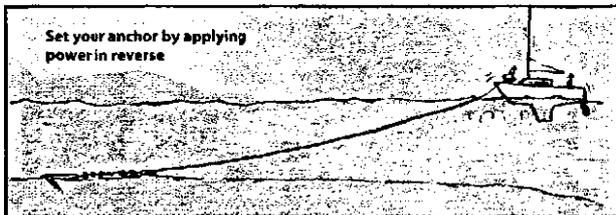


## Anchoring Techniques

### Setting

An anchor must be "set" by placing tension on the anchor line to ensure that it has penetrated the bottom. This is done by making the anchor line fast and applying lots of power in reverse. If your boat moves when you try this boat moves, it's time to reset the anchor and try again. Only when an anchor is securely set should you consider shortening scope when in a crowded anchorage. Once an anchor has been set, it will almost always hold the same amount of tension that was used to set it, even if the scope is reduced. This means that you can pay out long scope, pull hard on the anchor rode using the engine, and then shorten scope to reduce swinging room. However, if your boat swings and the anchor has to re-set itself, it will have to do so at a reduced scope, which is also known as Anchoring Russian Roulette.



### Re-setting

It's one thing to set an anchor when the wind and current is consistently from one direction, but what happens if they veer? Some anchors perform better than others under varying angles of pull, but any anchor can fail to re-set if the boat swings far enough to dislodge it from the seabed. Three techniques can alert you when your boat swings:

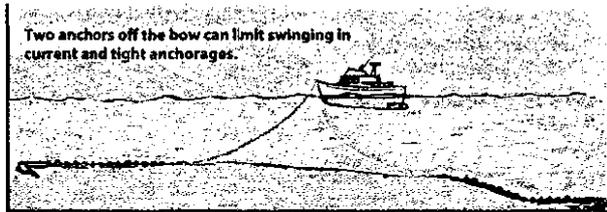
1. If you have an anchor alarm on your GPS, set it for a reasonable distance from the position your boat assumes at the end of the rode so it will alert you when the boat swings.
2. If you have a course alarm on your electronic compass or autopilot, set it for the heading that your boat assumes initially at anchor. It will "beep" you if you assume a new heading.
3. Stand an anchor watch.

### Anchoring Bow and Stern

In tight anchorages, you may have to limit your boat's tendency to swing at anchor. By dropping an anchor close to the beach, and a second anchor offshore, you can locate the boat precisely in the anchorage. You can also use the tension on one rode to help set both anchors. If other boats are swinging on a single anchor, they could swing into you if you are the only one anchored bow and stern.

### Two Anchors off the Bow

Bob Ogg, co-inventor of the Danforth anchor, recommends setting one anchor into the wind or current, and a second anchor 180° away. Then take both lines to the bow of the boat. This will allow the boat to swing about a relatively small point, yet will allow the boat to pull against an anchor without causing it to reset when the wind or current changes. If the wind is on the beam, the boat will settle back on both anchors.



## Types of Bottoms

**Sand:** Some bottoms, like fine-grained sand, are relatively easy for anchors to penetrate and offer consistently high holding power and repeatable results. Most anchors will hold the greatest amount in hard sand. Best in sand are the Fortress and West Marine anchors.

**Mud:** A broad shank-fluke angle and larger fluke area allows an anchor to penetrate deeply to where the mud has greater sheer strength, and project more surface area in the direction of pull. Peter Bruce points out that mud commonly covers other material, and pure mud anchorages are rare. Thus, anchors that can penetrate through the mud to the underlying material will hold more. Fortress anchors are easily converted to a broader fluke angle for superior holding power in mud.

**Rock and coral:** Holding power is most dependent on where you happen to drop the hook. Fixed-fluke grapnel-type anchors, having high structural strength to sustain the high point loads which occur, generally work the best. These include Bruce, CQR, Yachtsman, and Delta.

**Kelp:** This is sort of a trick question, because most kelp grows in the water and on the surface, not on the bottom. Kelp does attach itself to rocky bottoms, however, so it is likely that a rock anchor will hold. You can also get a false set, due to the anchor catching on kelp roots and not something solid.

**Shale, clay and grassy bottoms:** Tough bottoms for all anchor designs, and the weight of the anchor, rather than its design, may be the most important factor in penetration and holding power. CQR and Delta anchors, as well as Yachtsman's anchors, are thought to be good in grass, due to their points" that penetrate the vegetation.