



# Boat Handling





# Boat Handling

By the end of this unit the participant should be able to:

1. Demonstrate boarding and loading of boats
2. Demonstrate trimming of boats to ensure handling.
3. Describe reaction of the boat to changes of helm and throttle controls.
4. Describe how environmental factors affect boat handling



# Boarding

## Stability is important - wear a PFD

- Maintain constant communication with the crew and those who are boarding
- Secure boat
- Keep body low
- Keep weight centered
- Load items into boat one at a time - avoid throwing items
- Secure the load

# Boat Trim

*Trim is the way a boat floats - it is influenced by weight distribution and by boat trim controls*

- Distribute the weight in the boat (keep the bow light)
- Avoid sudden sharp turns
- Never exceed the boat's capacity

# Undocking

## Considerations:

- Traffic in the area
- Direction of wind and current
- Water depth
- Make sure engine(s) has run for a few minutes and are warmed up
- Review pre-departure checklist

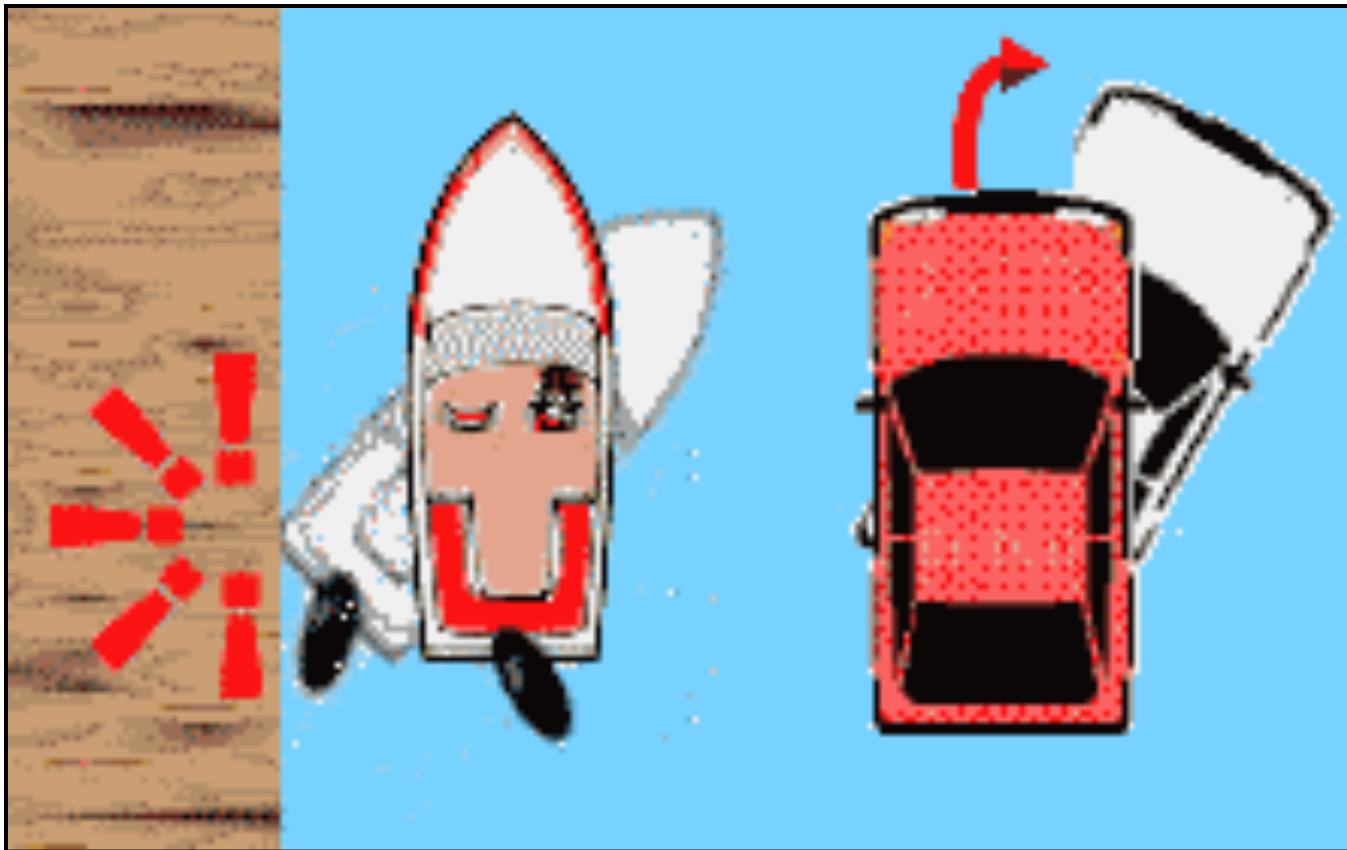
# Undocking

If wind/current are pushing boat away from dock:

- Cast off lines and pull fenders as wind blows boat away from dock
- When clear and safely away from the dock and other boats, shift to forward and depart at idle speed

# Undocking

Remember, a boat does NOT steer like a car



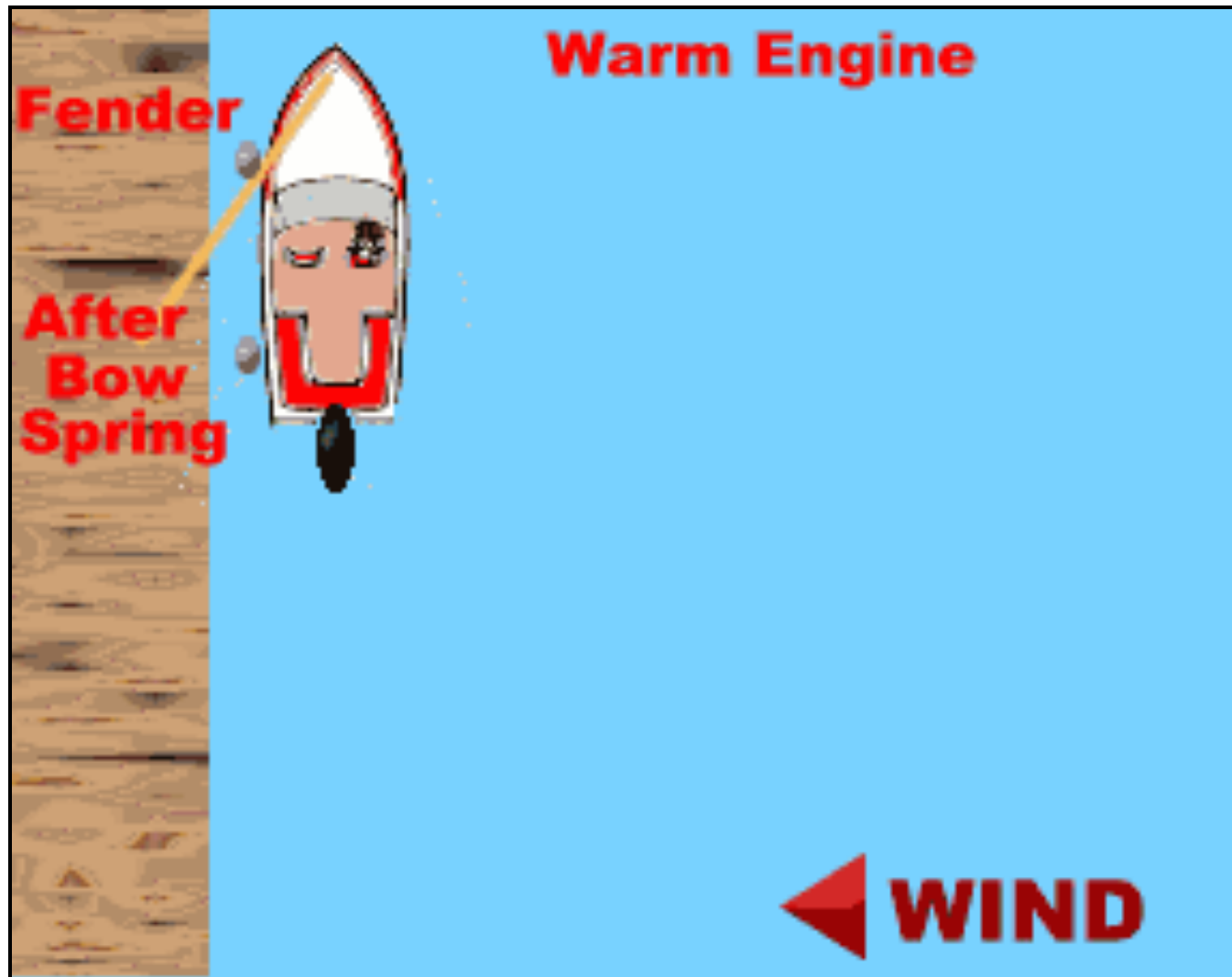
# Undocking

If wind/current are pushing boat toward the dock:

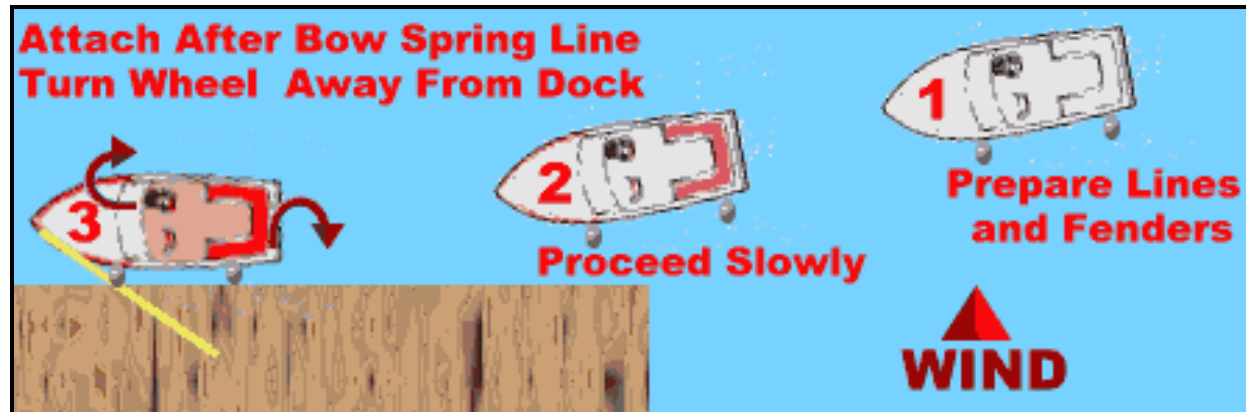
- Cast off all lines except bow spring line
- Use a forward fender to cushion the bow
- Turn motor or rudder in direction to push stern away from dock
- Shift to forward at idle
- Stern will swing away from the dock. Cast off spring line and back away
- Once safely away, shift to forward and idle away



# Undocking



# Docking



- Prepare lines and fenders
- If wind is blowing TOWARD dock, approach parallel about 2 feet off
- If blowing away from dock, approach at appropriate angle (as shown above)

# Docking



**Prepare Lines and Fenders**

  
**WIND**



# Fuel Management

## Practice the "One-third Rule":

- Use one-third of fuel going out
- Use one-third of fuel to get back
- Keep one-third of fuel in reserve

# Maneuvering Underway

- **As Captain:**
  - Know boats capabilities
  - Choose safe course
  - Familiarize yourself with surroundings and landmarks
  - Be aware of environmental influences
  - Follow the Rules of the Road
  - Rendering Assistance



# Local Hazards

- Hazardous inlets
- Shoaling areas
- Whitewater areas
- Dams
- Locks
- Abnormal tides or currents



# Boat Handling

- Boat is most easily maneuvered going **INTO** the wind or current
- When maneuvering with wind or current, you must go **FASTER** than current to maintain control
- To reduce speed quickly, put engine in reverse and apply power
- You have more control over forward motion than stern (reverse)

# Factors Affecting Handling

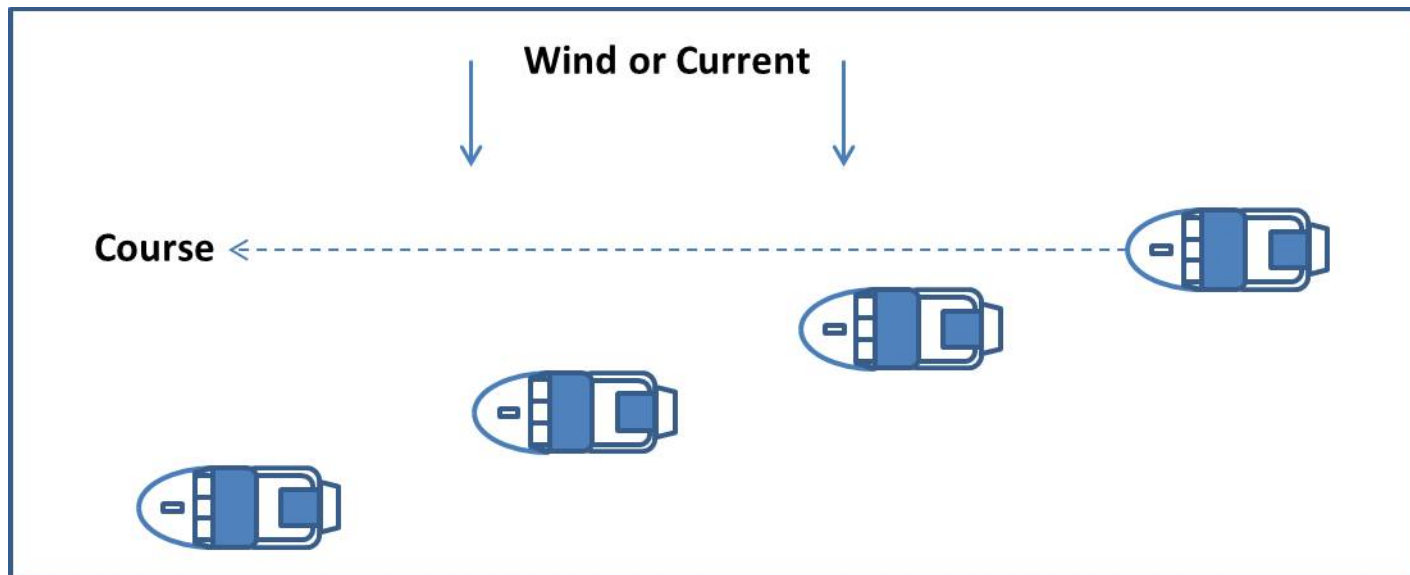
- Hull type
- Propeller type and number
- Rudder response
- Propeller thrust
- Wind
- Current
- Tide
- Wave action
- Land Influences
- Obstructions





# Leeway

- Lateral movement of a boat on a straight course caused by wind or current





# Boat Handling

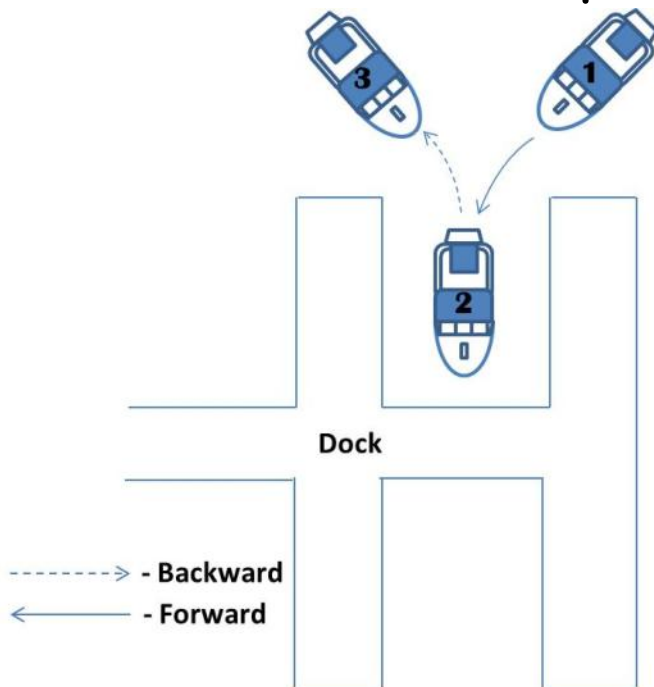
## Practical Exercises:

1. Alternate docking on port and starboard sides
2. Depart dock from both port and starboard sides using reverse and forward-reverse to pull stern away from dock
3. "Hard Slip" Docking Maneuver
4. "Soft Slip" Docking Maneuver
5. Star or Circle Maneuver (180° turn in confined space)
6. Retrieval Simulation
7. Alongside Maneuvering
8. Maneuvering a boat at planing speed
9. Avoiding an object at planing speed

# Hard Slip Maneuver

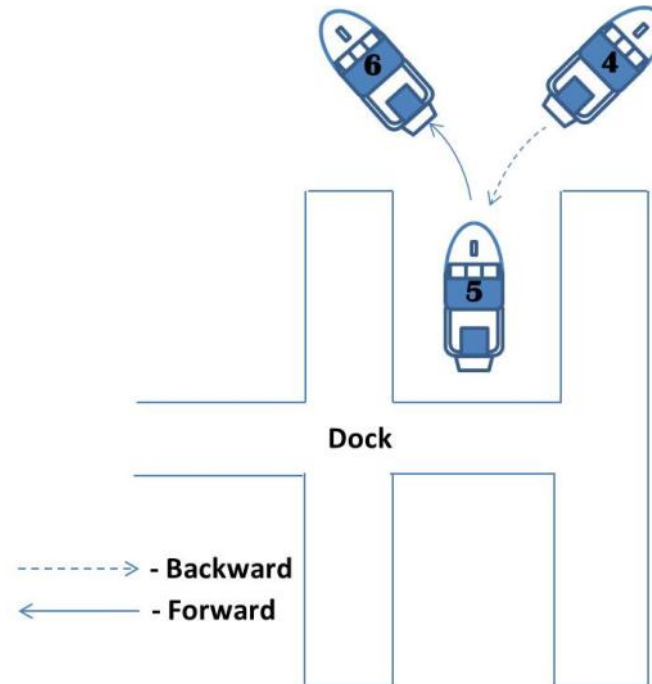
## Bow-First:

1. Enter slip bow-first
2. Come to complete and controlled stop
3. Back out of slip



## Stern-First:

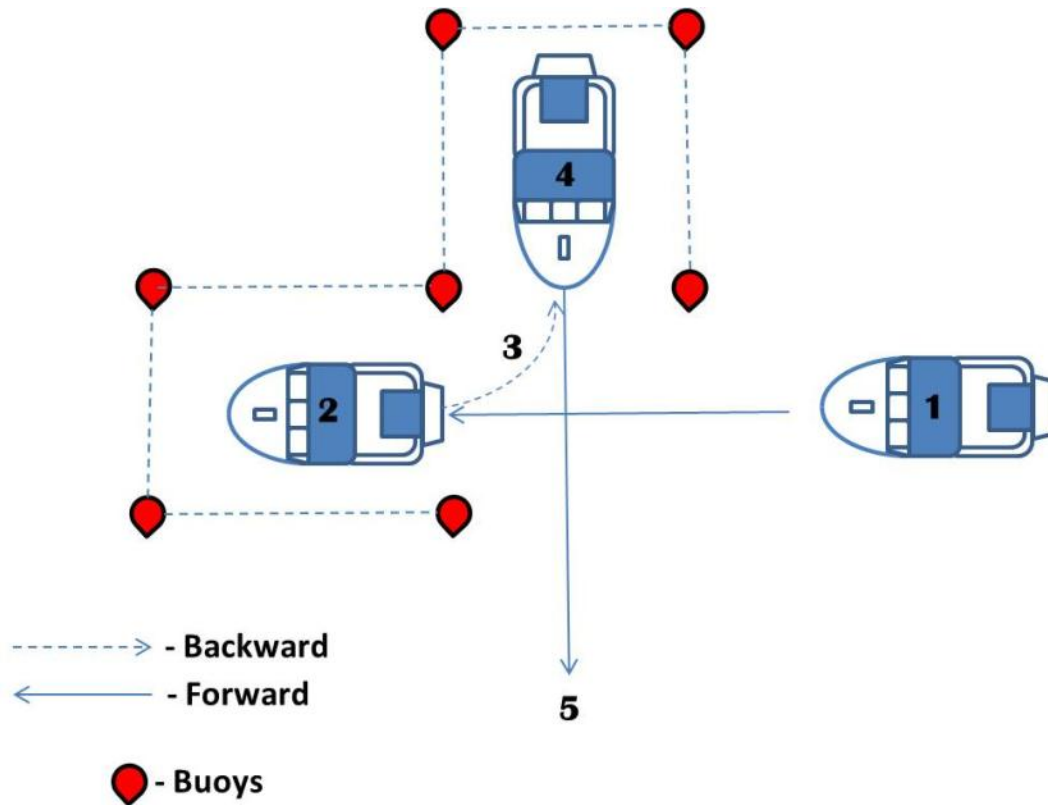
1. Back stern-first into slip
2. Come to complete and controlled stop
3. Pull forward out of slip



# Soft Slip Maneuver

At idle speed and without touching the buoys :

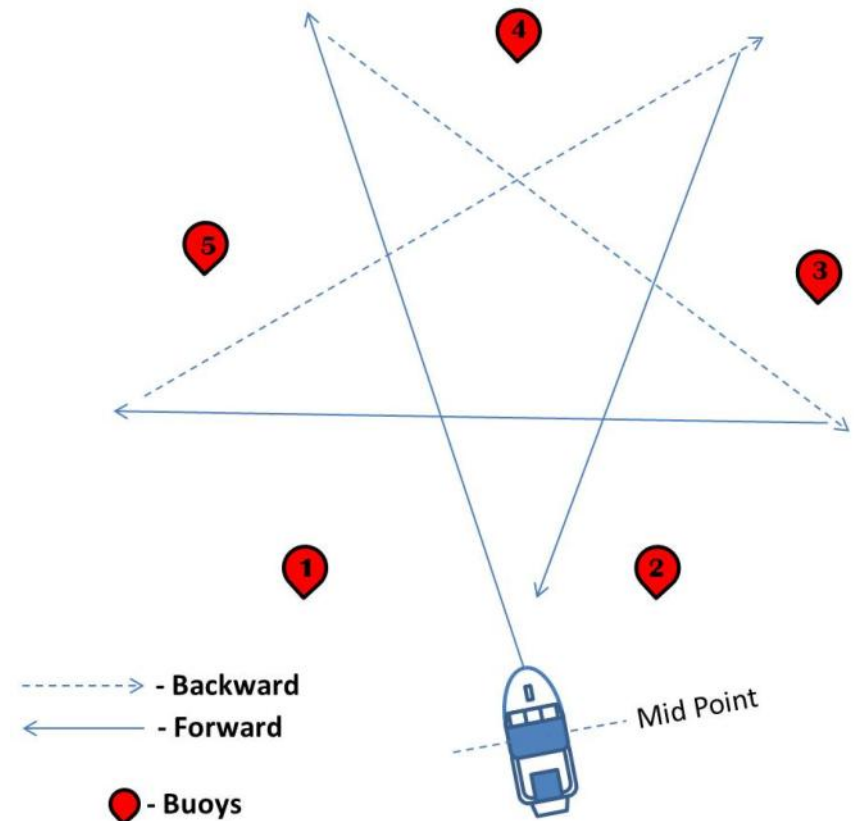
1. Enter a boat slip, defined by buoys
2. Bring the boat to a controlled stop
3. Back 90° into an adjacent slip
4. Bring the boat to a **controlled stop**



# Star Maneuver

At idle speed:

1. Enter the "star" between buoys 1 & 2 and move forward between buoys 4 & 5 no further than mid-point on boat
2. Back between buoys 2 & 3
3. Move forward between buoys 1 & 5
4. Back between buoys 3 & 4
5. Move forward and out of "star" between buoys 1 & 2.

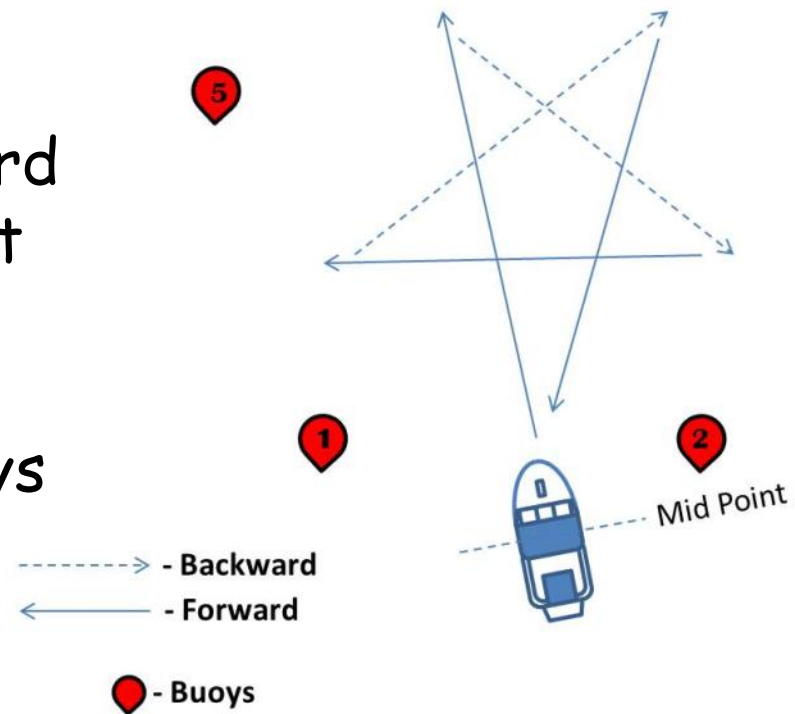


# Circle Maneuver

At idle speed:

1. Enter the "circle" between buoys 1 & 2 and move forward between buoys 4 & 5 but not beyond the "circle"
2. Back between buoys 2 & 3
3. Move forward between buoys 1 & 5
4. Back between buoys 3 & 4
5. Move forward and out of "circle" between buoys 1 & 2.

The entire maneuver must be accomplished within the circle



# Retrieval Simulation

1. From down-wind or down-current, approach the buoy (object) bringing the boat to a complete and controlled stop within arms reach of the buoy and simulate retrieval.
2. Gently touch the buoy (or object) with the bow of the boat to practice control.
3. Approach the buoy (or object) from both port and starboard sides. Wind and/or current will determine whether to approach the buoy from starboard or port side.





# Alongside Maneuvering

1. Maneuver next to another boat alternately on port and starboard sides
2. Bring the boat to a complete and controlled stop within arms reach of the other boat without touching it.





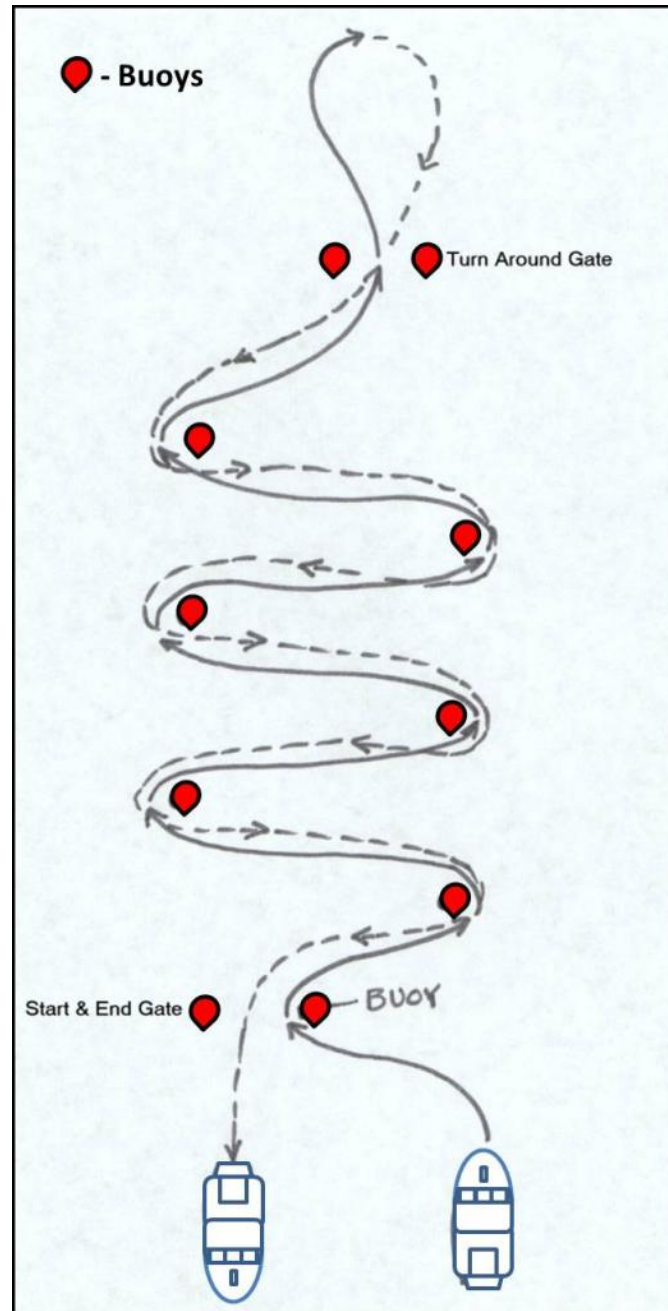


# Planing Speed Course Rules and Regulations

1. "Code Red" means **ALL** vessels **STOP**
2. One boat on the course at a time or as directed by instructor
3. PFDs will be worn at **ALL** times
4. Radio must be in the boat
5. Use of kill switch is mandatory
6. Instructor will be in the boat with the student(s)
7. Instructor will direct the use of Radios
8. Maintain safe and controlled speed at all times
9. Follow **ALL** directions given by the instructor(s)

# Maneuvering at Planing Speed

- Maneuver the boat at planing speed around fixed objects.




# Avoiding Object at Planing Speed

1. Maintain planing speed on course with fixed object.
2. Instructor will call “port” or “starboard” or “left” or “right”
3. Boat operator will avoid object to desired direction then straighten up to maintain course.

The boat avoids collision and then resumes course or comes to a controlled stop

Instructor Calls out “port”, “starboard”, left or right

The boat enters the course at planing speed

 - Buoys

