

11

CHAPTER

Capsize Recovery

KEY CONCEPTS

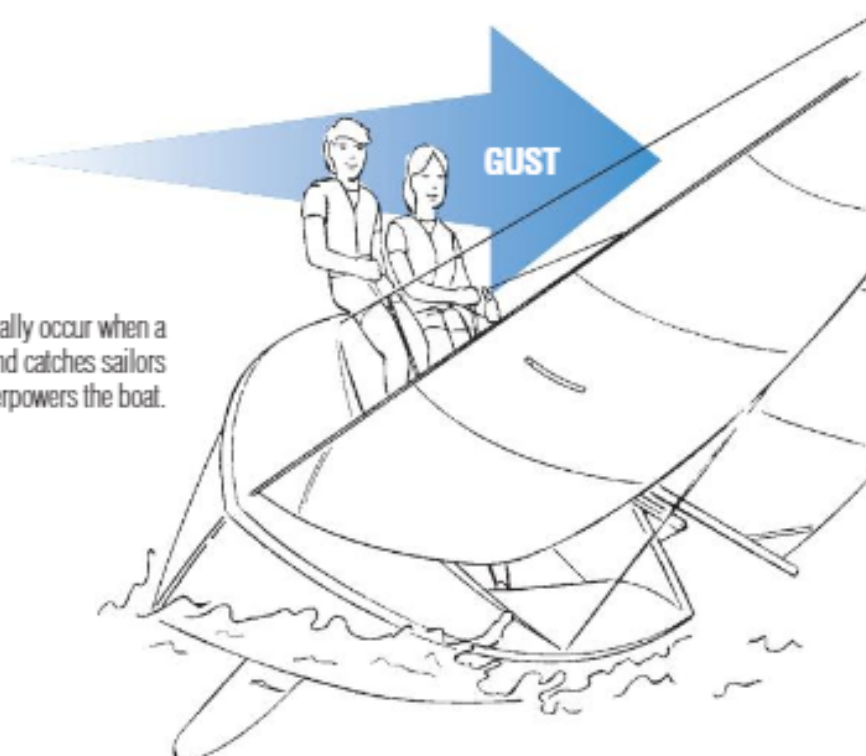
- Windward and leeward capsize
- Capsize safety rules
- Multihull recovery method
- Traditional recovery method
- Walkover recovery method
- Turning turtle
- Entering and exiting

Capsizes usually occur when a sudden gust of wind catches sailors by surprise and overpowers the boat.

As you learn to sail, or become more experienced and start sailing in stronger winds, there's a chance your boat may capsize. It is nothing to be afraid of — it's a natural part of small boat sailing. Even the most experienced sailors capsize. Your instructor will show you the safest and quickest ways to recover from a capsize and once you have mastered the recovery techniques, you may even find that it's fun.

Most centreboard boats are self-rescuing, which allows you to right the boat and quickly begin sailing again. Self-rescuing boats have built-in buoyancy which keeps the boat from swamping and makes capsize recovery easier. (Make sure the drain plugs in air tanks or flotation bags are securely fastened before you go sailing.)

There are three ways a boat will capsize. The most common way is for the boat to roll over to leeward, away from the wind. The sails will lie on the water downwind from the boat. The second way, the boat rolls over to windward, toward the wind. This happens less frequently, but when it does, it usually happens quicker. The third way, mostly occurring in multihulls, is called a *pitchpole*, when the bows dig into the water and the boat rolls over in a forward direction.



Causes of Capsize

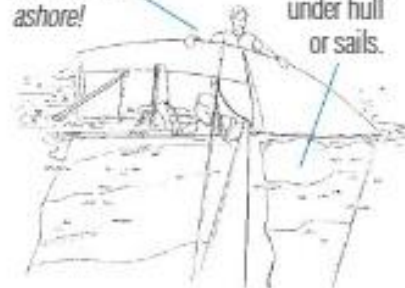
There are a number of reasons why sailboats capsize:

- ▶ A sudden gust of wind or change in wind direction catches sailors by surprise and overpowers the boat.
- ▶ A poorly executed gybe unbalances the boat and makes it heel or roll too much.
- ▶ A broken tiller or hiking strap puts the boat out of control.
- ▶ Letting go of the tiller or main sheet makes the boat suddenly turn or change its angle of heel.

There are ways to avoid capsizing. Most important is to sail with the main sheet uncleated, so that you are ready to release it quickly to depower the mainsail if a sudden gust hits. It's also important to keep the boat balanced by adjusting your weight and sail trim. If a boat heels too much, you will lose control. Avoid sudden and unexpected changes in sail trim and weight position that will unbalance the boat, and remember to watch for gusts so that you are prepared to react.

Stay with the boat after capsizing! *Never try to swim ashore!*

Avoid swimming under hull or sails.



The Capsize Safety Rules

If you do capsize, there is one important rule that you should always remember: **STAY WITH THE BOAT!** Even if you don't think you can turn the boat upright, **do not try to swim to shore!** The shore is always further than it looks. If the boat cannot be righted, climb up onto the hull. You will be more comfortable, and rescuers will be able to see you better. Stay with the boat and you will be rescued sooner. When swimming around a capsized boat, you should **avoid swimming underneath the hull or sails!** It is easy to get confused, lose your orientation or get caught.

To avoid capsizing, sail with main sheet uncleated and be ready to shift your weight.

Move weight out by hiking to counteract heeling.

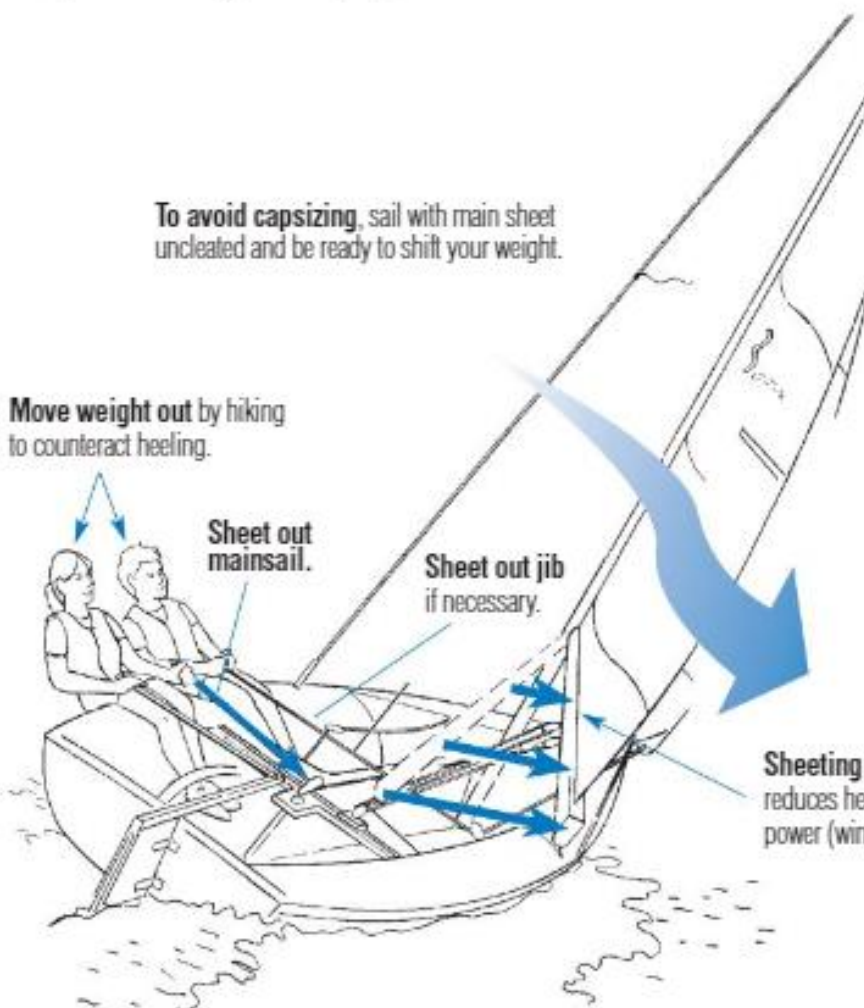
Sheet out mainsail.

Sheet out jib if necessary.

Sheeting out mainsail reduces heeling by spilling power (wind) from the sail.

Multihull Tip...

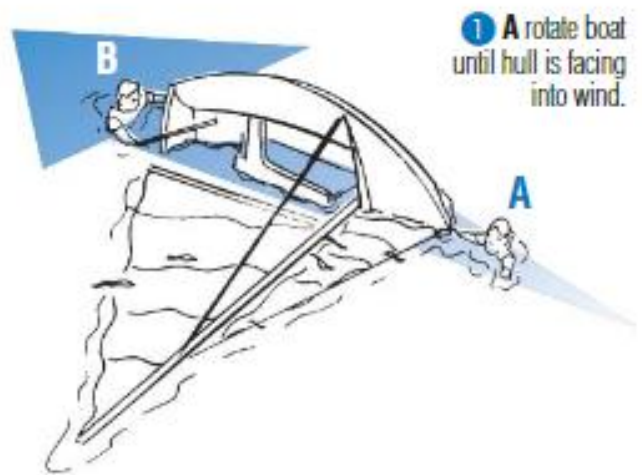
To avoid pitchpoling (a forward capsize), both skipper and crew should move further back toward the stern as the wind increases. This will counteract the tendency of the boat to dig its bows into the water at higher speeds.



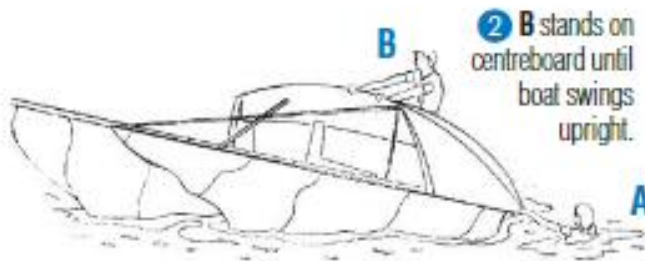
Traditional Recovery Method

With the *traditional recovery method*, the boat is righted with no one in it. However, the boat can quickly capsize again, especially in stronger winds if no one is in the boat to balance and control it. To minimise this problem, position the boat with its bow pointed into the wind before it is righted. This may require the crew to rotate the boat in the water, which can be hard work. Once the boat is righted, the person at the bow holds the bow into the wind until the other person climbs in and takes control.

Traditional Recovery



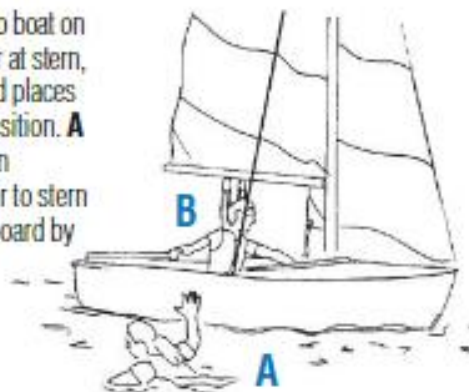
1 A rotate boat until hull is facing into wind.



2 B stands on centreboard until boat swings upright.

Meanwhile, A holds boat in position.

3 B climbs into boat on windward side or at stern, gains control and places boat in safety position. A swims around on windward side or to stern and is helped aboard by B.



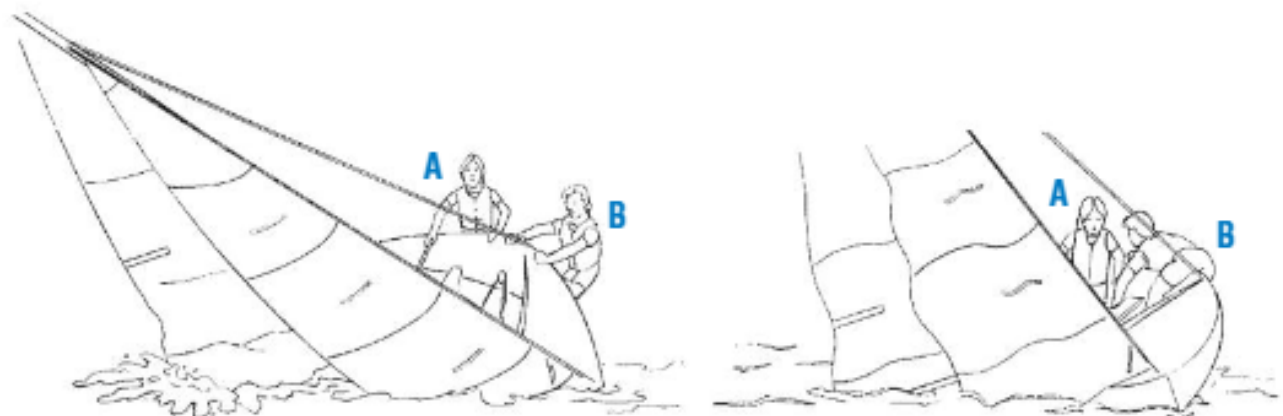
Walkover Recovery Method

Many sailboats can be righted as the capsize occurs by using the *walkover method* (this procedure requires practice and good timing). When a boat starts to capsize, it often drags its boom in the water — slowing the capsize. Acting quickly, a sailor can swing over the high side onto the centreboard before the boat goes all the way over. This part of the manoeuvre is the most difficult and if the helmsman hesitates too long, the boat will tend to turn upside down.

Once over the top, the sailor should place both feet on the centreboard and grip the edge of the boat or gunwale. As you lean backward, the boat will start to come up and you can scramble back into the cockpit.

All of this should be done quickly, in one fluid motion. In good weather and warm water, practise capsizing the boat on purpose and righting it, without getting wet, by using this method.

Walkover Method



Boom drags in water, slowing capsize.

① A and B climb over high side onto centreboard before boat capsizes completely.

② As boat starts to swing upright, A and B scramble back into the cockpit. This manoeuvre also works in singlehanded boats.

Capsize Problems

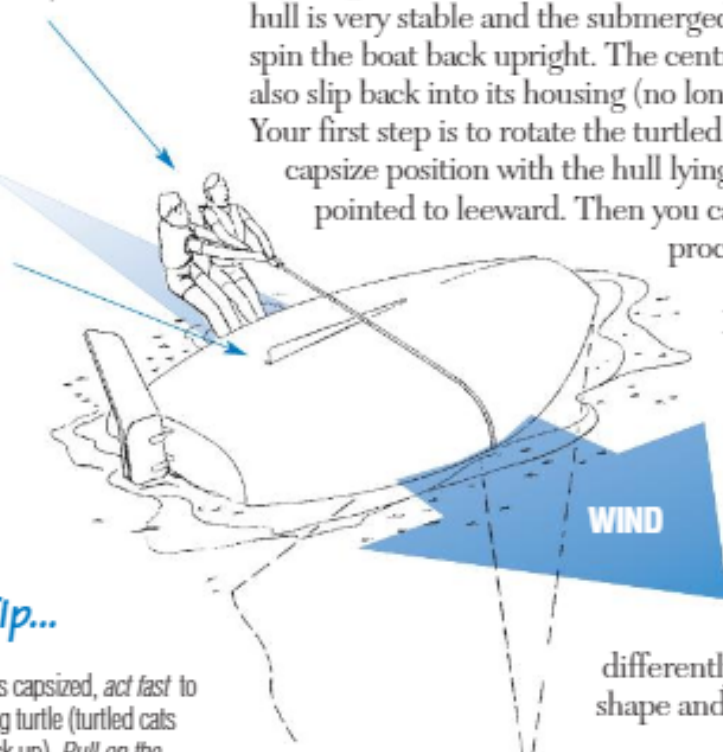
When your boat capsizes, it's possible for it to continue turning over until it's upside down with the mast pointing straight toward the bottom. This type of capsize is called *turning turtle*, or *turtling*. (To help prevent this, some boats have flotation built into the mast or sewn into the top of the mainsail).

Turtled Recovery Method

To rotate the boat to the normal capsize position, pull a sheet across the hull to the windward side, stand on the windward rail, and lean back.

Righting a turtled boat can be difficult, since an upside-down hull is very stable and the submerged sails will resist efforts to spin the boat back upright. The centreboard or daggerboard can also slip back into its housing (no longer in the "down" position). Your first step is to rotate the turtled boat into a horizontal capsize position with the hull lying on its side and the sails pointed to leeward. Then you can follow the usual procedure for righting the boat.

When boat turtles, the centreboard will often slide back into trunk. Pull the centreboard back to its down position after boat has been turned onto its side.



If you can't right the turtled boat by yourself, you will need help from your instructor or fellow sailors. However, you should learn how to right a turtled boat without assistance.

Each boat will respond differently, depending on the size, shape and weight.

Multihull Tip...

Turtled Recovery

Once a catamaran has capsized, *act fast* to prevent it from turning turtle (turtled cats are difficult to get back up). *Pull on the righting line* (step 3 in Multihull Capsize Recovery Tip) *as soon as possible!* If your cat turtles anyway, here's what to do...

1. Move to leeward stern and pull on the righting line. The combination of your weight, wind and waves will hopefully lift your windward bow out of the water.
2. Once the windward bow is well out of the water, move to the centre of the leeward hull while continuing to pull on the righting line. The boat will settle on its side. Continue pulling on the righting line until the mast is at the water's surface.
3. Follow the Multihull capsize procedure.
4. If you are unable to right your turtled catamaran, signal for help.

NOTE: Some older centreboard boats used for teaching sailing do not have self-rescuing characteristics. For these, outside assistance will be needed to help get the water out of the boat or tow it to shore. The problem with this kind of boat is that once you have turned it back upright, it floats very low in the water. With the boat nearly awash, it tends to tip over unless you take extra care to balance it. A person outside the boat may have to steady the boat by holding the gunwale, while another person bails rapidly with a bucket. If you need outside assistance, remember to stay with the boat until help arrives.

Mast in the Mud

If a boat turtles in shallow water, the mast can stick into the mud or sand. You will need to act quickly to prevent the mast from becoming bent or breaking loose from the boat. The helmsman and crew should get off the boat quickly, so their weight won't make the mast dig deeper into the bottom. To free the mast, try swimming the bow into the wind. If the mast won't free up, you will need outside assistance.

Entering and Exiting the Boat

During a capsize, there are preferred ways of leaving and reentering the boat. As the boat goes over, you should fall into the water feet first, *not* head first. Don't dive into the water. With a little practice, you will find it quite easy to drop into the water between the boom and the deck.

In a scoop recovery, one person is scooped into the boat and is then in a position to assist the second person. If both people are in the water when the boat rights, the stronger should enter the boat over the windward side of the transom and put the boat in the safety position. Once in the safety position, the other person should be helped into the boat, also over the windward side of the transom. It may take a three-count to get the person into the boat. Lift using your legs, not your back.

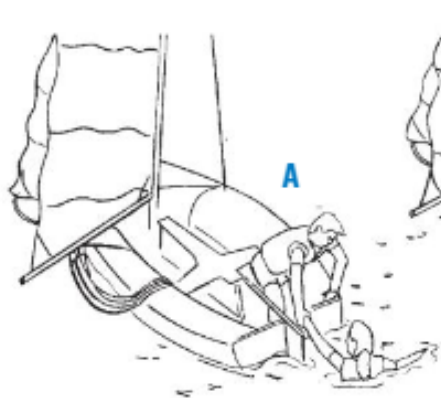
Quick Review

- ▶ Name three of the most common causes of a sailboat capsizing. (answer on p.58-59)
- ▶ Describe three ways to avoid capsizing. (answer on p.59)
- ▶ What is the most important safety rule after capsizing? (answer on p.59)
- ▶ Describe three capsize recovery methods. (answer on p.60-61)

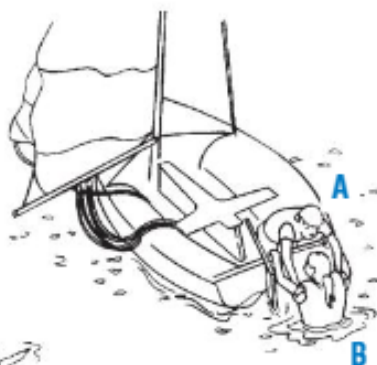
Think about It...

- ▶ What sail trim adjustments would be most helpful in preventing a capsize?
- ▶ After a capsize, what action would be most effective in preventing your boat from turning turtle (completely upside-down)?

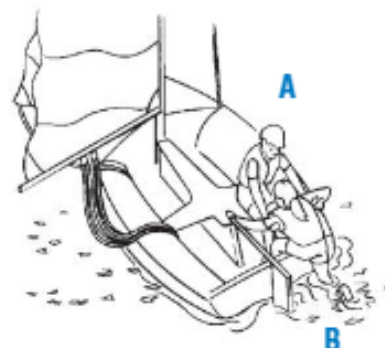
Helping a Person Back Aboard



- 1 After A has put the boat into the safety position, B approaches windward side of stern.



- 2 A grabs crew B under the armpits and starts a "3-count."



- 3 On the count of "3," A pulls B until his or her chest is over the transom. B swings a leg into the boat and climbs aboard.