

Motorboat Orientation

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1 Motorboat Orientation Course Overview

The following motorboat orientation course has been designed by lab members and dock staff personnel to ensure a safe working environment. It draws from several motorboat orientation courses and dock staff experience. Coordinate with dockstaff prior to using any motorboat or equipment at the sailing pavilion. Remember that we are guests at the sailing pavilion and must conduct ourselves accordingly.

2 Motorboat Orientation: Principles and Maneuvers

ALWAYS WEAR YOUR LIFE JACKET!

The following PDF contains general boating concepts, maneuvers, and emergency procedures. The content has been hand selected from a much larger and longer course. Read each page and skip anything pertaining to slips. We will expect each test taker to be able to verbally explain procedures and perform them on the checkout test.

http://oceanai.mit.edu/pavlab/docs-protected/Motor_Boating_Course_FINAL.pdf

If you do not have the username and password please ask lab personnel.

The orientation PDF will contain the following topics:

1. Propulsion types

2. Engine controls
3. Outboard Starting Procedure
4. Boathandling concepts
5. Basic boathandling
6. Equipment and responsibilities
7. Concepts and considerations for emergencies and Rescues
8. Rescues of person in water
9. Rescues of a drifting boat

3 Rules of the Road

Following the rules of the road help avoid potential issues on the waterway. When in doubt slow down and avoid encounters. The following PDF will cover safety and rules of the road on the water. In particular pay attention to the vessel types, give-way vs stand-on vessel, "pecking order", crossing rule, meeting head on, and overtaking. Understanding that other vessels may claim constrained movement is important in your decision making. Knowing the highlights of the navigation lights helps connect the color of lights you see with the rules of the road. While you won't be tested on the sounds of navigation, it helps reading about it as strict vessels on the river will signal and it helps your awareness.

http://oceanai.mit.edu/pavlab/docs-protected/rules_of_road_combined.pdf

4 Pavilion Specific Orientation

Check with dockstaff prior to using any sailing pavilion equipment. Dockstaff is constantly balancing schedules, activities, equipment, and weather related issues. The word of the dockstaff is law on the dock. If they tell use not to put a robot in the water then don't. If the dockstaff comes by requesting or suggesting we move equipment (this happens if it is in the way of classes or they are protecting our equipment) it just needs to happen. The dockstaff is also very pleasant so when they mention "it's not a good idea to put a robot in the water," that should be interpreted as "don't". If they tell us we need to be out of the water by noon, be done by 11:45.

4.1 Checking Out a Motorboat

Never operate a motorboat or be using equipment by the water by yourself!

Lab members should not operate a motorboat unless they have been formally evaluated by the dockmaster using the checkout test described in Section 5.

General boat checkout procedure:

- Before assuming a motorboat tied up at the dock is free - ask dockstaff which boat they prefer you checkout
- If no dockstaff present, they generally prefer labmembers check out the maritime skiff (aka Eric Gibber)
- Return motorboats to the front of the dock.

4.2 Initial Boat Setup

These instructions follow the general startup sequence found in the orientation material above but with specific notes about sailing pavilion equipment.

1. Get boat keys
2. Get VHF radio
3. On the motorboat
 - (a) Turn on battery switch
 - (b) Close the tennis balls (if necessary)
 - (c) Lower the engine
 - (d) Check the throttle is in neutral
 - (e) Turn key on (wait 1 minute to warm up)
 - (f) Release stern line (allow it to sink to clear propeller)
 - (g) Untie the bow line and push the boat so the bow points to mouth
 - (h) Attach kill switch line to lifejacket
 - (i) Drive boat slowly to the front of the dock (for safety and warming up engine)

4.3 Leaving the dock

1. Get on motorboat
2. Check that the throttle is in neutral
3. Turn on the engine
4. Untie then push the bow out
5. Put safety lanyard on
6. Steer the boat away from the dock
7. Accelerate forward slowly

4.4 Landing at the dock

CRUCIAL: Land bow into the wind

1. Approach the dock at a strong angle of attack
2. Turn hard to become parallel with the dock (bow into the wind)
3. Last boat length be in neutral to coast with broadside of boat touching dock
4. Reach out with your hand to grab a loop while holding midship line
5. Pass the line through a loop at the dock
6. Cleat the line inside the boat
7. Turn off the engine
8. Unhook kill switch line

5 Test (roughly 20 minutes)

5.1 On dock questions

- Windward vs Leeward
- Windage - how does it affects turns
- Boat wake 3 keys when to worry
- Throttle controls: "Remember when shifting to forward, neutral or reverse is that it should be done at idle rpm to prevent damage to the engine or transmission."
- Rules of the road: What are these types of vessels: power driven, sailing, restricted in ability to maneuver, not under command, underway?
- Rules of the road: what is a stand-on vessel and give-way vessel?
- Rules of the road: What is the pecking order?
- Rules of the road: Describe crossing-rule situation
- Rules of the road: Describe overtaking-rule situation
- Rules of the road: Describe meeting-rule head on

5.2 On water checkout

- Checkout a boat
 1. Engine Controls
 2. Trim and Tilt Control
 3. Outboard Inspection (read orientation pdf)
 4. Outboard Starting procedure (read orientation pdf)
- Leave dock - 1) Straight-ahead departure 2) Back-away departure
- Stopping: 1) Coasting Stop 2) Quick Stop
- Return to dock
- Hold position 1) Bow into wind 2) Stern into wind
- Maneuver between buoys
- Pivot turn
- Driving backwards
- Man overboard - buoy with bucket attached
- Radio 1) Prowords 2) Exercise moving around the dock