Welcome Aboard!

We’ve written this eBook to help boaters of all skill levels to choose an anchor type, choose the best rope, and to anchor safely and securely. We’ve combined our experience at a number of levels including most importantly running Anchoring.com, the web’s leading website both to purchase anchor and docking products and for information on these subjects.

We’ve tried to write this book as objectively as possible to give you the most reliable information available. If you have questions about any of the topics mentioned here please feel free to emails us to questions@anchoring.com.

Don’t Want to Read This Entire Book?

*We recommend everyone to read this entire eBook. However, if you do not have the time, you can skip to the back page for a summary of the most important points discussed in this book (and read the rest of the book later)*


**Anchoring.com: Anchoring e-Book**

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About Us & Anchoring.com

We’ve run Anchoring.com for nearly 10 years. We offer a huge selection of Anchoring and Docking products including:

- All types and styles of anchors including Bruce, Delta, Fluke, Plow, and more
- All of your rope needs including windlass rope and chains
- Boat fenders and bumpers
- Anchor windlass and accessories

All of us at Anchoring.com pride ourselves on our knowledge of all things anchoring and docking. Whether you’re a customer or not, please get in touch with us with any questions you have about anchoring and docking.

Please visit us out at Anchoring.com
Other Useful Links

- Anchoring.com: Our ecommerce site
- Anchoring.com/blog: All of our Anchoring and Docking Articles
- Our YouTube Channel: Our YouTube Channel
- Facebook.com/AnchoringFans: Our Facebook page

Other Useful Links

- www.1st-chainsupply.com: A great choice for any bulk chain purchases
- VesselFinder.com – View all boats anywhere in the world with AIS tracking enabled (great for amusement if nothing else!)
All About Anchor Types

Quick Summary Boat Anchor Recommendation

For most boaters, a Bruce or Delta will be the most happy balance between price and performance. All three perform similarly and are similarly priced (Narrowly, the Bruce/Claw is our favorite of the three). If you've used a Danforth in the past, and you have had luck with it, choose a Danforth. If you've never used one before and if your setup allows it, choose a Bruce, CQR, or Delta instead. If you're a blue-water cruiser, and you have a big wallet, consider one of the new generation of anchors.

Boat Anchor Names: Trademarked Names and Generic Names

<table>
<thead>
<tr>
<th>Trademarked Name</th>
<th>Generic Name</th>
</tr>
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<tbody>
<tr>
<td>Bruce</td>
<td>Claw</td>
</tr>
<tr>
<td>CQR</td>
<td>Plow/Hinged Plow</td>
</tr>
<tr>
<td>Danforth</td>
<td>Fluke</td>
</tr>
<tr>
<td>Delta</td>
<td>Wing</td>
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A special note is needed on the naming of anchors. Many anchors have a trademarked name, such as a Bruce or CQR, and a generic name like Claw or Plow. This is the same as how Xerox is a trademarked name for photocopier and how aspirin is a trademarked name for pain killer. Trademarks effectively never expire whereas design patents expire after approximately 20-25 years. Therefore, manufacturers are free to clone an anchor design that has an expired patent but cannot use the trademarked name.

Bruce™ Claw Anchor

The Bruce, or Claw, remains one of the most popular anchors amongst recreational boaters in North America. The author is slightly biased, as this is my anchor of choice as well.

The Bruce was developed in the 70s by the Bruce Anchor Group. Once their patent expired in the early 2000s, they stopped production of this anchor but many imitations have come along since.
The Bruce is an excellent all-purpose anchor as it performs well in most sea bottoms including mud, sand, grass, rock, and coral. It sometimes has a hard time penetrating harder surfaces, such as clay. Due to the three-claw design, the Bruce often sets more easily than other anchors. It also resets easily if it is ever broken loose. On the downside, the Bruce has a lower holding power per pound than other anchors, meaning you’ll usually need a larger anchor than say the Delta/Wing.

**Pros:** Performs well in most conditions. Sets easily.
**Cons:** Awkward one piece design. Low holding power per pound.
**Bottoms:** Performs well in most bottoms; Struggles in hard bottoms such as clay.

### CQR™/Plow & Delta™/Wing Anchor

Both the CQR/Plow and the Delta/Wing are a plow style anchor. The most significant difference between these anchors is the fact that the CQR has a hinged design whereas the Delta is a one piece design.

The CQR is one of the oldest styles, dating back to the 30s and to this day, it remains one of the most popular anchors amongst blue water cruisers. Despite this, it has relatively low holding power and it consistently struggles in independent tests. It’s also rare to find a CQR under 25 lbs lending itself to the saying “There’s no such thing as a small CQR”. Despite these shortcomings, the hinged design makes it more responsive to wind and tide changes as compared to other anchors.

The Delta is arguably the most popular anchor on boats today, and is the standard anchor of choice used by most boat manufacturers. It has a very reasonable holding power per pound (about 50% more than the Bruce).

Both the Delta and the CQR perform well in most bottoms, struggling the most in rock.

**Pros:** Performs well in most conditions. Fits most bow rollers.
**Cons:** Hinged design can make stowage awkward. "No such thing as a small CQR/Plow anchor".
**Bottoms:** Performs well in most bottoms; Struggles in rock.
Danforth™/Fluke Anchor

The Danforth, or Fluke anchor, remains a very popular anchor choice amongst boaters. The Fortress is also a popular Fluke style anchor, different from the Danforth in the fact that it comes apart and it constructed of lightweight, high-strength, aluminum.

The Fluke performs excellent in mud and sand, potentially the best of any anchor style. The downside is that outside of these bottoms, it does not perform at well. Therefore it is a mud/sand only anchor, which fortunately is what most bottoms are comprised of.

Whether or not it is used as a primary anchor, a Fluke anchor makes an excellent choice as a secondary anchor.

**Pros:** Performs well in mud and sand. Arguably the most popular general purpose anchor. Stows easily on most bow rollers.

**Cons:** Does not perform well outside of mud/sand.

**Bottoms:** Performs excellent in mud/sand. Performs poorly in other bottoms.

Plow Anchor with Roll Bar

There are several anchors on the market today which are essentially plow anchors with roll bars. These include the Rocna, Manson Supreme, and Bugel.

Each of these anchors are essentially a variation on a plow style anchor. If you look at the plow portion of these anchors, you can see they are a lot sharper than traditional plows like the Delta/Wing and CQR. Analogous to a knife through butter, these anchors can penetrate the sea bottom a lot easier than the aforementioned anchors. The roll bar also helps it orient itself upright when setting.

These anchors have performed extremely well in third party tests. The biggest downside to these anchors is that because they are still patented, they can be very expensive. The roll bar along with the elongated plow can also make storing these anchors on bow rollers difficult.

**Pros:** Very high holding power for many models.

**Cons:** Difficult to stow on a bow roller. Expense.

**Bottoms:** Performs well in most bottoms.
Grapnel and Other Small Craft Anchors

A Grapnel Anchor is generally used for small boats such as Kayaks, Dinghies, Canoes, etc. It’s also popular amongst fishermen. They fold up very compactly and are easy to stow. A Grapnel’s holding power comes from hooking onto another object, such as a rock. When it does hook, it can create immense holding power, which can also make retrieving the anchor difficult in such cases.

**Pros:** Great for use as a *lunch hook*. Folds to allow for compact storage.
**Cons:** Not appropriate for non-temporary anchorage.
**Bottoms:** Rock or other situations when it can hook onto an object

Mushroom Anchors

Mushroom anchors are amongst the most popular anchor used for permanent mooring buoys. As the silt from the sea-bottom builds up over these anchors, it can result in extreme holding power, up to 10x the holding power of its actual weight. As a mooring buoy, the mushroom anchor is an excellent choice, however, it is ineffective in most temporary anchoring situations.

**Pros:** Great for use for permanent mooring buoys.
**Cons:** Not appropriate for non-permanent moorings.
**Bottoms:** Mud/Sand.
Boat Anchor Material Types

Boat anchors come in a variety of types, the most popular being mid steel, high-tensile steel, stainless steel, and aluminum.

Most of the traditional steel anchors we are accustomed to seeing are likely either mild or high tensile steel. Mild steel and high-tensile steel are nearly indistinguishable from one another appearance wise. However, high tensile steel has a holding power of 2-3x greater than mild steel. This isn't to say that a high-tensile steel boat anchor has 2-3x the holding power of its mild steel counterpart, but it will nonetheless be stronger.

Both mild steel and high-tensile steel anchors are not corrosion resistant, and therefore need to be galvanized to prevent rust and other corrosion. All steel anchors (except stainless) should be galvanized. Galvanization has a tendency to wear down over time, but an anchor anchor (as well as nearly any other steel product) can be re-galvanized.

**Galvanized Steel**

- Inexpensive
- Strong
- Corrosion resistant while galvanized
- Galvanization can wear down over time
- Not as attractive as stainless steel

**Stainless Steel**

- Looks very attractive
- Strong
- Corrosion resistant
- Very expensive
- Scratches and other damage from use can affect appearance

**Aluminum**

- Lightweight
- More expensive than steel
- Not as strong as steel

Stainless steel is very similar to mild steel in terms of holding power but differs significantly in appearance. The shiny gloss is essentially the only difference between stainless steel and mild steel. Stainless steel is also very corrosion resistant and will resist most rusting over time. You will often see manufacturers describing stainless steel as either 316 Stainless or 304 Stainless. 316 is a different chemical composition than 304 and is more corrosion resistant. It also more expensive.

There are some anchors constructed from high strength aluminum, with Fortress anchors being the most popular of such anchors. These anchors are extremely lightweight while still offering high holding power. These
anchors rely on the digging of the anchor for most of the holding power, and therefore, if they are not set, they provide little to no holding power.
Anchor Rode: Picking a Rope Size, Type, Length and More

What is anchor rode?

Rode simply refers to the line and/or chain that connects the anchor to your boat. (Believe it or not, rode is not a typo!)

Ideally, the rode for any anchor setup should consist of both chain and rope. The chain should be on the end with the anchor. Why use both chain and rope? First, it keeps the nylon rode from wearing away by rubbing on the bottom of the sea-floor as the boat swings. Second, because the chain is heavy, it holds the rode to the bottom so the pull on the anchor is horizontal, which reduces the chances of your anchor unsetting.

What type of rope should I use? Nylon, Polyester, or ...?

For most boaters, the best type of rope to use when anchoring is nylon. Nylon has many advantages for anchoring including:

- It's elastic therefore offering good shock absorption
- Light and flexible
- Good strength
- The most common anchor rope found in marine stores
- It sinks

Nylon anchor rope is light, flexible, strong, and provides elasticity, which mitigates peak loads on your anchor and boat. Unfortunately, the very fact that nylon stretches means that it creates heat and will eventually break down and need to be replaced. However, you want a strong rope that will absorb the shock from waves and sink, not float. Nylon fits the bill of all of these things.
What's the difference between braided and twisted rope?

In our experience, for most recreational boaters, the difference between using twisted anchor rope or braided anchor rope comes down to preference and taste. Both make excellent choices for an anchor rope but there are some subtle differences between these two styles of rope.

**Braided Rope**
- Less stiff and more flexible.
- Frequently stronger than twisted rope.
- Easier on the hands.
- Difficult to splice.
- Less stretch than twisted rope.

**Twisted Rope**
- Fairly easy to splice.
- Generally less expensive.
- Has more stretch than braided.
- Has a tendency to kink or hockle.
- More stiff and less flexible.

How much anchor rope do I need and what size?

One of the questions we get asked most often is, "How much anchor rope and/or chain do I need?" When selecting how much rope and chain you need there are a couple of rules of thumbs to use.

1. You should have 8 feet of rope for every 1 foot of water you will be anchoring in.
2. Your rope should have 1/8" of rope diameter for every 9' of boat.

So this means a 28' boat would want at least a 3/8" or 1/2" diameter rope. Rope is one of those things, like anchors, where you bigger normally is better.

As for a rope choice, Nylon is the clear favorite due to the fact it is elastic and relatively strong,

**How much anchor chain do I need and what size?**

![How Big?](image1)

**1/2 the size of your rope**

![How Much?](image2)

**Ideal: equals Boat Length**

**Minimum: 10’-15’**

Along with the rope, you should also have a smaller amount of chain between the rope and the anchor. This chain will keep your rope from rubbing against the seabed and also creates the optimal angle between your rode and the seabed.

The general rule of thumb is that you want approximately 1' of chain for every 1' of boat. So a 30' boat would want 30' of chain. However, often certain constraints such as weight and locker room will not allow this ideal chain amount so in these situations you should have at least 10-15' of anchor chain for the reasons mentioned above.

For boaters anchoring in extreme conditions and/or for extended periods of time, you will want about 1 foot of chain for every 6 feet of rope. The reason for the different requirements is that, in theory, by having 1 foot of chain for every 6 feet of rope, an optimal angle between the rode and the seabed will be achieved.

**What type of chain do I need? (I am not using a windlass)**

If you're not using an anchor windlass, your life is easy! Any chain that you can buy at a marine store that follows the size rules above should be adequate. Hardware store chain can also sometimes suffice but you should always be conscious of the breaking strength of it and ensure that it is **galvanized**.
If you are not using a windlass, you can simply attach your rope to your anchor using a shackle in between (ideally your rope will have an eye and/or thimble spliced into one end to make attaching a shackle easy.

**What type of chain do I need? (I am using a windlass)**

If you are using an anchor windlass then your choices are limited and you must use only the type and size of chain specified by the windlass manufacturer. Normally this type of chain will be G4 or BBB chain. Don't have your windlass manual? We have an article that lists the type and size of chain required by most popular sizes of windlass here.

Windlass chain is a whole other topic and in fact, we have another article all about windlass chain here.

If you are using a windlass, remember that you must *splice* your rope to your chain as a shackle going through your windlass gypsy will be bad news. (You can also hook the shackle around your windlass as well once it gets to that point but that's a pain!) You can purchase a prespliced rope and chain package or you can splice your own.
How to Set Your Anchor

The first step in anchoring your boat is to find a suitable anchorage spot, especially if anchoring overnight. One of the first mistakes new boaters make when anchoring a boat is to choose an inadequate anchorage. When anchoring, there are a few things that make a good anchorage:

- Protected from the wind in all directions (or at the direction in which the wind is or will blow from)
- Adequate depth
- Lack of debris on the bottom that could potentially snag your anchor

We'll go through each of these points in detail below.

Ensure Your Anchorage Is Protected from the Necessary Wind Directions

Ideally, you want an anchorage that is protected from the wind in all directions. Often complete protection is not always possible and you'll be exposed to wind directions in at least one direction. Below is one of my favorite anchorages, Clam Bay. It is protected from all wind directions except the North. Thankfully, in the Gulf Islands, southerly winds are the most predominant. Simply check your weather forecast to see what direction the wind is blowing from and ensure you pick an anchorage that is protected from that direction.

If you are simply throwing a lunch hook and anchoring for a few hours while constantly being aware of your surroundings, your choice of anchorage can be a lot more liberal than if you're anchoring at night. Finding a good overnight anchorage randomly is a tough task and subsequently, most areas in the world have books devoted to detailing the best anchorages in that particular area, so picking up such a book is a wise investment.
Ensure Adequate Depth of Anchorage

A wet anchorage at high tide can be a dry anchorage at low tide.

Make sure there's sufficient depth of water, even at low tide. 13’ feet of water at high tide may mean you're in the mud at low tide. We've all likely seen someone end up grounded at some point or another, so save yourself from this embarrassing endeavor by being conscious of tides.

Remember, your boat is going to swing thanks to current and wind, so make sure you have enough swinging room in relation to the amount of rode you have out.

Avoid Areas With a Lot of Debris on the Bottom

Avoid areas where the bottom is awash with debris such as stumps, boulders, etc. These will snag your anchor and possibly mean that you have to cut your line (a good portion of our customers come to us because of this!). Admittedly, this is often hard to tell above water but the shore often reveals some good clues. A beach at low tide abound with stumps rocks and other debris probably looks the same way several hundred feet out. Again, referring to a local book detailing the best anchorages can warn you of such dangers.

Also, be conscious of the type of bottom your anchoring in, such as a muddy, sandy, or rocky bottom. Your anchor might perform well in one type of bottom (i.e. a Danforth/Fluke anchor performs well in a muddy/sandy bottom but bad in a rocky bottom) while performing terribly in another bottom

Actually Anchoring Your Boat

Once you've found an anchoring spot, move slowly towards it into the direction of the wind or the current. This article assumes you're releasing your anchor from the bow of your boat (the front) and not the stern. The anchor should always be released from the bow.

When you reach your anchoring spot, place the engine into neutral and slowly release the anchor overboard. The classic image we all remember of the skipper throwing the anchor carelessly into the water is a recipe for tangled line/rode. When the anchor reaches the bottom, place the engine into reverse, slowly backup, and gradually let out your rode until you have a scope of 5:1 or more (ideally 7:1). This means that if you're anchoring in 20 feet of water, you need 100 feet of rode released.
When you feel the anchor "grab" (i.e. the boat will no longer move back) the anchor is set. When the anchor is set, "back down on the anchor" or give the engine some throttle in reverse to really dig the anchor into the ground. Be careful not to give it so much throttle as to unset it. Don't get frustrated if it takes you a few tries to set the anchor. Some anchoring bottoms are a pain to anchor in, but normally your persistence will be rewarded.

Make sure the anchor really is set. Take a couple of bearings on land and watch them to make sure the anchor is not dragging. Monitor these bearings for at least the first 30 minutes after anchoring. If you have a GPS, use the "anchor drag" utility to alert you in case your anchor does start to drag during the night. Don't use your GPS in the first 30 minutes after anchoring! GPS' have a margin of error of 30 or more feet. You could easily be drifting into another boat before your GPS alerts you.

To release the anchor, pull the rode in until the rode leads vertically into the anchor. Tug on the anchor and it should release. Now you have the fun of bringing the thing in.
Conclusion and Summary

We hope this book has helped guide you through the process of picking an anchor and anchor rode for your boat as well as giving you some guidance for securely anchoring your boat. We’ll leave you with a basic summary of the material covered throughout this book:

- Most boaters are surprised by how small of anchor they actually need. A 13 lbs Delta/Wing, for example, is adequate for most boats up to 26’
- The Delta/Wing anchor is the most popular type of anchor equipped on boats today
- The most common type of anchoring bottom is mud and sand. Most styles of anchors perform well in these conditions. If anchoring in a bottom consisting of kelp/weed or rock, consider an anchor type such as a Bruce, Delta, or newer generation anchor
- Pick nylon rope for your anchor rope. The rule of thumb is that you want rope with 1/8” of diameter for every 9’ of boat length
- Your chain should be approximately ½” the size of your anchor rope. All boaters should use at least 10-15’ of chain to help weigh their anchor rope down and to keep the rope from rubbing on the seat bottom
- If anchoring overnight always pick a protected anchorage (a good book on Anchoring spots in your area is essential)
- Always allow for at least 5:1 scope. This means if you’re anchoring in 30’ of water you should have 150’ of anchor rode (rope and/or chain) released
- Do not simply throw your anchor over and forget it. Your anchor must set. This generally means dropping your anchor, putting your boat in reverse once it reaches the bottom, and ensuring the anchor has dug in (your boat should no longer move back). Monitor your boat for the next 30 minutes to ensure it does not move

Happy Anchoring and please visit us at Anchoring.com!