

ANCHORING





Anchoring

Every Skipper should master “anchoring”

Both for protection and enjoyment

Equipment

- Anchoring equipment is called ‘ground tackle’
- The type of ground tackle carried on a boat depends on several factors
 - Type, weight, & length of boat
 - Typical bottom characteristics
 - Typical depth of water
 - Strength of wind & current
- To be adequate, ground tackle must hold your boat under most adverse conditions

Anchor Rode

Length of Rode = Line + Chain

- Rode consists of chain, shackle, thimble, eye splice, & nylon line
 - Nylon line provides elasticity
 - Chain rises and falls with the boat’s surge

Types of Anchors

- Danforth
 - Bad for grassy bottom / good for mud & sand. May hang up in rocks
- Mushroom
 - Holds well in mud once sunk in – heavy ones are good for moorings
- Grapnel
 - Good for small boats in rocky areas
- Plow
 - Efficient anchor but difficult to store – often used on larger boats
 - Usually stored outboard on a platform at the bow

Types of Anchors



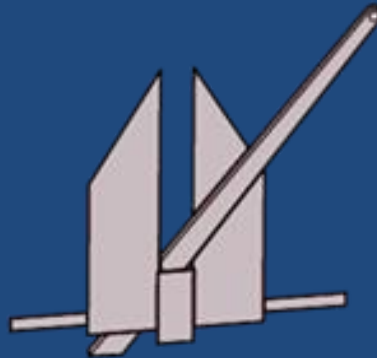
Bruce



Fisherman



Plow



Danforth



Spade

Types of Anchors

Example of a Danforth stored outboard beneath bowsprit





Your Boat's Anchors



- You should carry at least two anchors
 - One small and light for short stops
 - Lunch or fishing
 - One heavier for overnight anchoring or when lighter anchor might drag



Anchor Line Scope

- An anchor holds best when the pull on its rode is as nearly horizontal as possible
- Scope = Ratio of length to the vertical distance between the bow chock and the sea bed
 - Normally 7:1 is recommended
 - 5:1 is marginal
 - 3:1 is poor
 - In heavy weather, 10:1 is recommended



Your Boat's Anchors

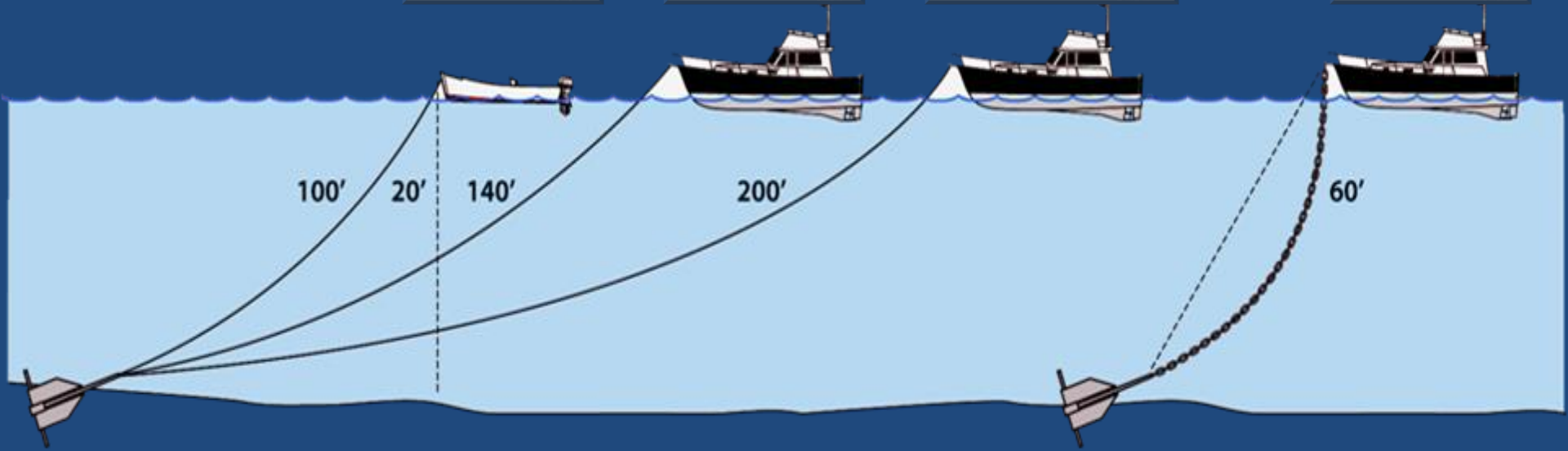


Short Stay
5:1

Overnight
7:1

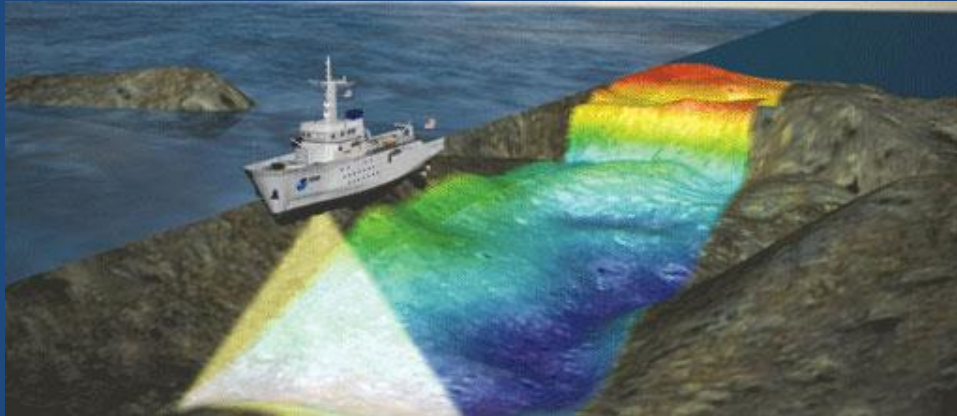
Heavy Weather
10:1

All Chain
3:1



Anchoring

- First step – check the nature of the bottom & the depth
 - Visually if possible or on a chart or on a depth finder



3.3 Bottom Echo

Echoes from the bottom are normally the strongest and are displayed in reddish-brown color (in default color arrangement) but the color and width will vary with bottom composition, water depth, frequency, sensitivity, etc.

In a comparatively shallow depth, a high gain setting will cause a second or sometimes a third or a fourth echo to be displayed at the same interval between them below the first echo trace. This is because the echo travels between the bottom and the surface twice or more in shallow depths.

The color of the bottom echo can be used to help determine the density of the bottom materials (soft or hard). The harder the bottom, the wider the trace. If the gain is set to show only a single bottom echo on mud, a rocky bottom will show a second or third bottom return. The range should be chosen so the first and second bottom echoes are displayed when bottom hardness is being determined.

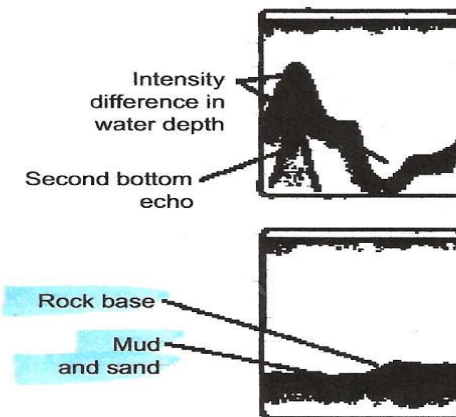


Figure 3-3 Bottom echoes

Anchoring

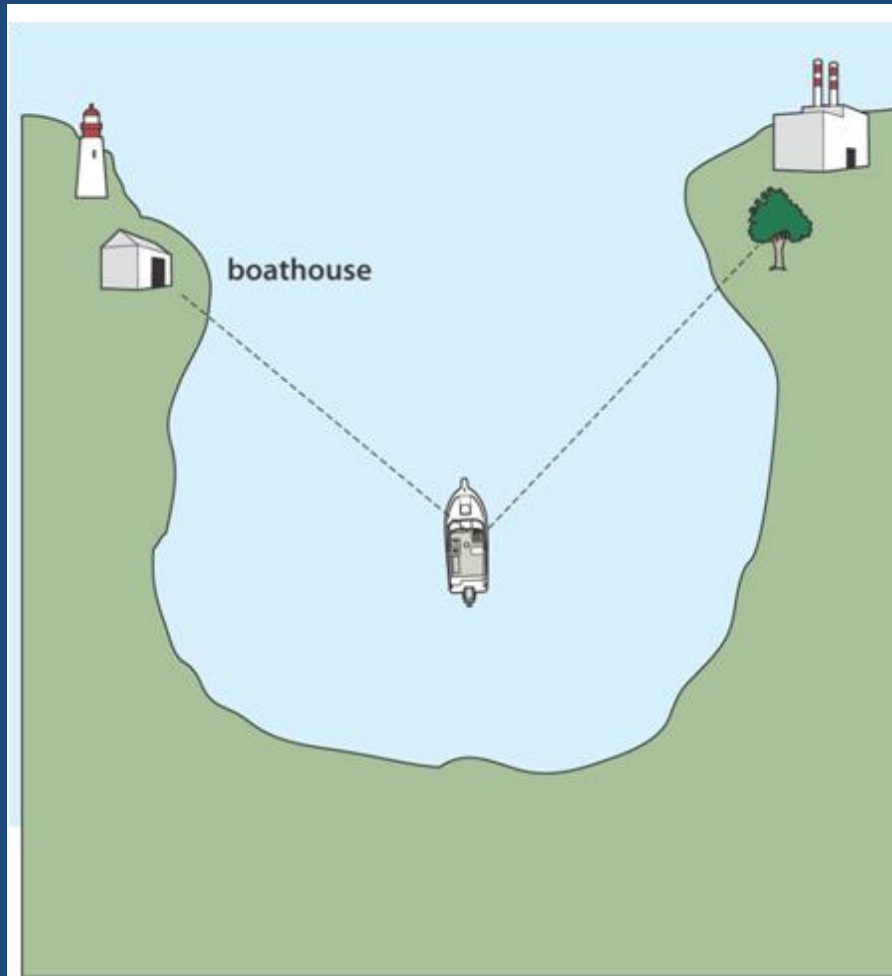
- First step – check the nature of the bottom & the depth
 - Visually if possible or on a chart or on a depth finder
- When anchoring, be sure you have tied the end of the rode securely to the boat
- Note position of other boats
 - Determine where your boat will settle once anchored
 - Make sure your rode doesn't cross other rodes
 - Make sure you will not be within swinging distance of other boats
- Head the boat into the wind
 - Go far enough ahead of desired site to allow for rode length
 - Lower anchor slowly (do not drop or throw)
 - Careful not to stand on rode or get caught in bite
 - Drift or reverse slowly back
 - after about 1/3 of rode is out, temporarily attach to cleat to determine if anchor is holding
 - Once holding, pay out balance of rode and secure

Anchoring (Continued)

- Never tie off the rode to a side or the stern
 - A second stern anchor is sometimes required in very crowded anchorages
- Keep a hand on the line as it pays out – if vibrating, the anchor is sliding
 - Pay out more rode until the anchor digs in and you feel a firm grip
- Then turn off the engine



Anchoring (Continued)



[ENTER] knob.

4. Rotate the [ENTER] knob to enter the value.
5. Push the SAVE soft key and [MENU] key in order to close the menu.

- Once anchored, take sights on two or three stationary objects on shore as points of reference
 - Should your anchor drag, you can tell by checking these “ranges”
 - Most GPS units have “anchor alarms” that can be set at varying distances

Anchoring (Continued)

- In deteriorating conditions, check your ranges frequently
- Avoid anchoring in grassy areas and coral reefs
 - Both are habitats and can be easily damaged
 - Some Florida Keys reefs have permanent guest moorings so divers do not damage reefs by anchoring

Anchoring (Continued)

Examples

The Santa Cruz “Mile Buoy” is at 10 fathoms (60 ft.). If your bow chock is 4 ft. above the water line, how much rode do you need for a 7:1 ratio?

$$(60' + 4') \times 7 = 448 \text{ feet}$$

1 ½ Football Fields!!!



Weighing Anchor

“Weigh Anchor” derives from an Anglo-Saxon word “WEGAN” which meant to carry, lift, or move

- First go through the departure check list
- Start engine and allow to warm up
- Power ahead slowly until directly above the anchor taking up rode as you go
 - Usually the anchor will break free when you are over it – raise and store
- If the anchor does not break free, it is probably “fouled”
 - Take in as much rode as possible and make fast to bow cleat
 - Run boat slowly in circles with the line taut
 - Hopefully the anchor will break out

Mooring to a Permanent Anchor

- Mooring buoys are the only ones boaters can tie up to legally

- DO NOT tie up to any navigational buoys
- Many moorings are privately owned
 - Get permission prior to tying up

- Approach buoy into the stronger of wind or current

- Note orientation of other moored boats
 - Adjust course to be parallel with others



swamp the boat

- Leaving a mooring
 - **First start engines**
 - Back up slowly before dropping pendant to prevent possibility of prop fouling



The End



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