How to Rig and Launch a Sunfish

1) **Pick up equipment from the MTC Building:** You need a Sail, Dagger Board and Rudder.

2) **Untie the two lines wrapped around the sail:** To untie the chain stitch, find the ends of the lines, loosen them and then pull on them. All of the line should fall off from the sail easily.

3) **Bring a hull down to the lake:** Use a dolly. If the hull is on the rack you will need 2 people to lift it down to the dolly. Also bring a mast down from the rack storage tubes. When you get the boat into the water, point the bow into the wind.

4) **Put the equipment onto the boat:** Gently place the sails onto the PORT (left) side of the hull - with the boom on the bottom. Try to position the brass gooseneck ring directly over the mast-hole in the hull. Put the tiller and dagger board into the cockpit.

![Figure 1](image-url) Place the sail on the Port (left) side of the deck, boom on the bottom, gooseneck over the mast hole.
5) **Check the sail rigging positions:** For comfortable sailing in light winds the halyard knot should be 94” from the tack and the gooseneck should be 17” from the tack. Use 100”/19” in heavy winds. Many Sunfish racers rig around 106”/15”, but at this position the boom will be very close to the deck. If you need to re-tie the halyard knot see the knots section later in this document.

6) **Feed the halyard into the mast eye:** Feed several feet of the halyard thru the eye “A” at the top of the mast. Clean any sand off from the bottom of the mast and then stick the bottom of the mast thru the goose-neck ring and then down into the mast hole. Rotate the mast so that the halyard exits eye “A” towards the starboard side of the boat.

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7) **Tie the main sheet to the bridle:** Tie a bowline knot in the end of the main sheet so that its loop can slide freely on the bridle at the back of the boat. Make sure the main sheet runs thru the two boom blocks (pulleys) as shown in figure 3 and then pass the main sheet thru the main sheet block “F”. Tie a stopper knot at the end of the main sheet “G”.

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8) **Install the Tiller:** Slide the tiller “H” and the tiller extension “I” UNDER the bridle “J” at the back of the boat.

9) **Attach the Rudder:** Push the rounded end of the spring pin (called the “pintle”) so that you can slide the pintle into the two slots on the receiving bracket (called the “gudgeon”). Note that some pintles push “up” while other push “down”. Release the spring pin and make sure that the pin is FULLY engaged so that it can’t fall out while you are sailing.

![Gudgeon Bracket](image)

![Pintle](image)

Figure 4. To attach the rudder, push the Pintle (depending on the rudder you may need to push UP or DOWN), then slide rudder onto Gudgeon bracket, then release the Pintle and check to see that bracket is fully locked in place.

10) **SAFETY GEAR CHECK: EVERYONE MUST WEAR A PFD WHEN SAILING ANY COMMUNITY SAIL PROGRAM (CSP) BOAT.** Also make sure your boat has a bailer and sponge. PFDs, bailers and sponges are available in the MTC building if you need one.

11) **Raise the Sail:** Pull down on the halyard at location “B” (figure 3) while also lifting the boom/goose-neck up. Keep pulling until the upper halyard knot is at the top of the mast. While pulling down on the halyard, pass the end of the halyard thru the block “C” (or fairlead) near the base of the mast and then tie a cleat hitch to the cleat “D”. Coil the remaining halyard and tuck it under the portion of the halyard running from “C” to “D”. Check to make sure all sail clips are snapped together.
Figure 5. Sunfish sail clips can be snapped open/closed by hand. More clips are available in the MTC if needed

**Launching the Sunfish**

12) **Launch the boat:** Push the boat towards the middle of the lake and quickly climb aboard.

13) **Lower the Rudder:** Push the tiller towards the back of the boat to lower the rudder.

Figure 6. Push Tiller towards back of boat to lower the rudder.
14) **Lower the Dagger Board**: Once you are at least 3 boat-lengths from shore, insert the dagger board fully (if you do this too soon the dagger board may stick into the mud at the bottom of the lake). Most Dagger Boards have an elastic cord tied to the forward edge of the dagger board. Slide the loop in the elastic cord over the forward facing cleat horn where you tied the halyard.

![Figure 7. Attach elastic cord from front of dagger board to the front horn of the cleat.](image)

15) **Sail**: Sit on the side of the cockpit, facing the sail. Have fun.
When you are finished sailing the Sunfish...

1) **Sail back to Sunfish Beach:** Pull up the centerboard ½ way when you are about 3 boat lengths from shore. As you reach the beach, turn the boat into the wind, remove the dagger board, and step off the boat. Please minimize any amount of dragging the hull on the sand and rocks at the beach as this is very hard on the hulls.

2) **De-rig the sailboat:** Revere the steps you used to rig the boat. If the sail is wet, allow it to dry on the grass before putting it away.

3) **Drain all water out from the hull:** Before you stow the sailboat, remove the drain plug on the starboard side and then tip the boat on its side with the drain plug next to the grass and the port side pointing towards the clouds. Allow ALL water in the hull to drain out of the hole. Once the water stops coming out, replace the drain plug and return the hull to the rack.

![Figure 8](image.png)

Figure 8. Unscrew the drain plug and tip the hull on its side to allow water to drain out of the hull

4) **Fold the sail:** Place the boom and gaff together, and making a triangle out of the sail. Roll the sail triangle towards the boom and gaff.
5) **Tie up the sail**: Use a chain-stitch to tie the halyard around one half of the sail-bundle as shown in the diagram. Then use a chain-stitch to tie the main sheet around the other half of the sail-bundle.
6) Return the sail, dagger board, rudder and PFDs to the MTC building.
Useful Sailing Information:

**PARTS OF THE SAIL**

**JIB**
- FORESTAY
- HANKS
- LUFF
- LEECH
- TACK
- CLEW
- JIB SHEETS (2)

**MAIN SAIL**
- HEAD
- LEECH
- LUFF
- BATTEN POCKETS
- MAIN Halyard
- TACK
- FOOT
- CLEW
- BOOM
DIRECTIONS ON A SAILBOAT

SHORT WORDS:
PORT
RED
LEFT

LONG WORDS:
STARBOARD
GREEN
RIGHT

BOW
PORT
STERNE
STARBOARD
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CLOSER TO WIND:
SMALLER ANGLE BTW BOAT AND BOOM

FURTHER FROM WIND:
LARGER ANGLE BTW BOAT AND BOOM

NO-GO ZONE

“BEATING”
sailing upwind

“REACHING”
sailing 90 degrees to the wind

“RUNNING”
sailing directly downwind
TACKING:
1) Push Tiller TOWARDS-SAIL-TO-TACK
2) Bow of boat passes thru the wind
3) Angle btw boom and centerline is SMALL
4) Don’t adjust sail during tack
5) End tack by centering tiller as soon as proper sail shape returns

JIBING:
1) Pull Tiller AWAY-FROM-SAIL-TO-JIBE
2) Stern of boat passes thru the wind
3) Angle btw boom and centerline is LARGE
4) Keep main cleated, but pull-in mainsheet above the cam-cleat at start of jibe
5) Allow mainsheet to run thru your hand as boom crosses the boat. Center tiller when wind fills opposite side of sail
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**SAILING & RIGHT-OF-WAY**

B has right-of-way because B is on **STARBOARD** tack

C has right-of-way because C is **DOWNWIND** of D

E is a sailboat

F is a motor boat

G is a peddle-boat

Human powered boats (peddle, kayak, canoe, paddleboards) have right-of-way over all other boats.

Sailboats have right-of-way over motor boats while the motor boat is powered.

Sailboats must give-way to anchored, uncommanded and/or fishing boats.
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**BOWLINE KNOT:**

Puts an attachment loop at end of a line – strong knot, good for halyard-to-head of sail

![Diagram of Bowline Knot]

Make a loop so the
“tree” will have “roots”
that go *under* the
“ground”

Pass the “rabbit” thru the
grommet. The “rabbit”
jumps up out of the “hole”

Rabbit runs around the
tree and goes back down
the hole. Pull knot tight.

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**FIGURE-8 “STOPPER” KNOT:**

Creates a knot in a line so it wont
slip thru a small opening

![Diagram of Figure-8 Stopper Knot]

Squirrel runs up to top of tree then part-way back down. She then runs around the
tree and jumps thru the loop. Final knot
looks like a number “8”.

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**TWO-HALF HITCHES:**

Tie end of a line to a fixed structure

![Diagram of Two-Half Hitch]
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**CLEAT HITCH:**
Tie a line to a cleat

If line is being pulled in this direction...

... wrap around this side of the cleat neck first, then the other side of the cleat neck and THEN over the top of the cleat

A cleat hitch should end up with ONE line going over the top of TWO lines on top of the cleat. Do NOT apply extra wraps to the cleat – they will NOT add strength and just make it harder to undo.

**SQUARE (REEF) KNOT:**
Tie two ends of lines together temporarily

This knot is easy to end up as a very weak "granny knot". Make sure yours is right: it should look symmetrical like the final figure above.
SUNFISH HALYARD-TO-GAFF KNOT:

Follow these steps to tie the sunfish halyard to the Gaff. This knot needs to be very tight so that it will not slide along the Gaff. After tying the knot, pull several times, back-and-forth as shown, on the part of the halyard that will run to the top of the mast, to tighten the knot. For added security, after passing the end of the line as shown in step #5 above, tie a simple overhand knot in this end to keep it from slipping out from under the last loop.
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Lake Arthur Sailing Area