



Instructor guide for Basic Keelboat Sailing, AS-101

This document is a guide to teaching Basic Keelboat AS-101 at Spinnaker Sailing. Instructors should consider what follows as advice on how to teach this class as they develop their means and style.

The course consists of three Zoom sessions and four On-the-Water sessions. By the end of the course, students should have a basic knowledge of the following:

- Sail theory (how sails work)
- Setting up and putting away the Merit 25
- Safety precautions
- Points of sail
- The names of many items found on a sailboat
- Tacking / Jibing (Gybing)
- Motoring and Docking
- Right of Way Rules
- Aides to Navigation
- The Figure-8 Person Overboard Drill

Refer to the document AS-101-Certification-Standards.pdf for complete information on what students are required to know to pass AS-101.

The class outline pages below suggest what to present and how for Zoom classroom sessions and for on-the-water lessons, with peripherals the instructor can use to illustrate lessons. For simplicity, the helmsman is referred to below as the skipper.

Peripherals and teaching aids for Zoom instruction include the student study guide, crew overboard guide, vocabulary photos, and videos, that can each should be presented on-screen for students to see.

Refer to the separate Zoom presentation guide for tips on presenting via Zoom.

If the instructor wishes, pages of a digital version of the “Sailing Made Easy” textbook can be shared with students during Zoom classroom sessions. Here are links to purchase digital versions...

• **Apple Books:**

<https://books.apple.com/us/book/sailing-made-easy/id1090161781>

• **Google Play:**

https://play.google.com/store/books/details/American_Sailing_Sailing_Made_Easy?id=SEWEDwAAQBAJ&utm_source=americansailing.com

• **Kindle:**

<https://a.co/d/03HSI1kG>

Spinnaker Sailing has four lines of business:

- 1) A sailing school where students can learn all aspects of sailing.

- 2) A sailing club where members can check out and sail boats on their own and take part in group activities.
- 3) A travel service that arranges sailing vacations in exciting venues around the world.
- 4) A corporate events provider.

Complete information can be found at spinnakersailing.com

Zoom Classroom — Day 1

Introductions — 5 min

Advice to Instructors:

- Introduce yourself and briefly share your sailing background.
- Ask students to briefly share their names, sailing experiences, and goals in taking the class.

Lesson materials / Lesson routine — 5 min

[Show or share items on screen where appropriate]

- This is a four-day class during which students will begin to learn the language of sailing.
- Classes will generally follow the lesson plan in the Basic Keelboat study guide that Spinnaker Sailing has developed.
- Classroom sessions of up to about two hours will be held via Zoom the first three mornings of class. On all four days, on-the-water sessions of about four hours each will be held onboard a boat in the afternoons.
- To pass, students will need to accomplish three things:
 - Pass a written (multiple choice) test on everything presented during the classroom sessions of this class. They can take that test the morning of the fourth day in the Spinnaker office, or at any other time they arrange with the Spinnaker office.
 - Satisfy the on-the-water instructor that the student has mastered skills expected at this level.
 - Demonstrate that they can tie the six knots that are required at this level. These include the reef knot, clove hitch, cleat hitch, round turn and two half hitches, bowline and figure-8.
- In addition to the study guide, materials students have include the textbook, “Sailing Made Easy,” and a number of other items.
 - The American Sailing official certification logbook
 - A rope and a small cleat to practice knots with
 - A boating knots guide
 - The State of California’s guide to boating laws
 - A printed checklist for checking out a Merit 25
 - Some paperwork about Spinnaker and benefits of our club
- **Questions** are welcome at any time

Sail theory — 15 min

[Share pages from handout on screen to illustrate/demonstrate this section]

Properly trimmed sails have wind blowing along the sail smoothly from the front edge to the back edge along with sides of the sail. The sail is curved to **bend** the direction of the wind, and to force wind going around the outside (downwind) side of the sail to flow a little faster than wind coming across the inside (upwind) side of the sail.

- **Drive** is the push the boat gets from wind on the windward side of the sail

- **Lift** is the pull the boat gets from wind along the downwind side of the sail. We call this lift because it's the same effect that makes airplane wings lift an airplane.
- Sails eased out too far get less push and less lift from the wind
- Sails in too far gets push in wrong direction and little/no lift

Downwind and upwind — 5 min

- **Downwind** - Most of motive force on boat is drive with very little lift
- **Upwind** - Most of the motive force on the boat is from lift, with a minor portion coming from drive.

Wind angles — 15 min

What matters to sailors isn't what direction the wind is blowing, but what direction the wind is blowing *relative to the boat*.

[Share wind quadrant in study guide to illustrate/demonstrate this section.]

Lots of vocabulary relating to relative wind directions:

- | | |
|------------------|------------------------------|
| ○ Points of sail | ○ Leeward |
| ▪ Close hauled | ○ Starboard tack / port tack |
| ▪ Close reach | ○ Heading up |
| ▪ Beam reach | ○ Luffing |
| ▪ Broad reach | ○ Bearing away |
| ▪ Run | ○ Tacking |
| ○ By the lee | ○ Gybing |
| ○ No sail zone | ○ Head-to-wind |
| ○ Head to wind | ○ Wing and wing |
| ○ In irons | |
| ○ Windward | |

Sailboat nomenclature — 10 min

[Share vocabulary photos to illustrate the next three sections.]

- | | |
|-------------|-----------------|
| ○ Bow | ○ Keel |
| ○ Stern | ○ Rudder/tiller |
| ○ Port | ○ Mast |
| ○ Starboard | ○ Boom |
| ○ Cockpit | ○ Tiller |
| ○ Cabin | |

Rigging — 10 min

Standing rigging

- Forestay
- Backstay
- Shrouds

Running rigging

- Halyards
- Sheets

Sail parts — 5 min

- Luff / leach / foot
- Head / tack / clew
- Battens
- Cringles

- Sail slides / bolt rope
- Hanks
- Reef points

Jibs and jib types

- Genoa
- Working jib
- Storm jib

Wind awareness — 5 min

In sailing, we must always be aware what direction the wind is blowing relative to the boat. There are two easy ways to tell what direction the wind is blowing relative to the boat.

- The masthead fly, the pointer at the top of the mast, points to where the wind is coming from. The masthead fly has two fixed red tabs that help you judge what point of sail you're on.
- Tell tales, ribbons or yarn on sails and rigging, indicate how strongly the wind is blowing and generally from what direction.

{Five-minute break}

Safety — 5 min

- **PFDs** must be worn at all times on Spinnaker Sailing boats
- The cockpit is the safest place on board
- When going forward, walk on **windward** side
- **Hold on** with one hand (but not on lifelines) when moving around boat
- When docking, step —**never jump**— from and to dock

Getting where you want to go — 30 min

[Share videos of tacking and jibing to give students a preview of what they'll be learning on the boat.]

Sailboats tack to get a point directly upwind ...

<https://www.youtube.com/watch?v=dU7L-ds-rTg>

- Select target for turn 90 degrees to windward.

- Note position of skipper's hand (and feet).
- Move tiller over about halfway to far side.
- Wait until boom passes to the new side of the boat and the sheet becomes taught.
- Lift tiller and move across the cockpit under it.
- Sit down and steady course toward target.

Instructor can show the video several times. After the first viewing, ask students what they notice. Use responses to elucidate how to perform the tack. Then show it again and point out things like:

- Turn speed differed from tack one to tack two.
- There's other traffic on the water.
- Skipper looked around and up before the maneuver.
- Other items.

Talk about things that often go wrong for beginners:

- If you steer in the wrong direction you could accidentally jibe.
- If you don't steer far enough or re-center the tiller too soon, the boat can end up stuck in irons. If this happens, try some strong jerks on the tiller to help turn the boat.
- If you steer too far, you won't make progress to windward.

Tacking changes the side of the boat that wind hits by turning the bow toward the wind. Another way to change the boat's orientation to the wind is by jibing, where the boat is turned away from the wind.

Share video - jibing the Merit 25 and discuss.

<https://www.youtube.com/watch?v=Z0xTzqkibNI&list=PLro6iuVO9dv-3VERj2-BGG3DvPW0rQqg7>

Some more vocabulary — 10 min

[Refer to above videos for these items]

- | | |
|-----------------------------|-----------|
| ○ Heeling (note from video) | ○ Forward |
| ○ Trim / ease | ○ Aft |
| ○ (Over trim / under trim) | ○ Beam |
| ○ Reefing | ○ Abeam |
| ○ True wind / apparent wind | |
| ○ Under way | |

On the Water — Day 1

Find your boat assignment in the Spinnaker classroom before class.

Check out and check in your boat here:

<https://www.spinnakersailing.com/instructor-check-list/>

Review and terminology — 15 min

Advice to Instructors:

Complete this section on the grass next to Spinnaker

Wind awareness - On the grass next to Spinnaker office

- Observe wind direction from external signs - flags, telltales, sitting birds (will face into wind), other sources
- Sense where wind is on your face
- Discuss true wind vs. apparent wind

Tacking

- Consider having students use the red tube “boat” to practice tacking upwind on the lawn.

On the dock

On the boat in the dock — 45 min

Safety

- Getting on and off boat
- Holding on
- “Coming on board”
- Cabin top safely closed

Demonstrate and practice with winches

- Winch turns only one way — clockwise.
- Line goes around clockwise.
- Winch only works with tension on line.
- Winch handle adds leverage.
- Never let fingers/hands get inside of wrap
 - palms toward winch at all times
 - use cranking position for hands

Demonstrate how to wear PFD

Should fit snug and not ride up. Students should know how to instruct others on PFD use.

Review checklist for sailing - with crew in Merit cabin

[Use the Merit 25 Check-Out Form:

<https://www.spinnakersailing.com/members-only-forms/merit-25-check-out/>]

- Wearable PFD for each person
- Throwable PFD
- Horn/whistle
- Flares/visual distress signal

- Fire extinguisher (Type B at least)
- Registration
- Bilge pump handle
- Bucket
- Anchor and rode
- First aid kit
- Winch handle
- (Water)
- (Chart)

Sail handling

Demonstrate how to prepare mainsail

- Cabin top closed for safety when anyone is on deck.
- Sail cover off — Discuss how to fold cover.
- Halyard onto mainsail head.
- Mainsheet uncoiled.
- Vang off.

Demonstrate how to prepare the jib

- Sheets have stopper knots.
- Sheets uncoiled and ready to use.
- Locate furling line and note where to uncleat.

Demonstrate how the skipper goes through a tack

Demonstrate what the jib trimmer does during a tack

Leaving the dock

- Before casting off, the instructor demonstrates how to handle lines and cast boat off from dock. Instructor describes process of leaving the dock:
 - Skipper asks “Is everyone ready cast off?”
 - After positive response from all, skipper checks for traffic, and says “Cast off!”
 - Dock crew propels boat out of slip and steps aboard and onto foredeck to monitor for traffic.
 - Skipper slowly backs out of slip and onto course to leave marina.
- Demonstrate how crew will raise the mainsail.
- When everyone is ready, with instructor at the skipper, cast off and head out onto the water.
- When in safe position to do so, raise mainsail.

Heading up and Bearing Away, Tacking and Gybing — 45 to 60 min

Instructor should give each student a turn at the tiller, starting off by steering a roughly straight course, experimenting with how the boat maneuvers. Then, do a tack.

Choreography for tacking

- a. Skipper steadies on roughly close-hauled course and selects a visual target for tack.
- b. Skipper says “Prepare to tack.”
- c. Each crew member says “Ready.”
- d. Skipper says “Tacking” and eases the tiller to leeward.
- e. After boom passes the cockpit centerline, the skipper raises the tiller, transfers his/her seat to the opposite side and eases the tiller down in front of him/her.
- f. Skipper makes course corrections to put the boat on a proper course.
- g. Discuss how the tack went.
- h. Do another tack.
- i. Move to next student.

Choreography for jibing

- a. Skipper steadies on broad reach.
- b. Skipper says “Ready to jibe.”
- c. Each crew member says “Ready.”
- d. Skipper tells Mainsail trimmer to move to leeward side.
- e. Skipper moves to leeward side.
- f. Skipper tells Mainsheet trimmer to “center the main” (keeping sheet out of cam cleat)
- g. Skipper says “jibing” and gently eases tiller slightly to windward.
- h. When Main changes sides
 - i. Main sheet trimmer quickly eases it completely.
 - ii. Skipper brings tiller back to center to prevent boat from rounding up.
- i. Skipper steadies on new broad reach course.
- j. Jib crew handles jib sheets as necessary (Never let both sheets go simultaneously).
- k. Each student in turn practices jibes.

Unfurl jib

1. Instructor guides crew to unfurl jib.
2. Instructor demonstrates how to trim jib.
3. Instructor reminds crew how to handle jib during a tack.
4. Instructor asks students to perform a tack.
5. Discuss how tack went.

Tacking jib —(This assumes one crew member handles both jib sheets. Instructor can adjust for two people handling jib.)

1. On skipper’s command to “prepare to tack,” jib crew ensures windward jib sheet is ready to haul in after tack and moves to leeward side and prepares to release old jib sheet.
2. Crew members reply “Ready.”
3. After skipper begins tack and jib begins to luff, jib crew releases the old jib sheet.
4. Jib crew hauls in new jib sheet as soon as jib leach crosses in front of mast.
5. Jib crew trims sheet all the way in for the new close-hauled course.
6. Each student practices handling jib during tacks.

Let's go sailing! - 2 hours

- Practice holding steady course.
- Practice coming up, bearing away.
- Crew practices trimming/easing main and jib to match course.
- Everyone practices wind awareness — observing masthead fly, telltales on shrouds, telltales on sails
- Point out feel of weather helm.

More vocabulary - to discuss under way

- Beam (width) of boat
- Abeam — straight off side
- Under way
- Steerageway
- No way on
- In irons (head to wind and not moving)
- Eye of the wind
- Head to wind
- Windward/leeward
- Luffing
- Heading up
- Bearing away

Choreography for returning to the dock

- Sail to area with plenty of windward room
- Lower engine into water, start and put in gear.
- Motor head to wind.
- Furl jib.
- Drop main and secure to boom with sail tie(s).
- Rig fender(s).
- Motor to dock area, point boat 45 degrees toward end of leeward dock finger for boat's slip.
- Ease starboard side of boat onto the dock.
- Crew member, standing at shrouds outside lifelines facing inboard, steps onto dock with bow line (**NO JUMPING!**) and ties takes a turn on the cleat near the boat's bow.
- Instructor or another crew member ties the stern line to the dock cleat near the stern.
- Bow line is secured to cleat and extension is used as a spring line.

Put boat away — to be completed in time to let students head home by end of lesson time

- Flake main on boom.
- Tie gaskets on main.
- Main halyard around shrouds and onto mast ring.
- Disconnect engine fuel, run fuel dry in engine.
- Fuel connector end suspended in cockpit and above level of fuel in tank.
- Raise, tilt engine.
- Sail cover on main sail.
- Coil mainsheet, DON'T tighten down mainsheet.

- Attach pigtail to back of boom.
- Ease backstay tensioner.
- Hang winch handle over edge of seat shelf in cabin so it is visible.
- Coil/stow lines — jib furling line, main halyard, jib sheets.
- Tiller out of the way in leeward in position.
- Fender are in position, tied with daisy chain.
- Boat tied off with bow line, stern line and forward spring lines only.
- Wash boat down.

Zoom Classroom — Day 2

Right of way rules — 15 min

[Share appropriate illustrations in study guide as examples]

Burdened vs. stand-on vessel

- Burdened must keep clear
- Stand-on vessel must maintain course and speed (opposite from right-of-way rules when driving!)

Power vs. power

(Any boat under power, including a sailboat with engine running, is considered under power)

- Crossing: The boat on the other boat's right is the stand-on vessel (similar to right of way rule for cars at a four-way stop).
- Head-on: Neither boat is the stand-on vessel. In absence of any other arrangement between the two boats, each must turn to starboard to pass the other port-to-port.
- Overtaking: Vessel overtaking must keep clear of the vessel being passed.

Power vs. sail

- Powerboats must keep clear of sailboats.
Exceptions:
 - When sailboat is overtaking powerboat, sailboat keeps clear.
 - When power vessel is restricted in ability to maneuver by depth, size or job they are performing.
 - When the motor vessels is experiencing mechanical difficulty.

Sail vs. sail

- Crossing or head-on: Starboard tack vessel is the stand-on vessel. (Note that this differs from rule for powerboats).
- If on same tack, leeward boat is the stand-on vessel.
- Overtaking: Vessel overtaking must keep clear.

General rules

- Any change made by a burdened vessel must be *substantial* and *in sufficient time* for the other skipper to see clearly that action has been taken in time to avoid a collision.
- It's often possible to see if you're on a collision course if the bearing to the other boat doesn't change over time and the two boats are getting closer to each other. The maritime expression for this is "Steady bearing, closing range."
- It is the duty of every skipper to avoid collisions. When it appears to a stand-on vessel's skipper that the burdened vessel is not taking appropriate action to avoid a collision, the stand-on skipper must take action to avoid collision.

Note that when under sail, the sailboat's skipper may have a considerable blind spot due to the jib and may not see a boat or other obstruction that must be avoided. Other crew members must assist.

Wind shifts — 5 min

The good kind and the bad kind...

- Lifts are when the wind shifts such that your sails need to be eased to remain properly trimmed — The wind moves aft relative to the boat
- Headers are when the wind shifts such that your sails luff — The wind moves forward relative to the boat.

{5-minute break}

Crew overboard recovery - 20 min

[Share pages from the study guide or from the crew overboard guide]

Instructor describes Figure-8 maneuver

- Alert: Someone yells "Crew Overboard."
- Someone throws (pantomimes throwing) flotation toward the COB to help keep COB visible to vessel crew.
- Skipper assigns a spotter to keep eyes on and point to COB.
- Skipper puts boat on a beam reach or slightly above.
- Skipper slowly counts to 15.
- Skipper quickly tacks around to a broad reach (crossing wake of former course).
- When COB is nearly abeam of bow, quickly turn boat toward COB without trimming main sail.
- Skipper verifies mainsail can luff.
- If main sail can luff, skipper or crew uses main sheet falls and slow-sail toward COB aiming slightly to windward of COB.
- Several boatlengths from COB, mainsheet falls are released to control the speed of boat.
- As bow passes COB, skipper turns boat slightly to windward (without tacking!) to help slow boat and to move stern toward COB.
- Stop vessel abeam of and to windward of victim.
- Pick up victim on leeward side of boat.

Notes: In a true COB situation, getting the person on board is a major task and may require further steps. Also, in a real COB situation, you must notify Spinnaker Sailing either by cell phone or by VHF radio. You may also need to notify the Coast Guard.

What's Next — 5 min

Instructor should take a few minutes to discuss with students what their next steps could be after passing this course

- Practice sails — free for members.
- Afternoon sails — free for members.
- Next class: AS-103 for most students.

On the Water - Day 2

Outboard engine — 15 minutes

Tilt, mount and engine controls

- Instructor demonstrates with crew on dock:
 - The tilt lever.
 - Lowering/raising the engine mount.
- Point out the controls:
 - Choke
 - Throttle
 - Transmission lever
 - Starter rope
 - Turning the motor

Pre-start engine check

Instructor demonstrates each of the following:

- Boat secure to dock, engine secure on mount.
- Fuel in tank.
- Tank air lock open.
- Pivot engine tilt to vertical.
- Lower engine into water.
- Connect fuel line to engine — ensure no fuel drips into water, and that connection is attached securely.
- Pump fuel line bulb until it's firm.
- **Starting the motor**
 - Engine in neutral.
 - Pull choke fully on.
 - Set throttle to just above idle.
 - Gently pull starter rope, possibly several times to lubricate engine parts.
 - If engine doesn't start with gentle pulls of starter, pull starter cord more firmly.
 - When engine starts, push in choke and set throttle to run engine at low speed.
 - Check cooling water indicator flow is running.
 - (If engine doesn't start, make sure bulb is firm and fuel connection is secure. Or engine may be flooded: Choke in and keep attempting to start).
 - Turn off motor by pressing and holding red kill button.

Engaging and steering

- Practice engaging forward and reverse and setting to neutral.
- Pause in neutral for a beat when switching from forward to reverse or from reverse to forward.
- Run engine in reverse slowly when leaving dock.

- Steer boat with tiller and engine until vessel has a knot of way, then center motor and steer with tiller.

Under way — 3 hours

- Practice using motor, turning with engine and tiller, engaging and disengaging engine gear.
- Practice approaching/leaving dock.
- Practice sailing on all points of sail.
- Practice identifying points of sail.
- Practice identifying wind directions relative to boat.
- Practice tacking, jibing.
- Practice figure-8 crew overboard.

AtoNs — Discuss channel markers

- Red vs Green/Triangle vs Square/Even vs Odd.
- “Red Right Returning.”

Finished with motor

- Remove fuel line and let engine continue to run until it dies.
- Raise engine mount.
- With engine in forward gear, pull to tilt motor up one click (not two).

Knot practice — 15 min

- Bowline
- Figure eight
- Cleat hitch
- Clove hitch
- Round turn and two half hitches
- Reef knot

Zoom Classroom — Day 3

Classroom time on Day 3 is dedicated entirely to the review questions to help students prepare for the AS-101 written test.

Let students know they can schedule their test almost any time they wish. They simply need to email the Spinnaker office with their preferred time. Test can be scheduled between 9 a.m. and 4 p.m. any day. The office is open every day of the year except Christmas and New Years Day.

The test is 100 multiple-choice questions, which should take about an hour to complete.

[Share the review questions on screen]

One way to save time: Note that Questions 1 through 5 and Question 8 are all vocabulary items. Ask students to review those questions silently and to mention any that are not clear.

A few of the vocabulary items will NOT be clear because students have not heard them before in this class. Now is the time to talk about those, using vocabulary photos shared on screen as necessary. Among these are likely to be items like Hanks, Genoa, Working Jib, Storm Jib, and possibly Spinnaker.

[The image sailplan.jpg can be used to discuss jib sizes.]

On the Water - Days 3 and 4

Practice all the skills taught during the first two OTW sessions.

Practice entering dock with each student at helm.

Practice leaving dock with each student at helm.

Practice knots on shore until all students are comfortable tying all six required knots.

Latest update: March 24, 2026 9:56 AM