Sea Anchor RIGGING

Photo courtesy Peter Christis

How to use this essential piece of heavy weather gear

**By Tom Tursi,
Maryland School of Sailing**

Heaving-to is the procedure employed to discontinue active sailing and lay bow to the wind and waves in order to ride out heavy weather conditions. It is performed with storm sails, and possibly a sea anchor, set in such a way as to maintain the boat at a desirable angle to the weather and to minimize damage from boarding waves. In my view, heaving-to is preferable to lying ahull, beam to the wind or running off downwind as these tactics leave you prone to being rolled or broached with the likelihood of serious damage.

Sea anchors are large parachutes deployed from the bow of the boat into the sea with the intention of essentially stopping the boat and holding the bow to weather. If deployed without a trysail, the sea anchor will hold the bow fairly straight into the wind, but the boat will usually tack back and forth with periodic rattling of everything above decks.

Alternatively, heaving-to can be set up using the storm trysail along with a sea anchor and bridle to establish a "square drift" with the bow angled about 45 degrees to the wind and the boat moving downwind and essentially backwards toward its leeward quarter as shown in Figure 1. In this configuration the boat creates a slick of disturbed water, which spoils the wave breaking potential of the seas to windward of the boat. The term "square drift" was

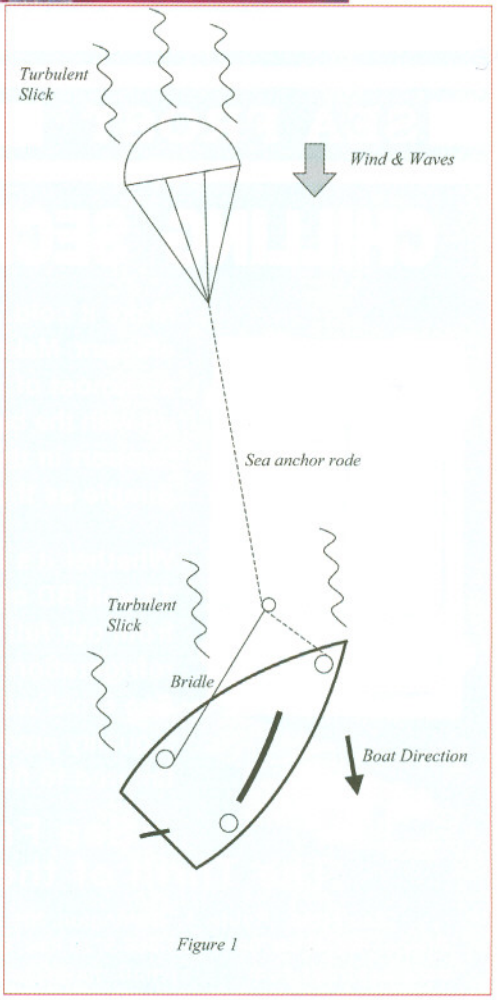

Figure 1

coined by J. C. Voss in his 1901 circumnavigation of the world in 38-footer, *Tilikum*, and in recent years has been very thoroughly described by Lin and Larry Pardey in their *Storm Tactics* handbook and video.

DECK HARDWARE

The hardware arrangements needed on deck for deploying a sea anchor with bridle and trysail are shown in Figure 2. Many yachts are not equipped with adequate deck hardware to handle the extra lines needed, and owners are encouraged to examine how these lines would be handled under adverse conditions with heavy loads as it is not feasible to control them by hand.

The trysail blocks on the quarter rails need to be located to give a fair lead of the trysail sheets to the primary winches. It is also desirable to cleat the active sheet so that the winch pawls do not carry the full trysail load. The trysail lazy sheet is run to the windward trysail block and then to a cleat on the windward side to quiet this line and keep it ready for use.

Turning block #1 aft of the headstay is located to provide a fair lead for the sea anchor rode through the bow pulpit without rubbing on chafe points, and allows securing the bitter end of the rode on the windlass and bow cleat.

Turning block #2 for the sea anchor bridle is shackled to a pad eye or cleat outboard of the primary winch on the windward quarter rail. If a new fitting is needed here, it may as well be a large, strong, properly backed cleat instead of a pad eye since a cleat will serve many additional uses.

The secondary winches can be used to immobilize the rudder and allow fine-tuning of rudder position without loading the steering mechanism. These winches are highly recommended additions to any sea boat as they will prove useful for many applications.

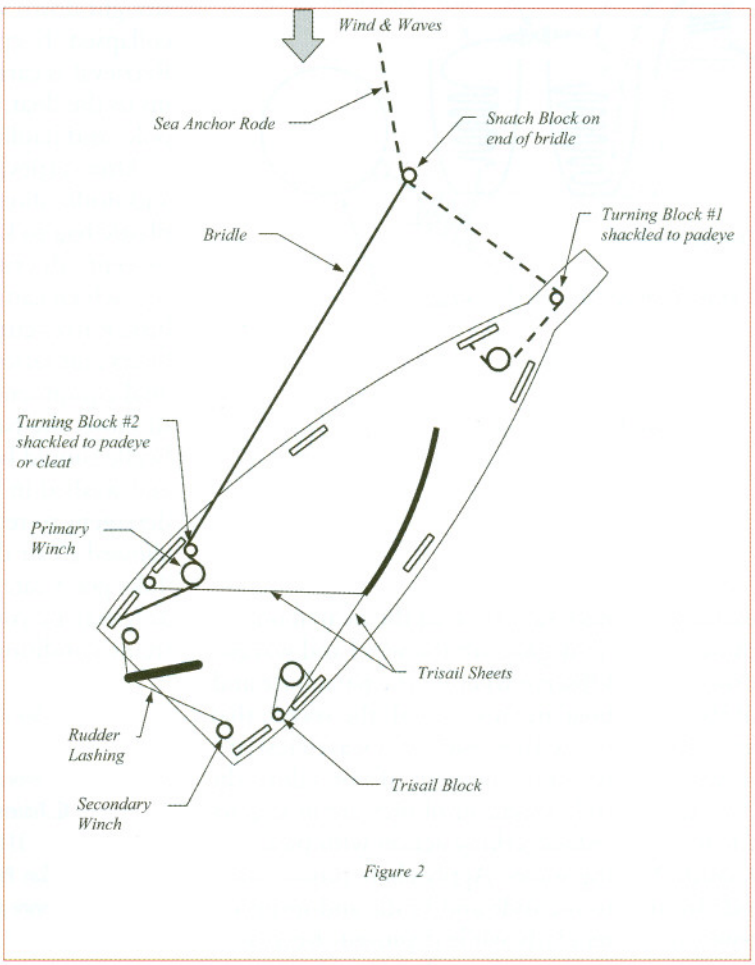

Figure 2

DEPLOYMENT

Figure 3 shows the setup used to prepare the sea anchor for deployment from the cockpit. A bowman is stationed at the windlass forward to control the rode. The float, depth control line, parachute, rode and bridle are connected in the sequence shown, and all shackles are lock wired. The bitter end of the rode passes over the lifelines and outboard of all shrouds and structures as it leads forward to the bow, and passes inboard through the bow pulpit opening selected to give a fair lead to turning block #1. Pull about half of the rode forward to the bow and temporarily tie it with light, breakable thread to the stanchion bases to keep it from trailing under the boat and fouling. Notice that this section of the rode leads from the bottom of its storage bag.

The bridle passes under the lifelines and its snatch block is connected to the rode and lock-wired closed. The float is attached to the crown of the parachute with about 30 feet of line; its purpose is to control the parachute depth and to facilitate retrieval. The parachute bag will go overboard with the entire rig and remain with it during deployment.

Deploy the rig over the lifeline to windward by first slamming the float into the sea and paying out the depth control line; these should trail aft and to windward

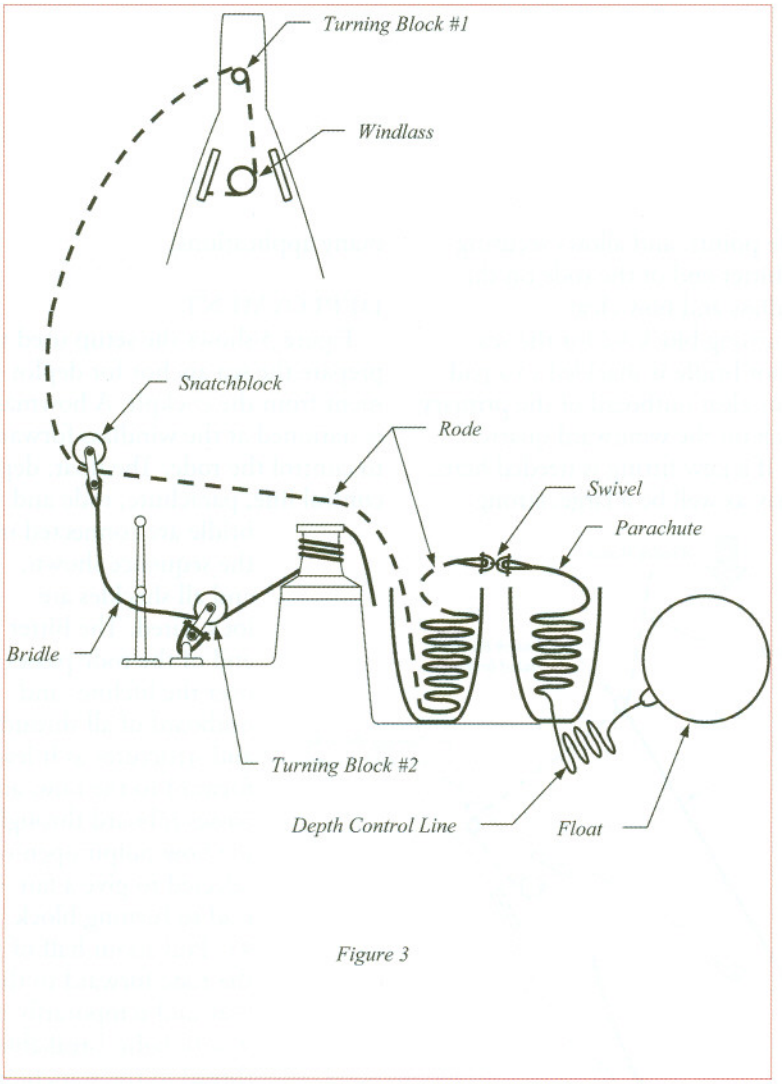

Figure 3

since the boat will be forereaching to leeward. Open the parachute bag and slam it, open end down, into the water; the weight of the swivel and thimble should pull the parachute out of the bag if it was properly packed. Break or cut the light threads holding the rode to the stanchion bases to allow control by the bowman. Feed the rode from its storage bag toward the bowman. Ease the bridle initially to position the snatch block halfway between midship and the bow.

Payout about 50 feet of rode controlling it on the windlass, then give a big yank to open the parachute; there should be a noticeable increase in the pull of the parachute after this. Payout an additional 200 feet of rode and secure it to the windlass and forward cleat. Adjust the bridle length slightly as necessary to head the boat about 45 degrees off the wind and waves. Observe whether the parachute and boat are in step with the waves; that is, are they both on a wave crest at the same moment. If not, adjust the rode length until they are in step to reduce jerking action with passing waves. Apply chafe protection to the rode and bridle and inspect regularly while deployed. Keep a close watch on the rig and attempt to remain behind your slick as shown in *Figure 1*.

RETRIEVAL

Retrieving a sea anchor can be a problem due to the possibility of fouling the boat's underbody or prop in the rode. For this reason, I prefer the "cast off" method as follows: The bitter end of the rode is uncleated, a two-pound weight is tied to the end, and it's all thrown overboard. Unless turning block #1 is a snatch block, you'll need to temporarily attach a short line to the rode with a rolling hitch and cleat this line until the bitter end of the rode can be pulled through the block and the weight is attached. The depth float rides on the surface and everything else will hang straight down with the parachute collapsed. Keep a sharp eye on it! Retrieval is carried out by motoring up to the float, hooking it with a pole, and hauling it all aboard.

After retrieval, parachute, rode and bridle should be stowed in a plastic bag to keep them wet and prevent salt crystals from forming, which can act as a million little knives cutting away at the fibers and seriously weakening this vital equipment. Upon returning to shore, the parachute, rode and bridle should be thoroughly soaked and washed in freshwater and mild detergent to remove the salt and allowed to air dry before stowage. Take good care of this equipment, as it may be your survival in extreme conditions. ≈

Sea Anchor Sources:
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www.seaanchor.com
G. Fiorentino Marine Sales
311 E. 22nd St
San Pedro, CA 90731
www.paraanchor.com

Publications:
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Daniel C. Shewmon