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Capsizing: How to prevent it/How to recover from it

Shirley H. M. Reekie

San Jose State University, shirley.reekie@sjsu.edu

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Capsize prevention and recovery

Good sailing is a continuous process of building sailing skills. Shirley Reekie explains why small boats capsize and offers proven methods for prevention and recovery

If you are sailing a small boat, sooner or later you will capsize. Don't worry; it's all part of the sport. If you know what you're doing, most small sailboats can be righted from a capsize quickly and easily. Knowing how to prevent a capsize and how to recover from one will make you a more confident sailor.

Always wear a Coast Guard-approved personal flotation device (PFD) while you are practicing boathandling maneuvers, and be sure to tie loose equipment to the boat so that it is not lost overboard.

■ Prepare for puffs

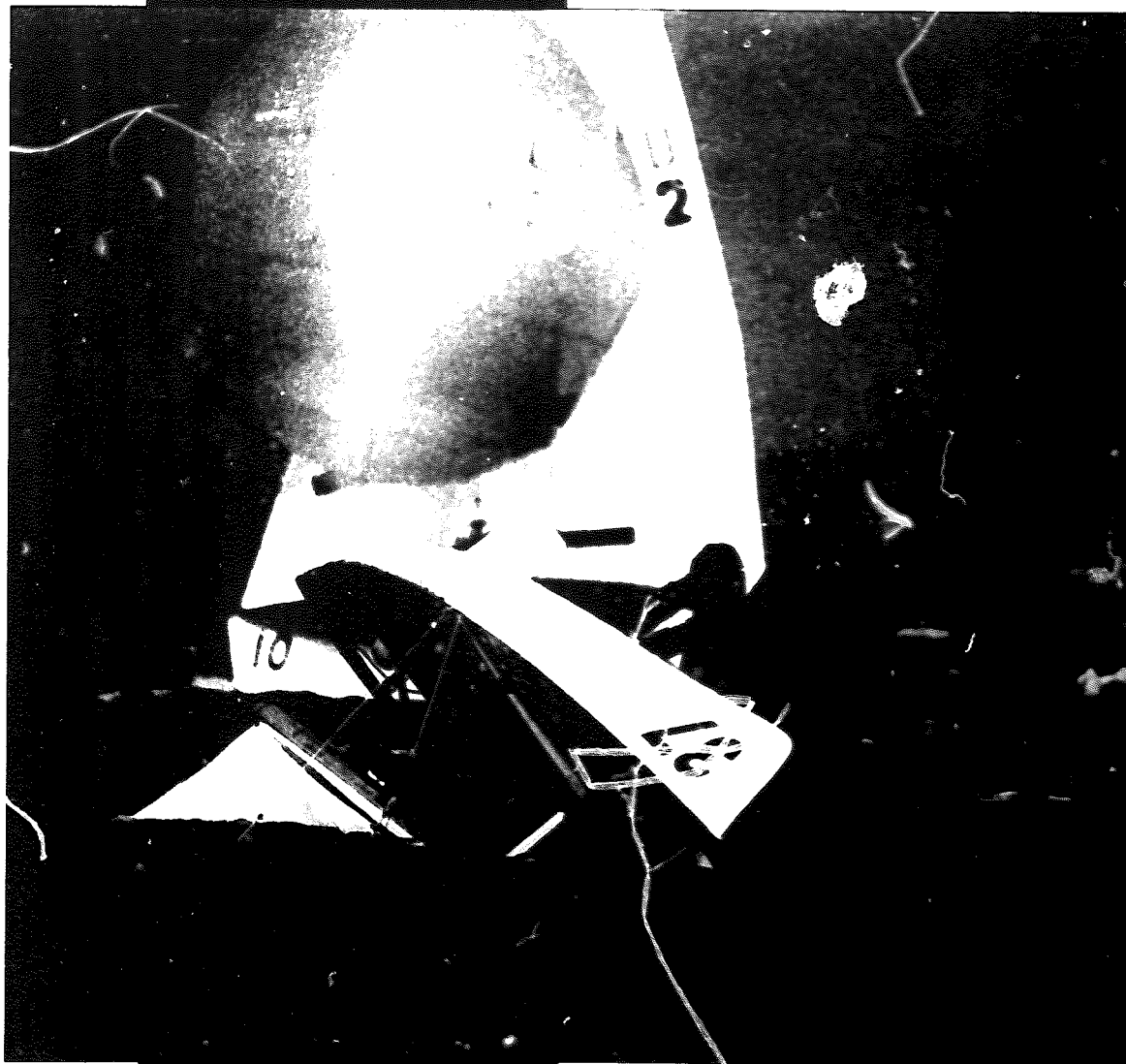
Windspeed is not constant. Watch a flag over a 30-second period in case you think otherwise. If a gust arrives while you are unprepared, you may capsize if you don't ease the mainsheet quickly enough. Look to windward every few seconds for signs of increasing wind. A ruffled patch of dark water indicates an approaching gust. Try to anticipate its arrival.

If you understand what causes capsizing, you are less likely to capsize. Remember, it is part of the game and part of the fun. When you are sailing upwind, forces act to heel your boat. When your boat heels so far that you cannot prevent it from continuing, you will capsize. The best way to prevent a capsize is by luffing, or easing the mainsheet. Contributing factors include sudden gusts, poor crew-weight placement, broken equipment, and improper maneuvering.

Luffing. A sailboat's driving force is the wind, and a good breeze makes the boat heel. Spill the wind out of the sail by easing the mainsheet. This ac-

boats heel more because of the curved, rounded shape of their bottoms. The chance of capsizing increases when the boat heels quickly.

Weight distribution. Always posi-



Almost all small-boat sailors experience a capsize. Learning to right your boat after isn't difficult; it's also a great confidence builder

tion reduces the angle of heel because the mainsail loses its power. Keep the tiller amidships. A sudden turn makes

tion crew weight where it keeps the boat level. In a gust, hike to windward to keep the boat level, but be sure you can get your weight back into the boat quickly or the boat may heel suddenly to windward. Although most capsizes occur to leeward, it is also possible to capsize to windward if you remain fully hiked after a gust has passed.

Illustrations by Tadami Takahashi

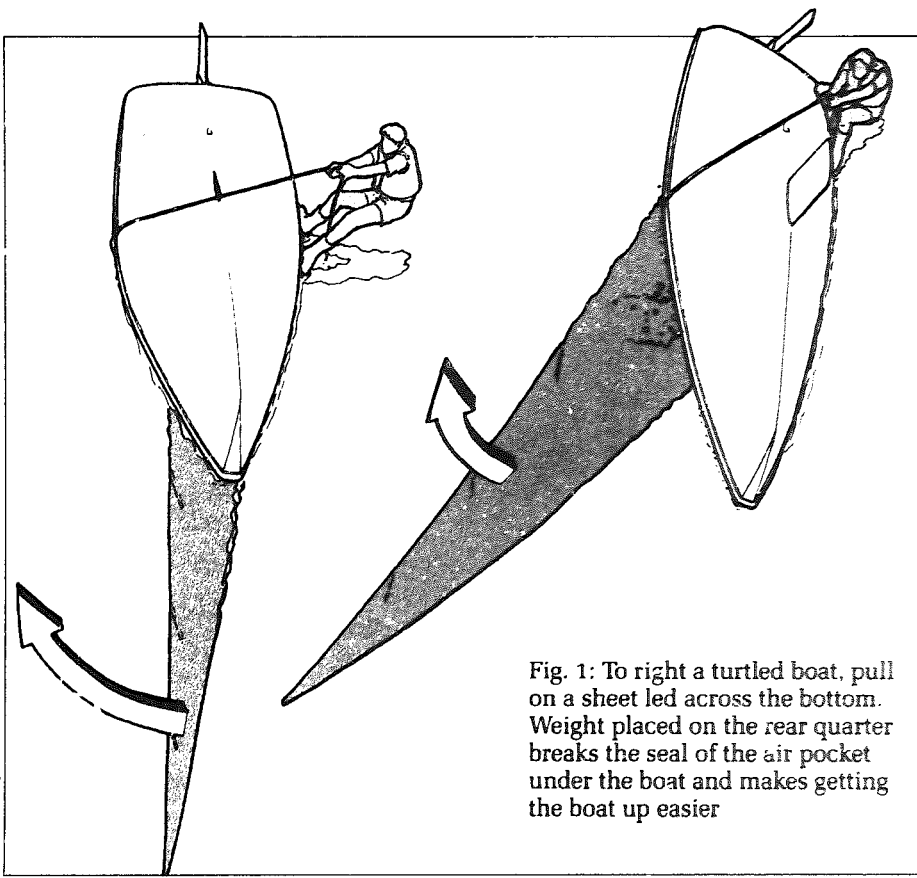


Fig. 1: To right a turtled boat, pull on a sheet led across the bottom. Weight placed on the rear quarter breaks the seal of the air pocket under the boat and makes getting the boat up easier

Downwind maneuvering. Most downwind capsizes result from poorly controlled gybes. There are two

points to remember: First, before gybing, check that the mainsheet will be free after the boom swings across.

After the gybe, let the sheet run out smoothly. Do not cleat the mainsheet.

Second, pull in the sheet prior to the gybe when you are on a broad reach. This helps keep the mainsail and boom under control because they swing through a smaller arc. When you see the mainsail begin its arc, center the tiller to slow the gybe. This will give you time to switch sides and concentrate on your course.

If such a maneuver is very difficult, or if there's too much wind, don't gybe at all. Instead, head up and come about from a close-hauled course. Then bear away to the new desired course.

■ Recovery methods

In most cases, capsizing is no big deal. In the event that you do capsize, there are several ways to right your boat.

Safety checks. Stay with your boat if you capsize. In most cases, you will be able to right the boat and continue sailing, but if not, an upturned boat is much easier for a rescuer to see than a head is. Make sure that everyone in the boat is safe and holding on.

Levering the boat upright. Swim the boat around so the bow is pointing into the wind. If you do not orient your boat correctly prior to righting, it

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may capsize again. Another method of turning the boat is to rock it a little while standing on the centerboard and let the wind catch the sails, turning the hull.

The crew should stay at the bow to maintain the orientation to the wind and to prevent the boat from turning turtle. Make sure sheets have been un-cleated. Next, swim to the centerboard and extend the board outward if it has retracted. Pull yourself up onto the centerboard and stand on it, but don't break it by standing too close to the tip.

You can also lever the boat while you are still in the water. Push down on the centerboard and pull on the upper gunwale. The crew continues to stabilize the boat from the bow. To get back on board, climb over the stern or the side. Help your crew back aboard, keeping the boat as upright as possible. Bail out the water, and you're off again.

If you become tired after many attempts, lower the sails and try again. Success is almost guaranteed without the sails' added resistance. Once the boat is upright, paddle to safety or rehoist the sails.

Recovering a turtled boat. Most boats that capsize remain on their sides. Sometimes, however, the boat continues to turn to a turtled, completely upside-down position (Fig. 1). If the boat is turtled, you can bring it

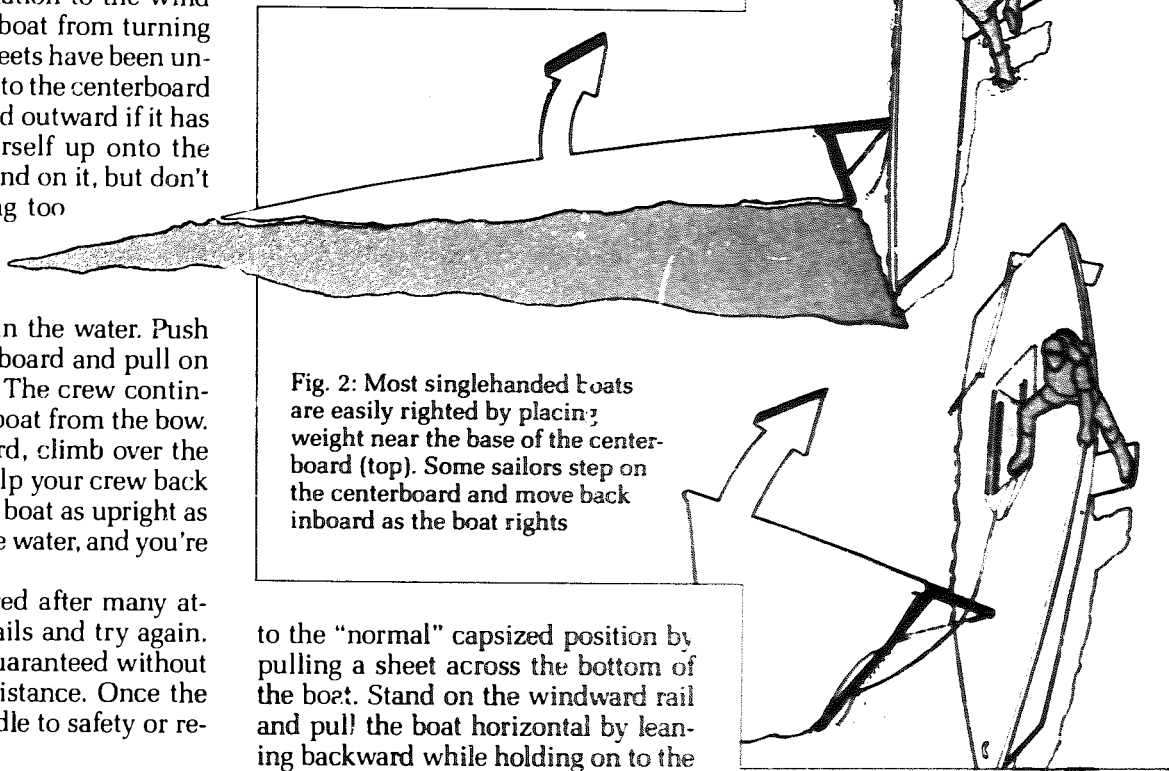


Fig. 2: Most singlehanded boats are easily righted by placing weight near the base of the centerboard (top). Some sailors step on the centerboard and move back inboard as the boat rights

to the "normal" capsized position by pulling a sheet across the bottom of the boat. Stand on the windward rail and pull the boat horizontal by leaning backward while holding on to the

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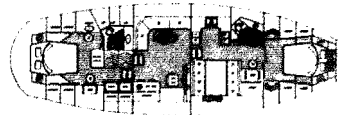
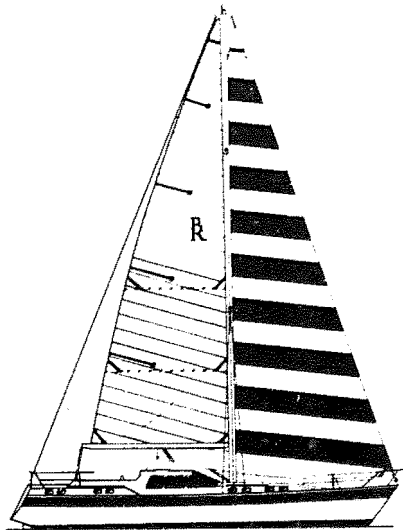
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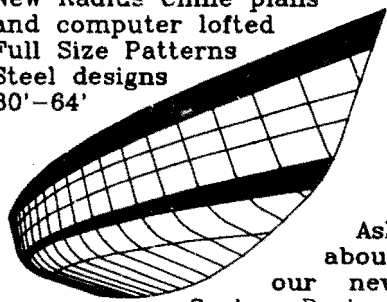
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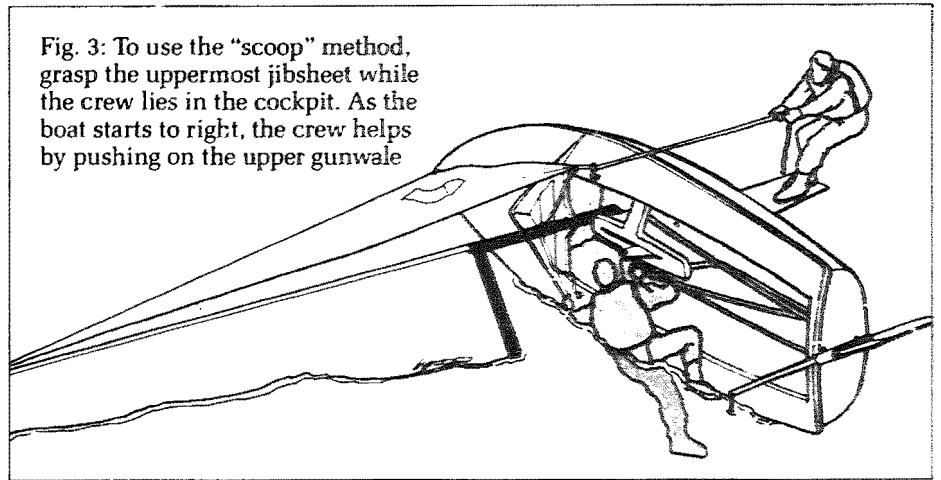


Fig. 3: To use the "scoop" method, grasp the uppermost jibsheet while the crew lies in the cockpit. As the boat starts to right, the crew helps by pushing on the upper gunwale

sheet. On some boats it may be easier to sink one of the stern quarters to break the boat's seal with the water.

Other recovery methods

Often on singlehanders with a lot of built-in buoyancy, you can use the



Some small boats right in seconds

"walk-over" method of recovery. As the boat goes over, straddle the uppermost side of the boat and stand on the centerboard. While levering the boat upright, scramble back into the boat so it does not capsize to the other side. You might succeed in performing this maneuver without getting wet (Fig. 2).

On boats with a jib, the "scoop" recovery method sometimes works best. Once the boat has been oriented correctly, the crew locates the uppermost jibsheet and throws it over the high side of the boat to the helmsperson. Make sure that the mainsheet is not fouled. The crew lies in the boat while it is still floating and grasps the uppermost hiking strap. The helmsperson levers the boat upright by standing on the centerboard close to the hull and leaning back while holding the jib-

sheet. As the boat rights, it will "scoop" up the crew (Fig. 3).

Mast stuck on the bottom. In shallow water, the mast can get stuck if the boat turns turtle. Prevent this occurrence by quickly getting to the centerboard. If the mast does get stuck, there is usually little the crew can do to rescue their own boat. The safety boat's crew will take you off the boat and, if necessary, remove the mast. Attach a PFD to a shroud or halyard so that you will be able to recover the mast later. The hull can then be pulled away from the mast.

Boats difficult to right. Some older designs cannot be righted easily. They generally do not have sufficient buoyancy. If you capsize a boat of this type, stay with it until you are rescued. Sit on the upturned hull and attract attention by waving both arms over your shoulders.

Towing tips

Lower the sails to reduce drag and possible damage while in tow, and secure all your rigging so it cannot foul the safety boat's propeller. The towline should be attached to your boat's mast at deck level. Adjust the towline's length so that both boats ride comfortably through the waves. Right the boat if possible, and raise the centerboard about two-thirds of the way. If you are not too cold, stay aboard your boat and steer. The safety boat should go slowly and take the strain on the towline gradually.

A capsize should not dampen your day. With a little patience and proper leverage, you can right a small boat safely. Preventive measures, however, are still your best bet for staying upright.



Shirley H.M. Reekie is the author of *Sailing Made Simple*, published by Leisure Press, Champaign, Illinois.