

How to anchor a boat

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Why do so many people have difficulty anchoring securely? I know some of the answers because I have learned the hard, stupid way - battling furlongs of anchor warp on a plunging foredeck at four in the morning on a moonless, godless night. I wish I could say it has only happened once, but I'd be lying. After a while though, it happens less often.

Most advice on anchoring starts with a discussion on the different types of anchor and the recommended sizes. This is probably the least important part of the subject, and is the second most frequent reason why boats drag their anchor - blind faith in a "good" anchor. Second most frequent? The most frequent reason why anchors drag is the mantra repeated in books, training courses and club bars that "you need three times the depth of water" as your anchor scope. Totally inadequate. So this is what you have to do in order to have the best chance of staying put in your chosen spot:

(listed in the sequence of anchoring, not in order of importance.)

1. Pick a spot with plenty of swinging room. Remember the wind usually changes direction overnight. Your boat will end up anchored about 2 boatlengths back from where you drop your anchor, and as it swings in the night (and it will), it will sweep out a circle of about 2-3 boatlengths radius (that's 4-6 boatlengths diameter), centred at your anchor. And everyone else's boat will do the same thing, but not at the same time. If you can't find a spot with enough swinging room, go somewhere else. If that really is impossible (as distinct from inconvenient), you will have to put out two anchors (which is probably inconvenient anyway).
2. Try and make sure your spot is deep sand or mud. If it isn't, you will probably have to put two anchors out.
3. Get ready to let out a minimum scope of either 20 metres or 5 times the water depth, whichever is greater. If you have less than this and it gets a bit choppy, there won't be enough give in the length of cable to absorb the snatch loads. This will either cause the anchor to drag, or the cable to break, or pull the cleat out of the deck. Let more than this amount out if you can. Anchor cable sitting in your chain locker is not helping to keep your boat safely anchored.

4. Bring the boat to a stop before letting the cable out. Let about 1.5 times the water depth out, then gradually let the rest out as the boat falls back with the wind (or as you motor gently back). Pay out the cable so that it lies in a smooth, roughly straight line from the anchor back to the boat. If you let it all go out in a rush it will just sit in a tangled pile on the seabed, a useless mess.
5. Having let it out, cleat it off somewhere strong and motor back at high revs for at least 30 seconds. Line up two marks on a transit athwartships to check if you are dragging. If the marks go out of line then you are dragging. Pick the anchor up and try again. Don't mess around letting out more scope, it won't work.
6. You have now anchored safely, but it is not quite the end. Don't leave the anchor winch (if you have one) taking the load. If you are using all chain cable, use a rope snubber tied off to a strong cleat on the boat, to take the load off the winch. If you have a rope anchor cable, you can either do the same, or just tie the cable round the cleat. Anchor winches are not designed to take heavy loads, they break. I know, I have broken mine once (only once though - you learn fast once it has happened). Check you are far enough away from other boats, underwater reefs etc. in the event of a wind change. (if you are too close, move now; it's a lot easier than at 3 in the morning). Check your transit after 5 minutes to make sure you really haven't dragged. It is a good idea, though not always practicable, to snorkel on your anchor to make sure it has dug in. If you don't like doing this, you can just row out to where (you think) the anchor is, put the snorkel mask on and peer over the side of the dinghy. This may confirm it is dug in OK.

If you follow the above guidelines, you will be safely anchored for 90% of your attempts, even if the anchor is made of an old washing machine. Trouble is, 90% isn't really good enough, so that's where all the esoteric bits come into the discussion. Before entering into the detail, a good tip for increasing the odds from 90% to 99% is to put a second anchor down. There's huge debate about the best way of doing this, but don't worry, just stick it down somewhere in the general direction of the first one. That'll do for now.

So finally onto the three questions that most people start off with: how big an anchor, what sort and should it be all chain or chain and rope mix?

- **How big?**

The biggest you can handle with the equipment you have. When was the last time you heard someone complain that their anchor was too big? It should be at least one size bigger than you

see in those tables of sizes. If that is too big to handle, then you need to invest in a (bigger) anchor winch.

- **What type?**

The question is wrong, because you should have more than one type. You should have at least two anchors on board, preferably three, and ideally four. One should be a fisherman anchor or one of its variants, the others can be anything else - CQR, Delta, Bruce, Danforth, whatever. You need the fisherman because it is generally the only type that will hold in weed. You shouldn't be anchoring in weed of course, but sometimes it happens. It should be self evident that if you need at least two anchors, then you need at least two anchor cables.

- **All chain, or a mix of chain and rope?**

It doesn't really matter as long as you adapt your anchoring technique to suit. There are well documented stories of each option failing in severe conditions; neither is perfect, either is good. The only definitive statement is that you should not use a floating anchor line except in an absolute emergency. The "silver" furry stuff often sold locally as anchor cable is typical of what not to use. There are two reasons - firstly, when the load on it is light it floats on the water surface like a huge sea snake, and will catch the propeller of anyone going near it. Secondly, the buoyancy of the rope is pulling the anchor out of the sand, reducing its holding power significantly. This second point isn't so important if you have good anchoring gear, good anchoring technique and good holding ground; personally I'd rather not rely on all that coming together in my favour every time. If you use rope, choose nylon.

There's heaps more to the art of anchoring - read Alan Gree's book "Anchors and Anchoring" in the Club library - but get the basics right first.

More information from:

Books:

Dorn, W. G. v. (1975) Oceanography and seamanship, Adlard Coles, London.

Gree, A. (1984) Anchoring and mooring, Adlard Coles, London.

Web sites:

<http://www.ussailing.org/safety/Studies/studies.htm>

http://www.geocities.com/bill_dietrich/BoatBasics.html#AnchorAndRode