Senior Study Group Motoring Sessions

Sarah Herbelin March 2026 Updates

Approximately 2 hours Merritt or Commander

Ask students to read the items below before the class. Can ask if one will come and complete the pre-sail checklist before the class as well. Reserve the boats for the class.

https://www.cal-sailing.org/outboard-motor-manual
https://www.cal-sailing.org/images/official_files/DosNDonts-v4.pdf
https://www.cal-sailing.org/images/official_files/Keelboat%20Pre-sail%20checklist.pdf

Greet students and ask about their experience with motors on boats.

Demonstrate how to start and shut off the motor. Can wait until the end if there is time for students to rotate through starting the motor. This leaves time for maneuvers and starting the motor is covered in the Level 1 class.

Talk about where to aim when we return from the dock (where the stern is when docked) & instructions for the crew- stay on the boat until you can safely step off (discuss not jumping, that ending up between the boat and the dock is a very dangerous place, that people are harder to repair than boats or docks etc), explain that the crew should stay at the shrouds until asked to go forward and tie up the bowline or until the stern line is on a cleat. Explain why- you can control the boat from the shrouds- slow it down, walk it along the dock, bring the bow or stern closer to the dock. Don't have much control with only the bowline. Once they leave the shrouds, they should immediately get a wrap around the cleat. Have more control and safety working through a cleat than just with the line.

Talk about how the two types of boat are different- Merritt turns easier- fin keel and stops sooner and gets going faster, Commander is slow to turn- full keel and glides a long time and takes more time to get going.

Talk about need for water to be moving past the rudder for the tiller to be effective. When starting to leave the dock, no way on so tiller doesn't do much- steer mostly with the motor then.

Talk about when to use the motor – leaving J dock in an east wind, when the wind completely dies, when you can't sail for some reason (equipment failure), when need to raise the main underway with minimal or inexperienced crew. If need to spring off the dock (wind pushing the boat onto a dock)- put a fender near the bow, untie bow line, but leave around cleat and lead back up onto the boat to tend, release stern line, motor forward steering into the dock, once stern is clear, neutral, pull line aboard, then reverse and back out and clear. Senior test example- had to motor off the dock (wind on the quarter) and then use the motor to get the main up (hard main to hoist, one crew).

When not to use the motor – not very good in high waves and/or strong winds; rudderless skills are great and preferred as long as you have a sail or two.
**If you are motoring with sails up, you still need to be thinking about the boat as a sailboat.

Demo leaving the dock- Motor on and in neutral, dock lines tended (bow line untied and looped around forward cleat and held by the bow crew, stern line looped around cleat and held in boat by

skipper or crew member on the boat), **check for traffic,** have bow crew unhook bow line and walk to the shrouds with it, then release stern line (it's important not to let the dock lines get into the water near the motor as they can wrap around the propeller and harm the motor) and put the motor in reverse, crew accompanies (walks alongside, but doesn't push or pull the boat) the boat down the dock at shrouds and then steps on and acts as lookout (don't tie up dockline yet), decide when to turn motor and tiller to back around into slipway, positioning decisions based on wind strength & direction, neutral, straighten up motor, then shift into forward and throttle up to get way on forward, throttle down and steer with the tiller out of the slipway. Ensure lookout throughout the process. Tie up bowline and sternline once you are in the fairway.

Go to open area and practice three types of turns (possibly demo first, or just talk the students through them depending on their experience) –

- tiller only,
- motor only,
- tiller and motor.

- Talk about how the wind affects the boat during turns- turning into the wind the turn slows and turning with the wind behind you the turn accelerates.

- Note that you do not want the motor and tiller to be opposite each other- it's unpredictable which will prevail and you won't have much control.

Practice minimum control speed, ideally with some wind- could be between forward idle and neutral in light wind or throttle up and down in heavier wind. You can do this in the main channel and also covering positioning in the marina and interacting with other traffic as a powerboat. I recommend positioning the boat at the right third of the channel- you can see traffic coming out from the slipways and have enough room to maneuver around other traffic. Explain and demonstrate crossing the channel at right angles with 90 degree turns to minimize time in crossing situation and then getting on course at the right third of the new direction.

Practice transition from going forward to going backwards, steering backwards, circles backwards, and transitioning from going backwards to going forward. Point out how much more quickly the transition from backwards to forwards is and explain why (boat and motor are both optimized to go forward). Let them feel the force on the tiller/rudder going backwards when the motor's prop wash flows over the rudder. For the Commander it's helpful to have a crew member work the tiller, especially in reverse.

Demo docking, then have students each dock and leave dock both starboard side to and port side to. If students have some experience, practicing at J dock works well. If there are empty slips on O dock, they are great for practice as they are long and roomy and there's plenty of room outside to maneuver. Can approach from the north and south to practice docking straight in and with a turn to approach. **Remind students to check for traffic before putting the motor into reverse to leave the dock.**

Have fenders, crew with docklines ready, instructions for crew to be lookout and to only step off the boat- never jump, crew should stand on the gunnel outside of the lifeilines.

Set up approach angle as early as possible for port side-to on J dock, when to turn back for starboard side-to on J dock, minimum control speed (more throttle if more wind), note that will lose speed if have

to make big turn for starboard docking, aim where want stern to end up, go a bit farther than think you should (bow is undercut), then turn sharply to come alongside the dock, crew steps off at the shrouds and holds on to shrouds and walks boat forward or slows it down the last little bit. Skipper or stern crew gets wrap around cleat with stern line. Only when asked or boat stopped and stern line attached does crew go to bow cleat to tie off. Only when completely tied off is the motor turned off. Goal is to have boat come to a stop at the dock without needing to use the motor in reverse (although that can be useful in a downwind docking). Explain that it's quicker to add power with the motor if needed than it is with sails if you get going too slowly, but you still need to maintain steerage throughout the docking.

Discuss what to do if aren't able to get stern line around the cleat and bow crew has let go of the shrouds - can slowly motor into dock until bow touches and creates a pivot point and then turn the motor to push stern towards the dock.

If going too fast, just like with sailing, turn away and come back for another docking attempt. If you have to put the motor into reverse to slow enough to not hit the dock you were going too fast. Motor and boat much less inclined to go in reverse, takes time to slow the boat.

If time and interest, mention how inboard engines are different and maybe briefly discuss prop walk.