

Close Quarters Maneuvering



Close Quarters Maneuvering Course Outline

Applicability

Knowledge

1. Forces
2. Throttle control
3. Rudder control
4. Mooring lines
5. Safety
6. Crew Assignments
7. Line Handling

Underway Skills

1. Momentum Exercise
2. Figure Eights Forward and Reverse
3. Holding a Stationary Position in the Wind (“Hovering”)
4. Standing Turn
5. Docking to a Pier or T-Head
6. Leaving a Pier or T-Head
7. Entering a Slip
8. Departing a Slip

Links to Annapolis Area Marina Maps

Glossary of Terms

Applicability

This course outline primarily applies to mono hulled sailboats that are: inboard powered; 30 to 50 foot in length; wheel steering; and, equipped with a right hand propeller installed on a conventional propeller shaft.

Knowledge

1. Forces

- a. Wind: **dominant**, primarily affects bow (pivot bow first downwind).
- b. Current: **2nd** most powerful. Affects entire boat equally.
- c. Prop walk: **Causes stern to move to left** (most boats) and is most noticeable in reverse. Can be overcome by rudder with way on (e.g. **back in a straight line with reverse throttle and some right rudder**). **Controlled by throttle speed in reverse power.**
- d. Prop wash: controlled by rudder and throttle in ahead gear. In reverse gear rudder does not control prop wash.
- e. **Spring lines are used to control the boat during docking**
- f. Using Forces
 - i. You CAN control prop walk and prop wash with rudder and throttle
 - ii. You cannot control wind and current but you CAN use them to your advantage.
 - iii. **Spring lines are used in conjunction with prop wash, prop walk, wind and current to control the boat during docking.**

2. Throttle Control

- a. **Neutral is primary gear.**
- b. Pause in neutral when shifting for **3** seconds
- c. Shift in gear and then to neutral to control speed
- d. Use engine power to stop boat instead of dock lines or muscling boat
- e. Keep enough speed to maintain steerage way; about 1 knot.

3. Rudder Control

- a. Sailboats have large rudders
- b. Most wheels have center marker such as tape or decorative knot
- c. Need about 1 knot of speed to steer boat
- d. Pivot point is generally aft of the mast.
- e. **Making way ahead, right rudder moves the stern left (to port)**
- f. **Dead stopped in water forward throttle and left rudder will move boat ahead and the stern right (starboard)**
- g. **Dead stopped in water reverse throttle will move boat astern and move the stern left (port)**

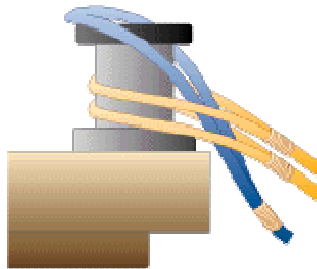
Knowledge

4. Mooring Lines.

- a. To properly secure the boat use:
 - i. Slip: Two bow lines and two stern lines and at least one aft spring and one forward spring.
 - ii. Parallel to dock: One bow line. One stern line. One aft spring and one forward spring.
- b. Doubling a line.



- c. Critical knots: cleat hitch; bowline; round turn with two half hitches.
- d. Dipping the eye. Allows two boats to use the same cleat or piling. Each of the boats can remove their line without disturbing the line of the other boat. Place your line in the loop of the other boat's line.



- e. Friendly line. A light line in a slip connecting two or more pilings. This is useful for draping/storing permanently installed spring lines when you depart a marina slip.



5. Safety.

- a. Do not get body part between boat and dock, piling or other boat.
- b. Fending off.
 - i. Be very cautious when fending off;
 - ii. Boats are heavy and you will lose if you try to muscle it
 - iii. a boat hook is generally a poor choice for fending off.
 - iv. Use fenders.
- c. Take a turn around cleat or piling.
- d. Stay on board – let the boat hook, line or fender go and retrieve later.
- e. **Step off** at shrouds. **No jumping** on or off boat!
- f. If it doesn't look right **abort and reevaluate** options.
- g. **In strong wind conditions if you do not feel comfortable backing into a slip consider other options such as: enter the slip in bow first; parallel dock on the leeward side of a bulkhead; or even anchor until the weather clears.** Another option is to obtain assistance from the charter company.

Knowledge

6. Crew Assignments and Considerations

- a. Helm, line handlers, Fender Tender, dock.
 - i. Helm gives commands
 - ii. Line handler skills: safety; cleat hitch; ability to toss loop of line to piling or cleat.
 - iii. Brief Fender Tender.
 - iv. Dock: person to **step** ashore. Shrouds generally best place; stern area for backing into slip.
- b. Maintain Lookout. Note locations of other boats.
- c. Review docking and undocking plan ahead of time and **have Plan B**.
- d. Review wind and current speed and direction.
- e. Review marina website and obtain dock map ahead of time (see attachment for links to maps). Call ahead to marina. Have VHF-FM channel available and phone number saved in mobile phone.
- f. Use underway/ return to port checklists beforehand:
 - i. Underway: gear stowed and “ready for sea”; engine warmed up, transmission check forward and reverse check; and, boat hook out.
 - ii. Return: Lines and fenders out; transmission check forward and reverse check; and, boat hook ready.

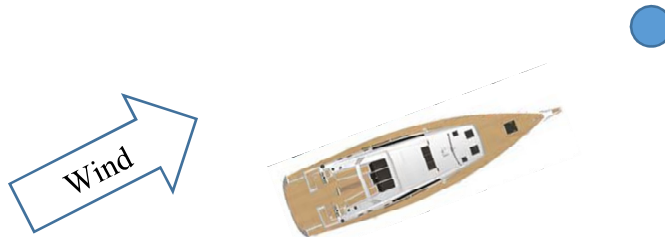
7. Line Handling

- a. Wear sailing gloves.
- b. Boat hook ready but not for fending off.
- c. Designated crew to **step on** or **step off** (*no jumping*).
- d. Fender tender moves to place fender between boat and dock.
- e. **Undocking** in slip with permanent docking lines:
Standby your lines; Take Lines in Hand; Move boat to Windward side of slip; Cast off stern lines. Cast off lazy bowline.
 - **“Walk” Fwd Spring or bow line to help pivot when departing slip.**
 - When departing, place permanent bow and spring lines on hooks on piling or drape on friendly lines. Toss stern lines to pier.
 - Safely fend off as needed.
- f. **Docking** by backing in a slip with permanent docking lines:
Grab lines when you can; Pull on (designated) line; Hold (designated) line.
 - **Line handler on stern ready to grab line on piling. This is the most important line.**
 - **Lead the grabbed line to the stern cleat. This becomes a forward spring line to help warp boat into the slip.**
 - **Fender between boat and piling for warp.**
 - If line handlers on pier direct them. Don’t assume any knowledge.

Underway Skills

1. Momentum Exercise

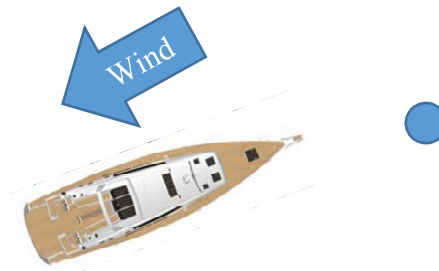
Down Wind



Under power, and going down wind, move towards a mooring ball or fender tied to a small anchor and stop the boat with the marker/fender abeam of the boat. You'll invariably overshoot. No problem though because you're in relatively open water away from obstructions.

Tip: You overshoot for two reasons the boat has a massive amount of momentum and the wind is pushing you from behind. Try putting the engine into reverse about 5 boat lengths back at about 1000 rpm. As the boat begins to slow, gauge whether you should increase the engine speed against the approaching speed of the buoy. Work the engine up to 2500 rpm and down to ensure you stop in the desired place. As long as you do not introduce too much prop walk, the boat should handle in a steady manner. Most people make the mistake of putting the engine in reverse too late and then have to overpower the engine at the last minute.

Into the Wind



The bow will be difficult to control headed into the wind. Remember that the boat is under the most control when its stern is into the wind. In order to maintain control, the helmsman will often overpower the boat, shooting past the buoy.

Tip: You still run the possibility of overshooting your mark largely again because of the momentum of the boat. The same principles apply. Use reverse with plenty of space and work the engine to gauge your approach.

Underway Skills

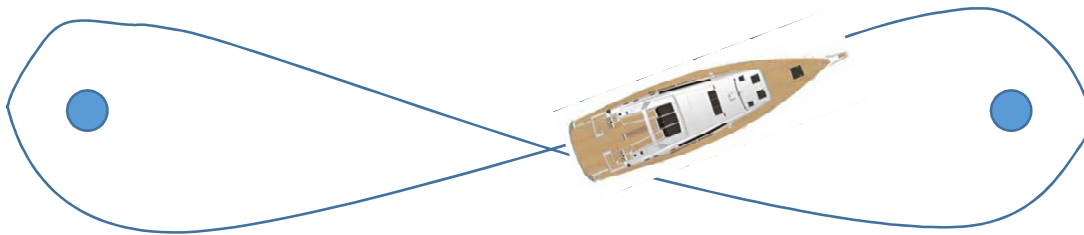
2. Figure Eights Forward and Reverse

Designate a course of appropriate objects a short distance apart (e.g. Two fenders on small anchors about 8 boat lengths apart).

Practice going forward performing figure eights on the fenders.

Then practice backing around the fenders. It is important to get comfortable backing the boat over a long distance. One technique is to physically turn around at the wheel and face the direction you are backing; in this position, it is almost like driving the boat forward from the bow.

*****Important: **hold the helm securely when backing.** Water passing over the rudder when backing can “grab” the rudder and force a sudden, strong turning of the helm. For this reason do not place your arm or hand between the spokes of the wheel; you could be severely injured if the water “grabs” the rudder. Also, this could easily damage the boat’s steering gear.



3. Holding a Stationary Position in the Wind (“Hovering”)

Practice holding a stationary position “hovering.” Pick landmarks such that you can form two lines of position to mark slippage in the current and wind. Initially, practice holding the bow into the wind, as this gets you use to using a combination of throttle and rudder in an aggressive fashion. This lesson can prove useful in situations where you are required to enter a slip bow first.

Then place the boat’s stern into the wind and practice holding in that position. Recognize how much easier it is to hold it with that aspect than if you were bow into the wind and the wind was always trying to push the bow off. **This technique is used when waiting in line at the fuel dock.**

Underway Skills

4. Standing Turn

Standing or Pivot Turn (Back and Fill): Standing or pivot turn is a technique for turning a boat 180 degrees in a narrow channel. The turn has to be done in the direction of the propeller's prop walk when the boat is in reverse gear. The most common situation is a sailboat with a right-hand prop, the maneuver can be made to the right only; i.e. alternately revving engine ahead with right rudder; pause in neutral; then revving engine in reverse with right rudder.

Another common situation is a boat with sail drive. Prop walk is much less pronounced with sail drive. Each boat handles differently; it is best to try out this maneuver in open water before attempting in a marina. A much less common situation for newer boats, which includes most charter boats, is a left-hand prop, the maneuver is performed in a counterclockwise direction.



Steps in Pivot Turn - Right Hand Prop:

Turn and keep the wheel to starboard (or tiller to port).

#1. Short burst of forward thrust - Turns bow to starboard.

#2. Place in neutral for a short pause (count “one thousand one, one thousand two, one thousand three”).

#3. Reverse thrust to generate prop-walk - Turns stern to port

#4. Once backward motion is felt, place in neutral for a short pause.

Repeat Steps #1 though #4.

As the bow approaches the wind you will often have to use a longer burst of forward thrust in order to “drive” the bow through the wind.

If motoring into a blind alley slipway with no traffic and no wind and you want to turn around you would want to enter the slipway to the left of center to set up for the pivot turn.

For all boats you operate, it is best to try your standing turn in relatively open water before attempting it in a tight space such as a marina slipway.

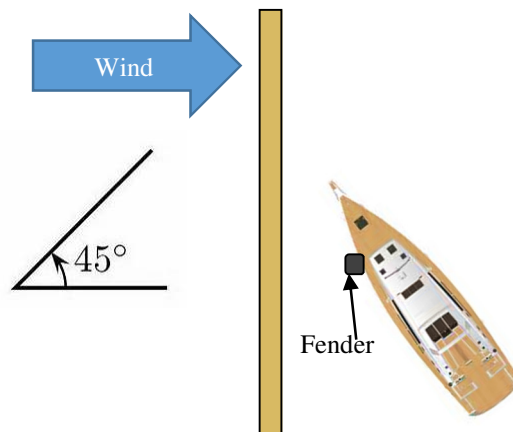
Underway Skills

5. Docking to a Pier or T-Head

It is usually easiest to dock to a pier on the port side. When reverse is applied to a boat with a right-hand prop the prop walk will move the stern of the boat toward the pier (if you have a boat with a left-hand prop the starboard approach is easier).

Crosswind blowing away from the pier: Generally approach the pier at a 45 degree angle. In addition to crew handling lines, for all the below techniques **have a crew member “tend a fender”** by “walking it” and placing it between the boat and dock.

1) In light winds backing (port side approach) along with a quick turn is made and the boat is brought alongside the pier. A crew member may be able to **STEP** (not jump) on the pier and secure the dock lines to the pier's cleats or the boat may be blown away from the dock.



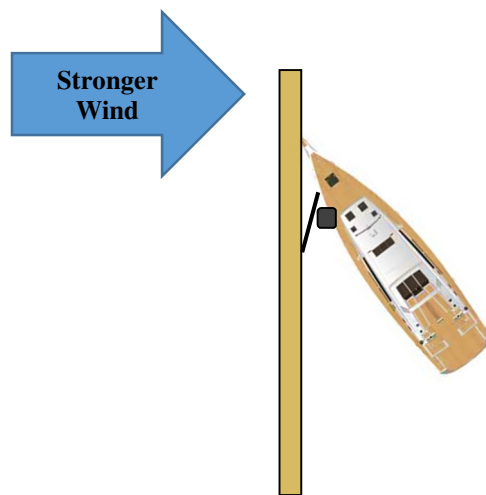
2) An aft spring line can be used from a mid-ship horn cleat. In this maneuver the boat approaches at a 45 degree angle and a spring line from a mid-ship horn cleat is placed over a piling or around a dock cleat. The boat continues to turn alongside the dock with forward thrust with rudder turned slightly away from the dock. The vector of force produced by the spring line will pull the boat alongside the dock.

NOTE: If your sailboat does not have a mid-ship horn cleat (a common situation for boats less than 40 ft), you may use a chain plate (attaches the shroud to the boat), a hole in the toe rail or the jib's fairlead. Don't use a stanchion!

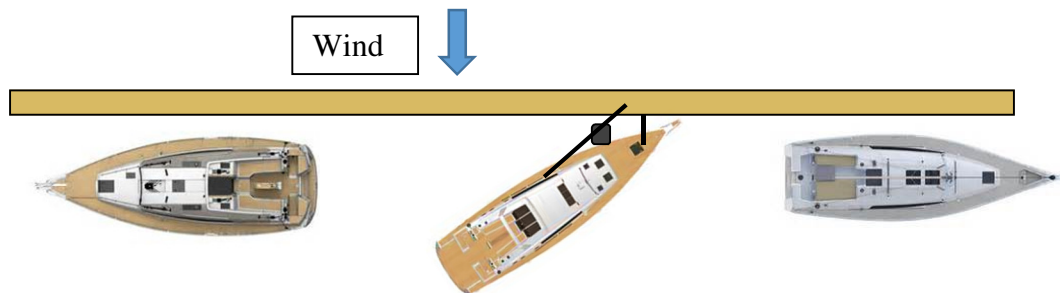
Underway Skills

5. Docking to a Pier or T-Head

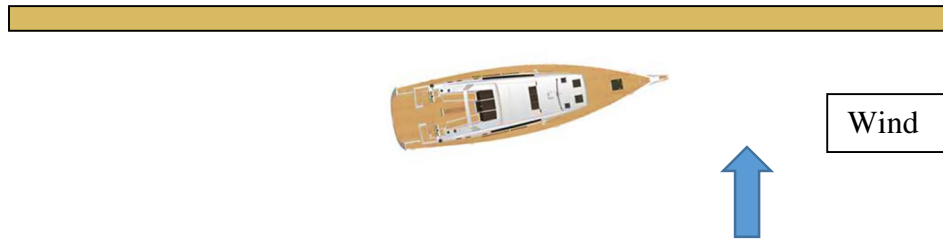
3) In heavier winds which will quickly blow the boat off the pier, a bow line may be used instead of the mid-ship cleat to aid in docking. The bow of the boat is “eased” up to the dock. A bow line is secured to the bow's horn cleat and looped around the piling or cleat using the **Doubling a Line** technique or thrown to a dockhand who secures it to a cleat on the dock. The wheel is turned away from the pier (or tiller turned toward the pier) and a small amount of forward thrust is applied which will bring the stern alongside the pier. The stern docking line is then secured.



4) Fore and Aft Obstruction with Wind Offshore. If you are parallel docking between two (i.e. fore and aft) obstructions such as two boats with the wind coming from the dock you can rig a forward leading spring line from the mid ship cleat along with a bowline and power astern to walk the stern to the dock. In this case approach the dock at a 45 degree angle.



Crosswind blowing towards the dock: In a light wind approaching a pier can be an easy docking maneuver. Just let the wind gently blow the boat into the pier. However, in a heavy wind you may need to use reverse thrust to keep the boat from approaching too fast. One may even have to use an bow line, with light forward thrust and the wheel turned toward the dock, as described above, to prevent too fast of an approach.



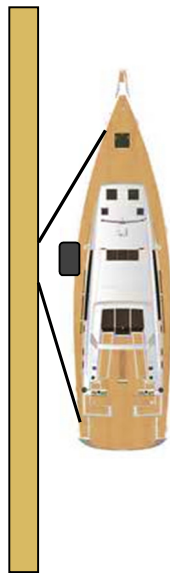
Wind parallel to the dock. In this situation it is easiest to dock approaching the wind. Thus, you will want to dock with the wind forward rather than aft.



Underway Skills

6. Leaving a Pier or T-Head

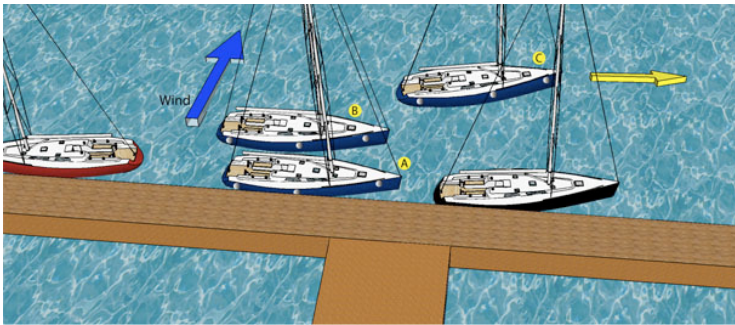
Getting underway and safely leaving a pier or T-Head can be challenging. The use of spring lines greatly aid in this maneuver. A spring line is named by the direction it takes from the boat. Thus, a forward spring line runs from the stern of the boat forward to the pier. For greatest leverage, the spring line should be secured to the bow (aft spring line) or stern (forward spring line) cleat and wrapped around a pier cleat or piling which is at least mid-ship. The line is then brought back to the bow or stern, if necessary placed around one of the cleat's horns, and held by a crew member. The use of a forward spring line will swing the bow out and allow for an easier departure. However, one must be careful in retrieving the line to not foul the prop (wrap the line around a spinning propeller). Use the rudder to vary the direction of boat thrust, to aid in holding the boat to or in swinging the boat away from the pier. Thus, with an aft spring line (running backwards from the bow of the boat to the pier), the wheel is initially turned away from the pier (tiller towards the pier) to hold the boat against the pier. Ensure that a fender is tended and walked along the bow. To pull away from the pier, turn the wheel towards the pier (tiller away from the pier) and give a small amount of forward power.



Underway Skills

6. Leaving Pier or T-Head

1. Wind pushing you away from the dock: Leaving the Pier or T Head



One of the simpler situations

- Take in the spring line and bow line. Allow the wind to push the bow way from the pier. Then take in the stern line. Allow the wind to push the boat clear of other obstacles.
- Engage the throttle

2. Wind coming from astern

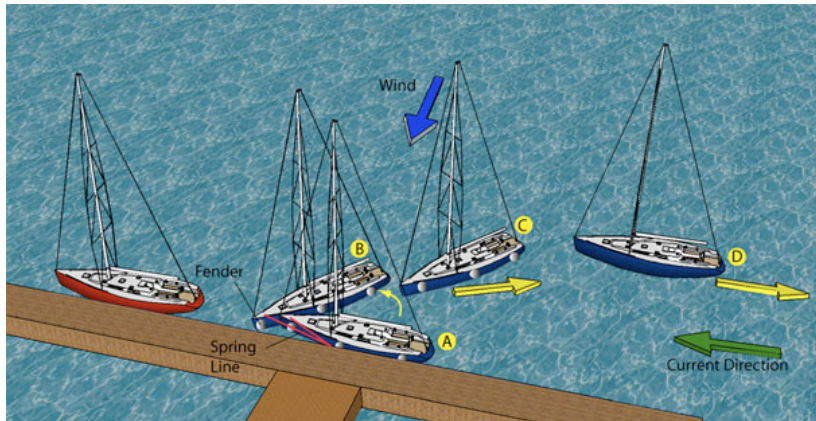
This is more difficult. If you try to go out forward the wind could potentially push you into other boats. Additionally as you turn the wheel to head out, the stern of the boat will swing around towards the pier and other boats. Therefore, it is recommended that you back out using a spring line.

- Position an aft leading spring line so that it is attached to the bow cleat and runs freely around a pier cleat near the center of the boat using the **Doubling a Line** technique. In this manner the crew member can release the line and retrieve it by letting it slip around the pier cleat.
 - ENSURE that there are no knots in the line to get caught on the pier cleat.
- Appoint a crew member as “Fender Tender” at the front of the boat to prevent the boat from scraping the pier.
- Ensure all of your crew assigned as line handlers report that they are ready.
- Take in the stern line first.
- Take in the bow line second
- Pull in on the aft spring line to move the bow toward the pier. This should be enough to move the stern away from the pier. If this doesn’t work have the aft spring line handler take a wrap of the line on the bow cleat and give the command “Hold the Line.” Then turn the wheel toward the pier and engage forward gear. The “Fender Tender” should walk the fender and place it between the boat and pier as the bow swings toward the pier.
- Once the stern has turned out from the pier, engage reverse and have your aft spring line handler release and retrieve the spring line.
- Continue backing out to be completely clear before engaging forward gear. Remember the stern of the boat will swing back towards the pier once you engage forward and turn the wheel to windward, so ensure there is plenty of room.

Underway Skills

6. Leaving Pier or T-Head

3. Wind pushing into the dock and current from behind.

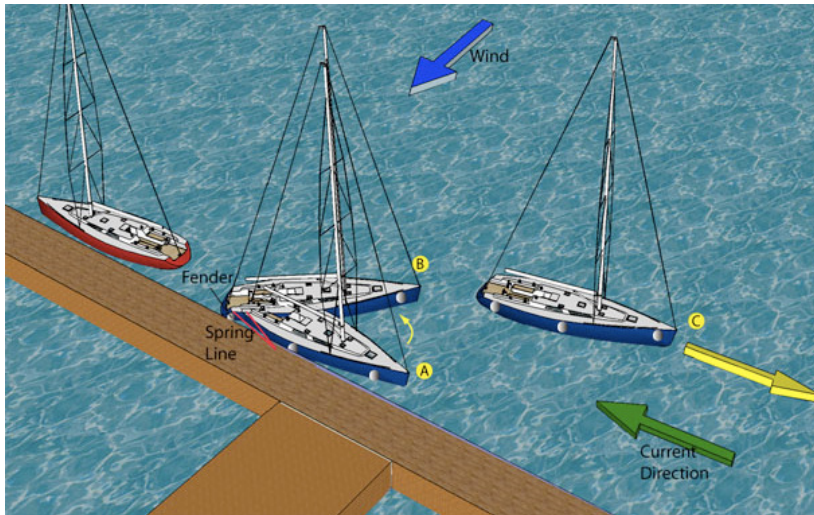


Use the same method as described in 2 above. With the wind blowing on the pier you will in all likelihood need to turn the wheel toward the pier and engage forward gear. This works most effectively if you leave the engine in forward gear and take tension on the aft spring line while the stern is swinging away from the pier. The “Fender Tender” should walk the fender and place it between the boat and pier as the bow swings toward the pier.

Underway Skills

6. Leaving Pier or T-Head

4. Wind pushing you onto the dock and current coming from forward.



- Position a forward leading spring line so that it is attached to the stern cleat and runs freely around a pier cleat near the center of the boat using the **Doubling a Line** technique. In this manner the crew member can release the line and retrieve it by letting it slip around the pier cleat.
ENSURE that there are no knots in the line to get caught on the pier cleat.
- Appoint a crew member as “Fender Tender” at the stern of the boat to prevent the boat from scraping the pier.
- Ensure all of your crew assigned as line handlers report that they are ready.
- Take in the bow line first.
- Take in the stern line second
- Pull in on the forward spring line to move the stern toward the pier. This should be enough to move the bow away from the pier. If this doesn’t work have the forward spring line handler take a wrap of the line on the stern cleat and give the command “Hold the Line.” Then reverse gear (it is not necessary to turn the wheel in this case; leave it centered). The “Fender Tender” should walk the fender and place it between the boat and pier as the stern swings toward the pier.
- Once the bow has turned out from the pier, engage forward and have your forward spring line handler release and retrieve the spring line.
- Continue going forward out to be completely clear before turning away from the pier to avoid the stern swinging toward the pier or other boats and hitting them.

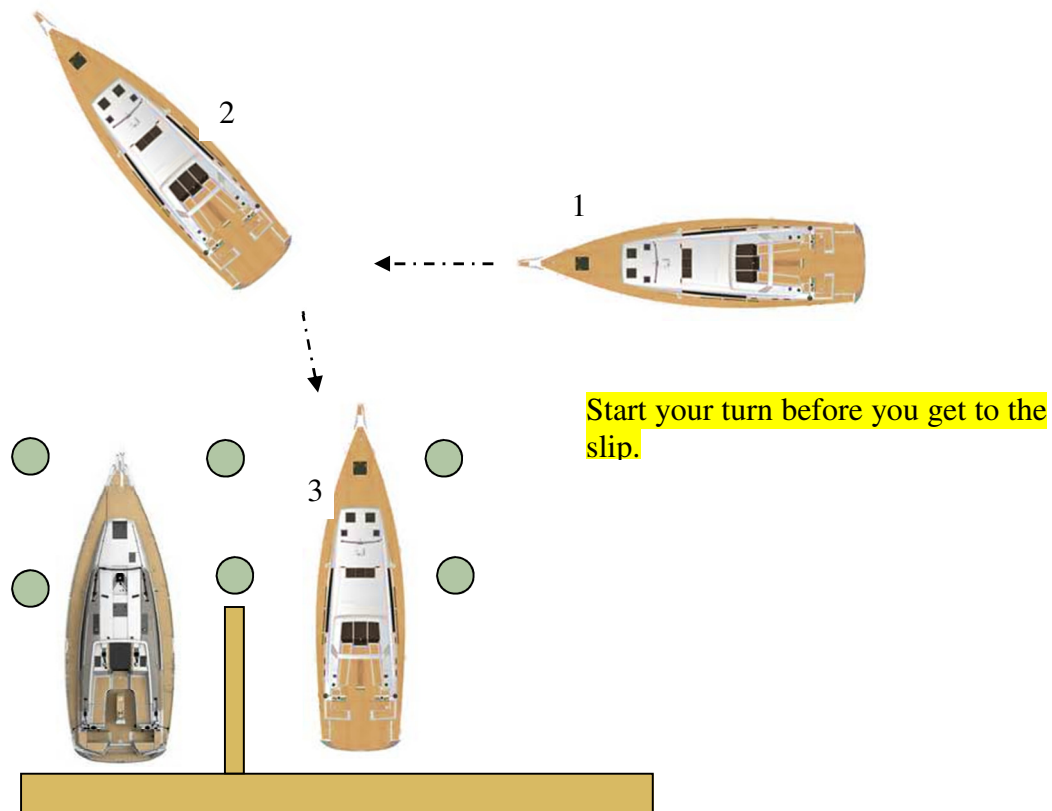
Underway Skills

7. Entering a Slip

Backing

Backing is the most common way we enter a slip in the Annapolis area.

Up to Light Cross Wind/ Current. This approach allows us to do a standing turn and take advantage of prop walk as we back. The below diagram is for a No Wind/Current situation. For light wind/current situation position “2” in the below diagram should be up wind of the slip



Wind/ Current Blowing In or Out of Slip

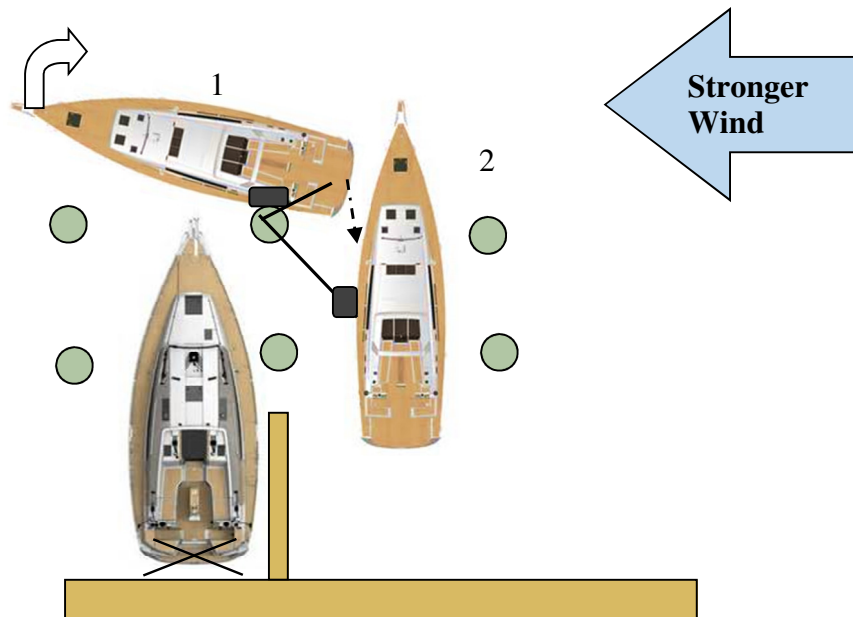
For backing into a slip, wind blowing out of a slip is less difficult than wind blowing into a slip. This is because wind blowing into a slip may cause an unexpected shifting of the bow from one side of the slip to the other side.

Underway Skills

7. Entering a Slip

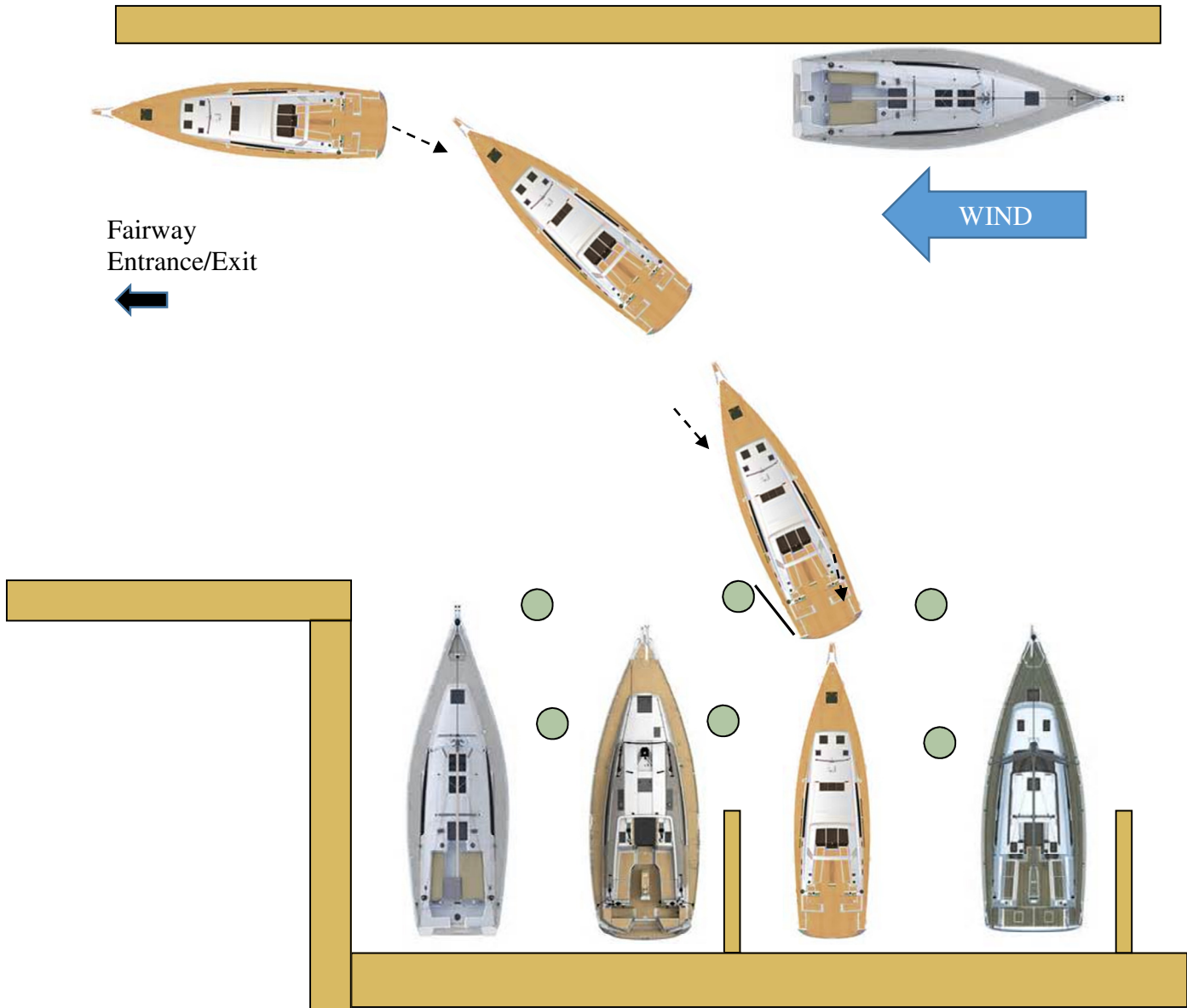
Backing

Stronger Wind/ Current. Put out spring line on leeward stern. Ensure piling is clear of nails or hardware that could damage the boat and that you will not hit other boats. Consider using a fender. Reverse engine to rotate bow around piling to “warp” into slip. If you do not feel comfortable backing into a slip consider other options such as: enter the slip in bow first; parallel dock on the leeward side of a bulkhead; get assistance from the charter company; or even anchor until the weather clears.



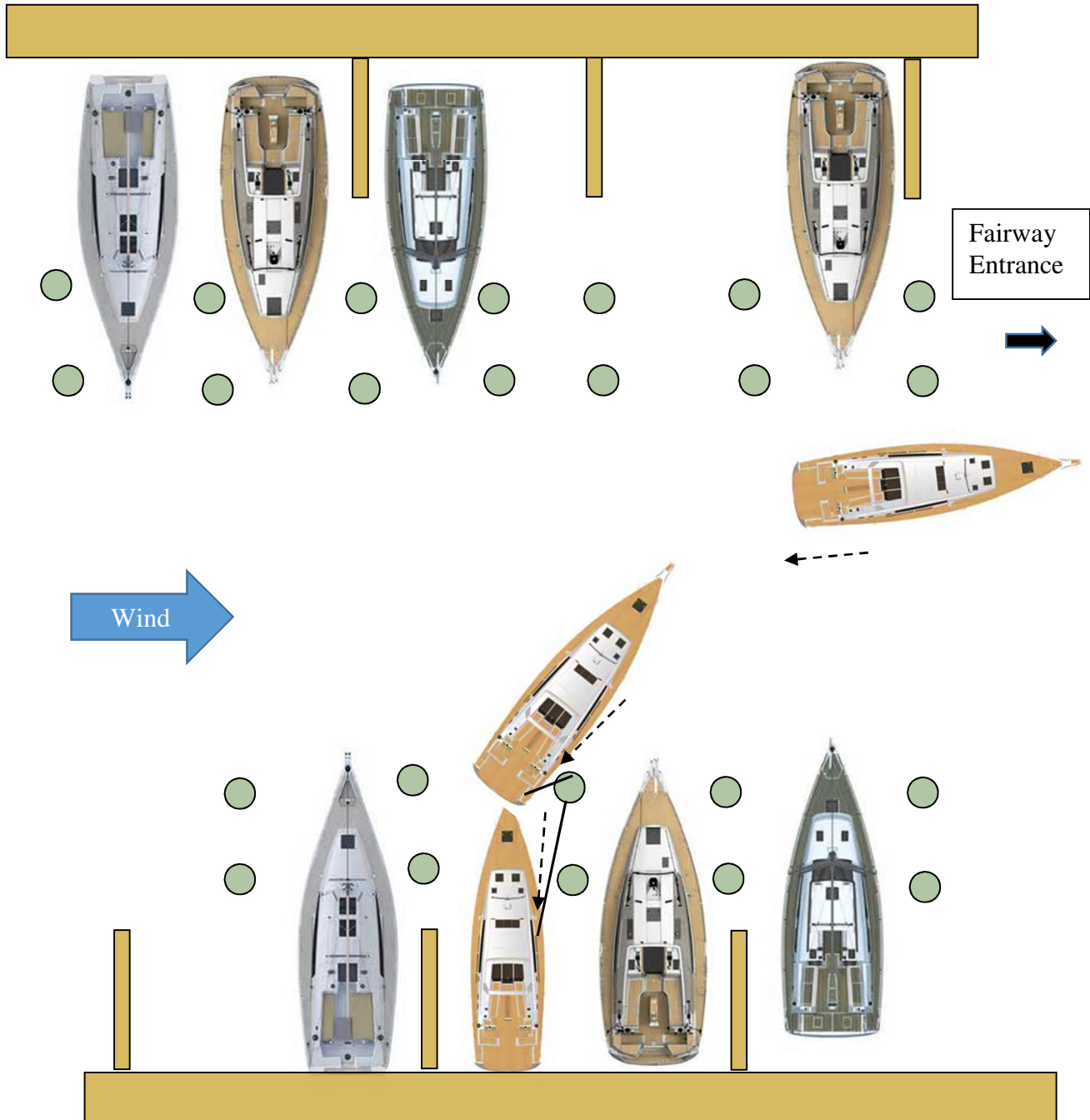
Entering a Slip - Typical Situation for PSC Annapolis Charters

Back into the fairway and make a turn to **PORT** into the slip while backing. Keep enough speed to allow the boat to maintain steerage.



Entering a Slip – Another Typical Situation for PSC Annapolis Charters

Back into the fairway and make a turn to **STARBOARD** into the slip while backing.
Keep enough speed to allow the boat to maintain steerage.



Underway Skills

7. Entering a Slip

Bow First

When heading bow into a slip with wind from astern approach the slip slowly and rig an aft leading spring line to the outer most piling.

The most important line when entering a slip bow first is the aft leading spring line (see the diagram on the next page). The best place to position your line handler is at the shrouds. This is the widest part of the boat and from this position it is usually easiest for the crew member to place the aft spring line around the outer most piling. For your “home” slip and some transient slips, the line handler will be “grabbing” the permanently installed line on the piling. For permanently installed lines it is also best to assign two crew members to this job; one crew member to grab the line and the other to help put the line through the chock and or get it around the cleat. Back the engine to control your speed and stop the boat. Once you have an aft spring line on the piling slowly come ahead and place a steady strain on the aft spring line. You can then fully control the boat in the slip with just one aft spring line through a combination of rudder, adjusting (e.g. easing) the spring line and adjusting the throttle.

The next most important lines are the stern lines. The least important lines are the bow lines.

The spring line crew member can initially be stationed on the bow and can call out distance to the slip entrance and call out when you enter the slip. Once you enter the slip this person can promptly move back to the shrouds. If you have enough crew then this person can remain on the bow and handle the bow line.

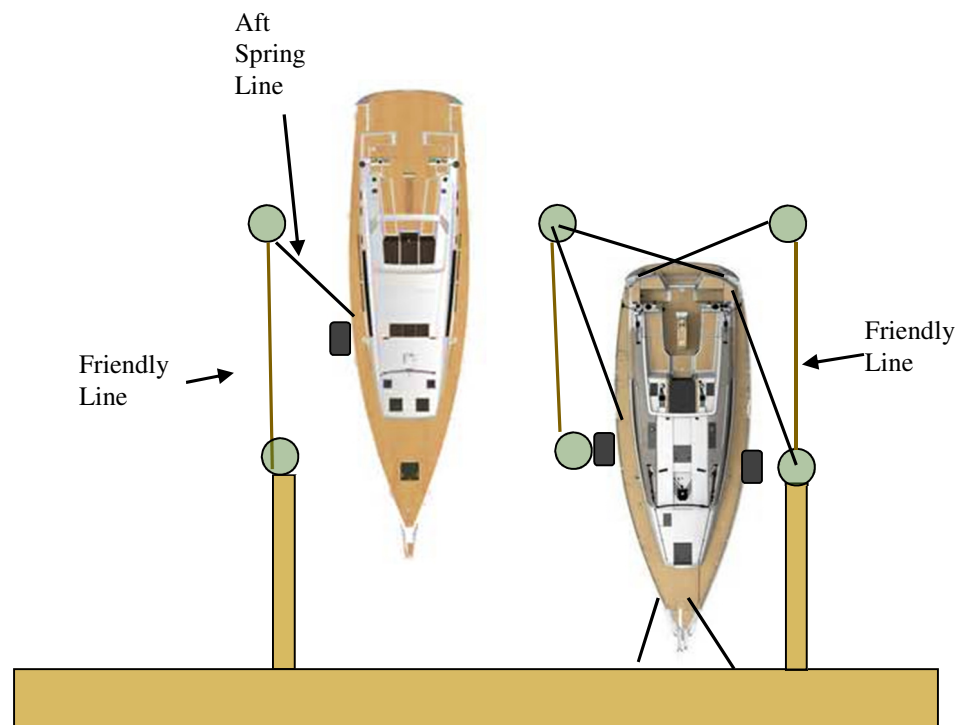
Have the boat hook out and use it to help retrieve permanently installed lines on the piling.

Try to give yourself as much of a straight run at the slip as practicable. In a slipway make a wide turn. If the wind is blowing out of the slip turning the bow into the wind and then controlling it can be challenging.

Cross Winds. Approach the slip on the windward side. Getting the aft spring line around the piling and taking a strain on it by holding the aft spring line using the cleat will allow you to control the boat. Most slips have a piling on either side. If you are unable to get a line on the windward side the boat will drift down on the leeward side. One aft spring line on either piling is all you need to fully control the boat in the

Warping. If the wind is strong an alternative is to stop the boat perpendicular to the slip along the piling and use spring lines to swing or warp your boat into the slip. When warping into a slip have a crew member “tend a fender” and place it where the boat meets the piling to minimize scraping the boat.

Diagram Entering Slip Bow First



Underway Skills

8. Departing a Slip

Important considerations when you depart a slip are: wind; current; whether you will be backing out or departing bow first; the width of slip way channel; and, the presence of other boats – particularly those that have a bow or stern sticking out beyond the outer most pilings of the slip.

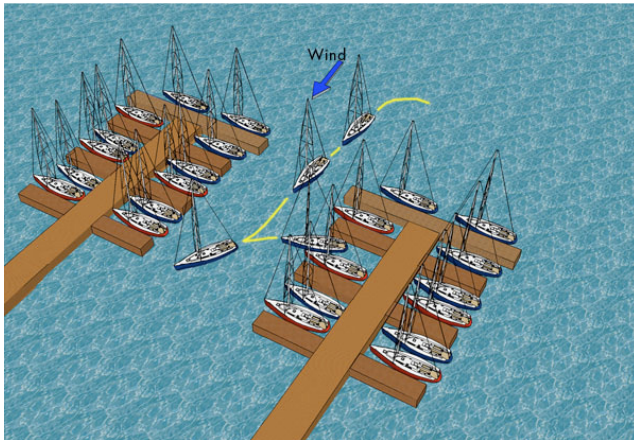
The general procedures are:

- Have a boat hook ready.
- Brief the crew on the departure plan and assign: the Helm (this person will drive the boat out of the slip); line handlers for each line; and, a fender tender.
- Have crew initially standby there lines.
- The person at the Helm should then give the command to “Take Lines in hand” At this command the crew should undo the cleat hitch. Stern line handlers should uncross the stern lines.
- If you will need to make an immediate turn once out of the slip the line handler responsible for the outer most piling line in the direction you will be turning should “walk” the line along the side to the mid-ship position as you depart the slip to help turn the boat.
- If you have a cross wind the Helm should instruct the line handlers to bring the boat to the windward side of the slip.
- In a crosswind expect that the bow will be blown down wind and the stern will head up into the wind. Plan your departure accordingly.
- Depart the slip slowly alternatively shifting between neutral and in gear.
- Prop walk will initially have a large effect, particularly when backing. In light wind conditions it is easier to back to port in a boat with a right-hand prop

Underway Skills

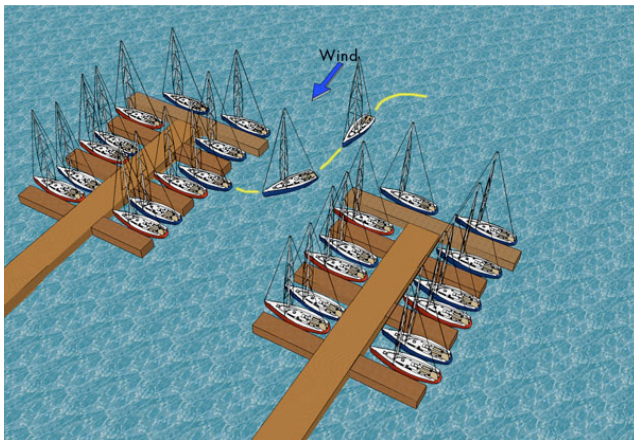
8. Departing a Slip

Wind coming into the slip channel. Your boat is stern to the pier.



This is best handled by easing out of the slip with the wheel centered and then turning down wind. Also note that the wind itself will cause the bow to turn downwind. Back out of the slip channel and well into the main channel before engaging forward. **The boat handles best with its stern into the wind.**

Wind blowing into the slip channel. Your boat is bow to the pier.

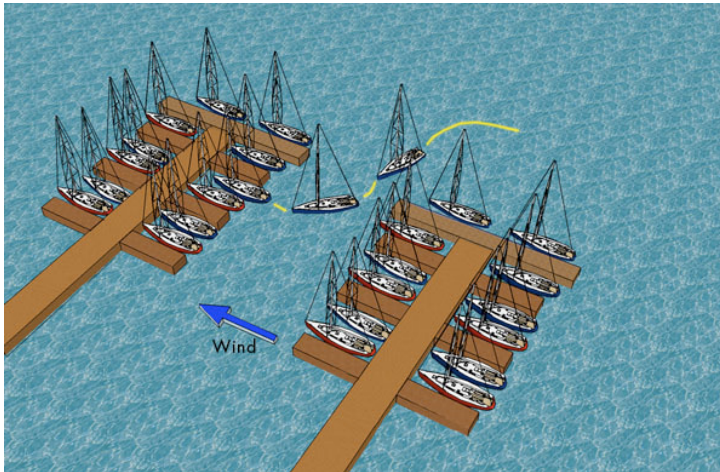


Back out of the slip into the slip channel and then into the main channel. You may need a bow line (warping line) to the windward pier or **mid slip piling** to prevent the bow blowing downwind as you engage reverse.

Underway Skills

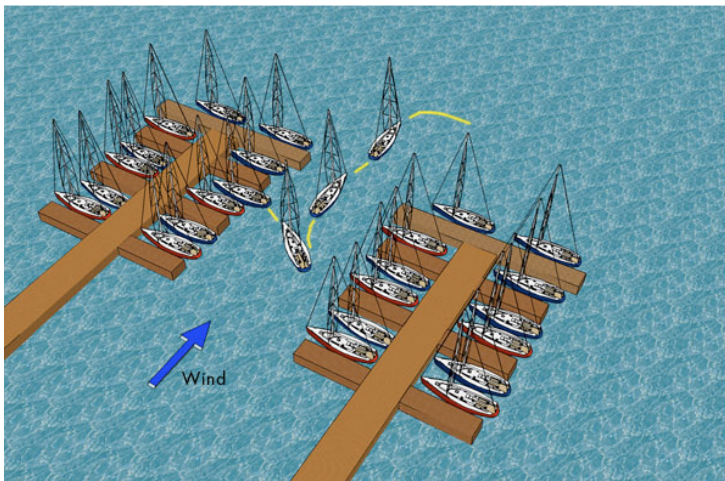
8. Departing a Slip

Wind blows into the slip and your boat is bow to the pier.



Back the boat out of the slip, into the slip channel and then into the main channel.

Wind blowing out of the slip channel and your boat is bow to.

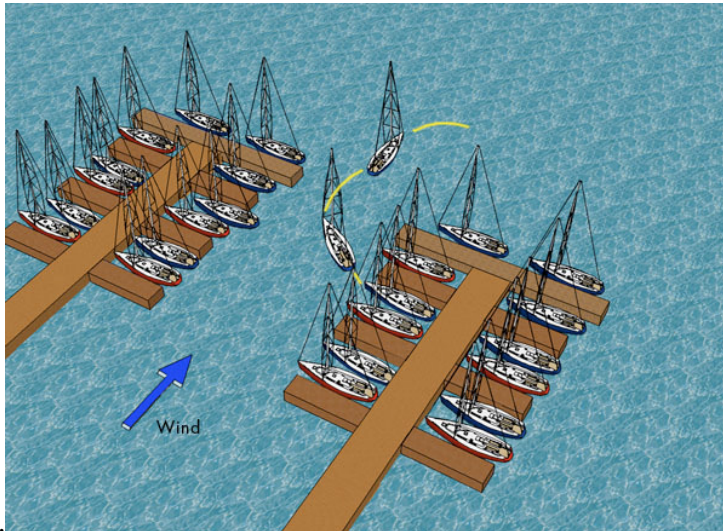


Back out into the wind and then engage forward. Prop walk will help you turn while you are backing. With the stern into the wind, you will have a high degree of control of the boat.

Underway Skills

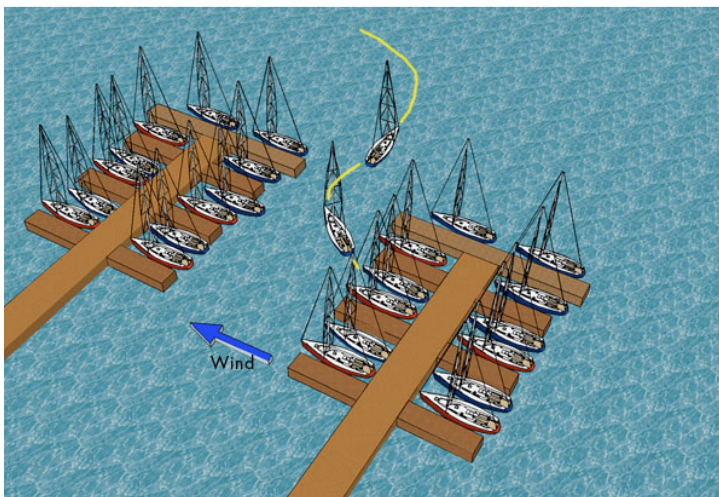
8. Departing a Slip

Wind blowing out of the slip channel and your boat is stern to



Bring the boat to the windward side of the slip. Drive the boat out of the slip, turn and proceed to the main channel.

Wind blows out of the slip and your boat is stern to.



Center the boat in the slip. Drive the boat out of the slip, turn and proceed to the main channel.

Links to Annapolis Area Marina Maps

[Port Annapolis Marina](#)

[Sailing Emporium, Rock Hall MD](#)

[St Michaels Marina and Harbour Inn](#)

[Zahnisers Marina, Solomons Island, MD](#)

Glossary of Terms

(Key terms are highlighted)

Abeam – To the side of a boat

Athwart ship – At right angles to the centerline of the boat.

Bitter end – Inboard end of a line

Bow line – A mooring line extending laterally out from the boat

Bowline – A knot used to tie a loop in a line

Check a line – To temporarily stop a line from surging.

Castoff a line – Toss or pass a line to the dock or place on piling. Many marinas have permanently installed lines and we leave them on the dock or piling.

Ease a line – To slack a line slowly under control on a cleat or piling.

Fender Tender – Crew member assigned to hold on to line attached to the fender/bumper and walk along the side and place the fender/bumper between the boat and pier, piling or other object.

Friendly line – A line connecting pilings in a slip.

Hold a line – Place turn(s) on line to prevent any slippage.

Hovering – holding a stationary position; works best with stern to wind.

Making way – A boat moving through the water.

Move boat to windward side of slip – Line handlers pull on bow and stern lines to move boat to windward side of slip. A technique used when crosswinds or current.

Port side – left side of a boat

Pull on (designated) line – Pull in on a line to move the boat.

Put over a (designated) line – Toss eye of line to pier

Slack a line – Remove all tension from a line and allow to sag

Spring line – A mooring line extending out at an angle from the midship of a boat

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Standby your lines – Crew goes to assigned line, looks at helmsman and waits for further commands; do not take lines in hand at this point wait for the command “Take lines in hand.”

Starboard side – Right side of a boat.

Stern line – A mooring line extending laterally out from the stern of a boat

Surge a line – To temporarily ease tension on a line and allow it to slide out from a cleat or piling.

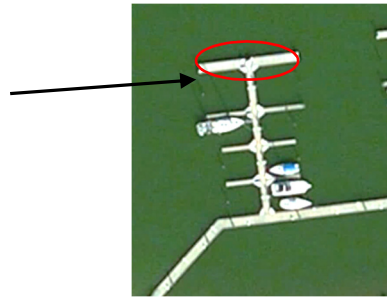
Take in a (designated) line – Bring the line aboard.

Take lines in hand – Remove lines from cleat; uncross stern lines; hold them in your hand and look at helmsman and wait for further commands.

Tension a line – Take/ keep all slack out of line, maintain force on line without moving the boat.

Tend a Fender/Bumper – Crew member holds on to line attached to the fender/bumper and walks along the side and places it between the boat and pier, piling or other object.

T-Head - A type of pier similar in appearance to



Turn a line – To wrap a line half way around a stationary object such as a cleat

Underway – A boat adrift. Boat not moored to a dock, fixed structure, mooring ball or anchored.

Warps – Lines used to move a boat within a docking area.