled gybe



- To get control before an uncontrolled gybe happens, the helmsperson must quickly move the tiller in the direction of the boom



# The dangers of an uncontrolled gybe



- As a boat sails downwind, the wind gets closer and closer to the stern of the boat but on the opposite side to which the boom is out.
- For example, in the previous slide the wind should stay on the port side (opposite to boom) in order to avoid sailing by the lee and thereby possibly causing an accidental or uncontrolled gybe.

# Sailing by the lee



- If due to inattention or wave action the wind is allowed to move to the same side as the boom (mainsail), you are “sailing by the lee.”

# Dangers of sailing by the lee



- The problem with sailing by the lee is that at any moment the wind will get behind the mainsail and whip it across to the other side of the boat causing an accidental or uncontrolled gybe which can damage the boat or injure a crew member.
- This is a common problem particularly to new sailors and racers. Even experienced sailors can have this happen through inattention.

# Summary



- In this lesson, the student learned about how to manoeuver the vessel.
- You also learned the difference between tacking and gybing.
- In addition, you learned the commands to perform these manoeuvres and how to communicate these with your crew members.
- You also learned the danger of an accidental gybe.

# Let's practice!



- Complete the following quiz to test your knowledge.



- What are the dangers of sailing by the lee?
- True or false? To get control before an uncontrolled gybe happens, the helmsperson must quickly move the tiller in the direction of the boom.
- Fill in the blank: Tacking is a sailing manoeuvre that turns the \_\_\_\_\_ of the boat through the wind so that the wind is on the other side of the boat.