



Pentagon Sailing Club Winter Training Program Anchoring, Rafting, and Cruise/Raft-up Planning

**Don & Lynnette Hupman
3 November 2012**



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Topics

- Anchors & Anchoring + Mooring
- Rafting Up
- Raft-Up Planning & Coordination
- 2013 PSC Raft-up/Cruising Opportunities
 - Raft-ups
 - BVI Charter Cruise
 - Croatia Charter Cruise?
 - ASA-106 Delmarva Cruise
- Evaluation of Class/Content



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Anchors & Anchoring

Just Why's it
So Important?

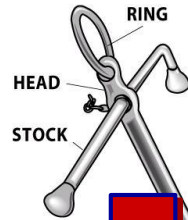




Anchors & Anchoring

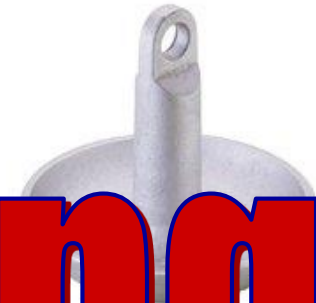
Types of Anchors

Delta



Yachtsman's or Fisherman's

Mushroom



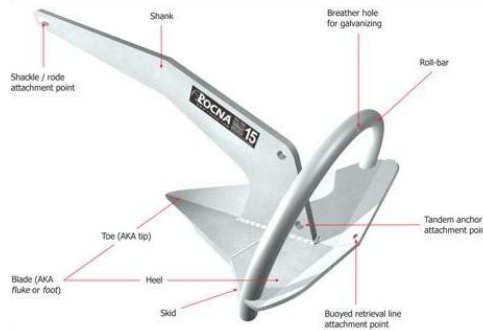
Anchoring

weight

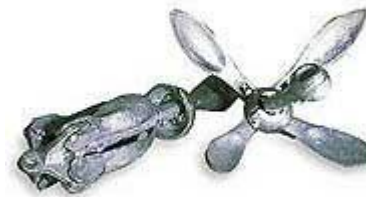
Bruce or Tripod



Rocna



Folding Grapnel





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Anchors & Anchoring

Types of Anchors
Most Common on the Bay

Lightweight or Danforth



Plow or CQR



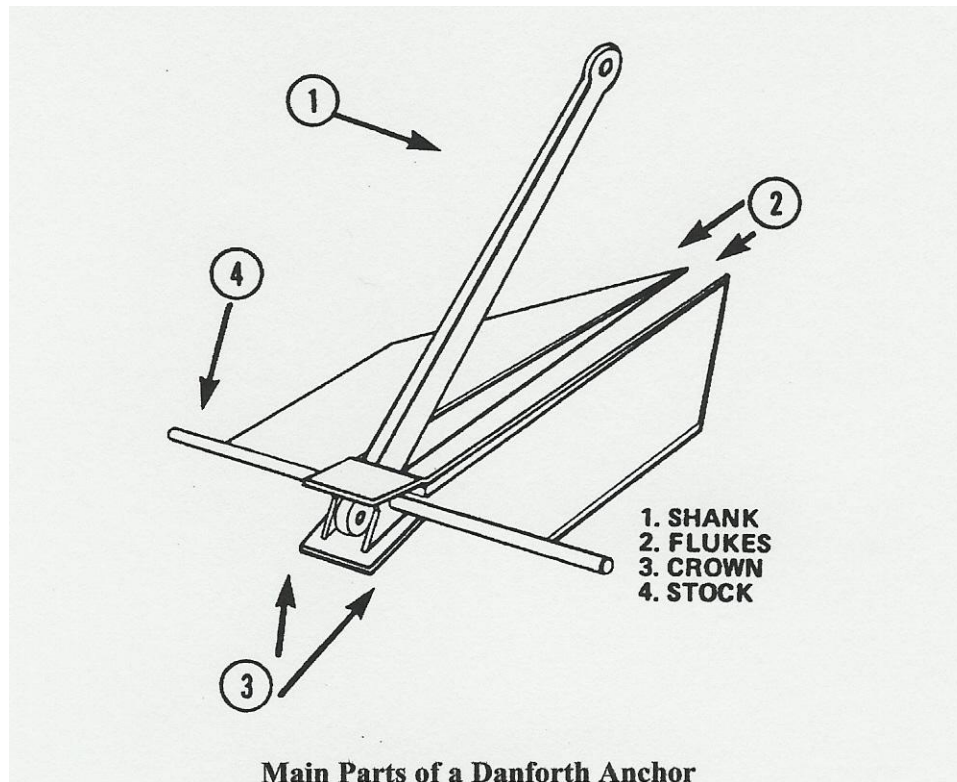


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Anchors & Anchoring

Lightweight or Danforth



Main Parts of a Danforth Anchor



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Anchors & Anchoring

One Answer to High Anchor Prices – Make Your Own





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Anchors & Anchoring

Anchor Size

Anchor Weight Table (lbs)

Boat length, feet	Displ., pounds	Lightweight	Bruce	Plow
20-25	2,500	5-8	11	15
25-30	5,000	12-13	16	15
30-35	10,000	12-22	22	20
35-40	15,000	20-22	33	25
40-45	20,000	20-40	44	35
45-50	30,000	35-65	66	45
50-60	50,000	60-85	66	60

Tip: Bigger is usually better when it comes to anchor holding power

Source: American Boat and Yacht Council



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Anchors & Anchoring

Definitions

- **Anchor rode**
 - The anchor line (chain and/or nylon rope)
- **Ground tackle**
 - The anchor and anchor rode
- **Scope**
 - The ratio between the anchor line (rode) let out and the depth of the water plus the height of the bow above the water (e.g., 7:1, 5:1)



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Anchors & Anchoring

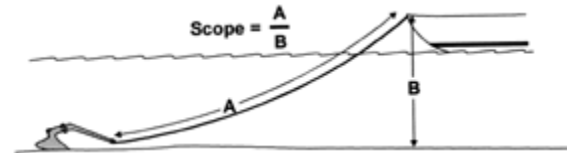
Scope

Computing necessary anchor rode length for required scope:

Depth of the water + height of the bow roller above the water x desired scope (i.e., 5 if desired scope is 5:1)

Do this!

10 ft.	water depth
+5 ft.	bow height
<hr/>	
15 ft.	total



15x5=75 ft. of rode for proper scope of 5:1

Not this!

10 ft.	water depth
10x5=50 ft.	50/15=3.3:1



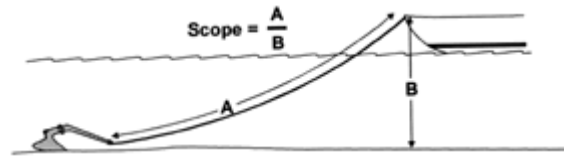
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Anchors & Anchoring

Scope

Pegging 10:1 as the maximum practical scope, this table shows the average relative holding power associated with shorter scope.



<u>Scope</u>	<u>Holding Power</u>
10:1	100%
7:1	91%
6:1	85%
5:1	77%
4:1	67%
3:1	53%
2:1	35%

Source: *Ground Tackle: Selecting Anchors and Rodes* by Don Casey
<http://www.boatus.com/boattech/casey/34.htm>

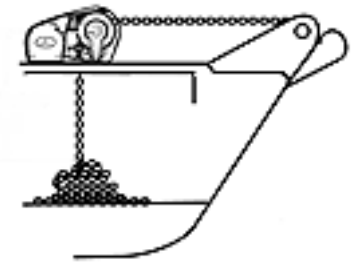
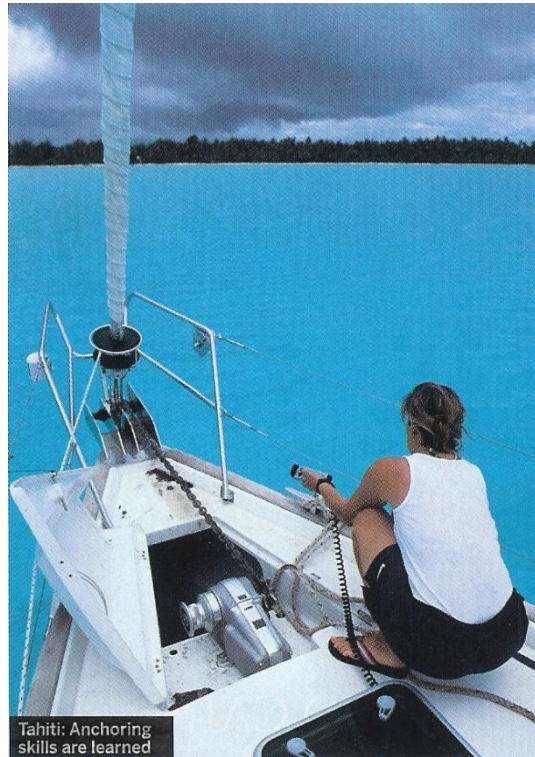


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Anchors & Anchoring

Anchor Windlass



Chain Stopper

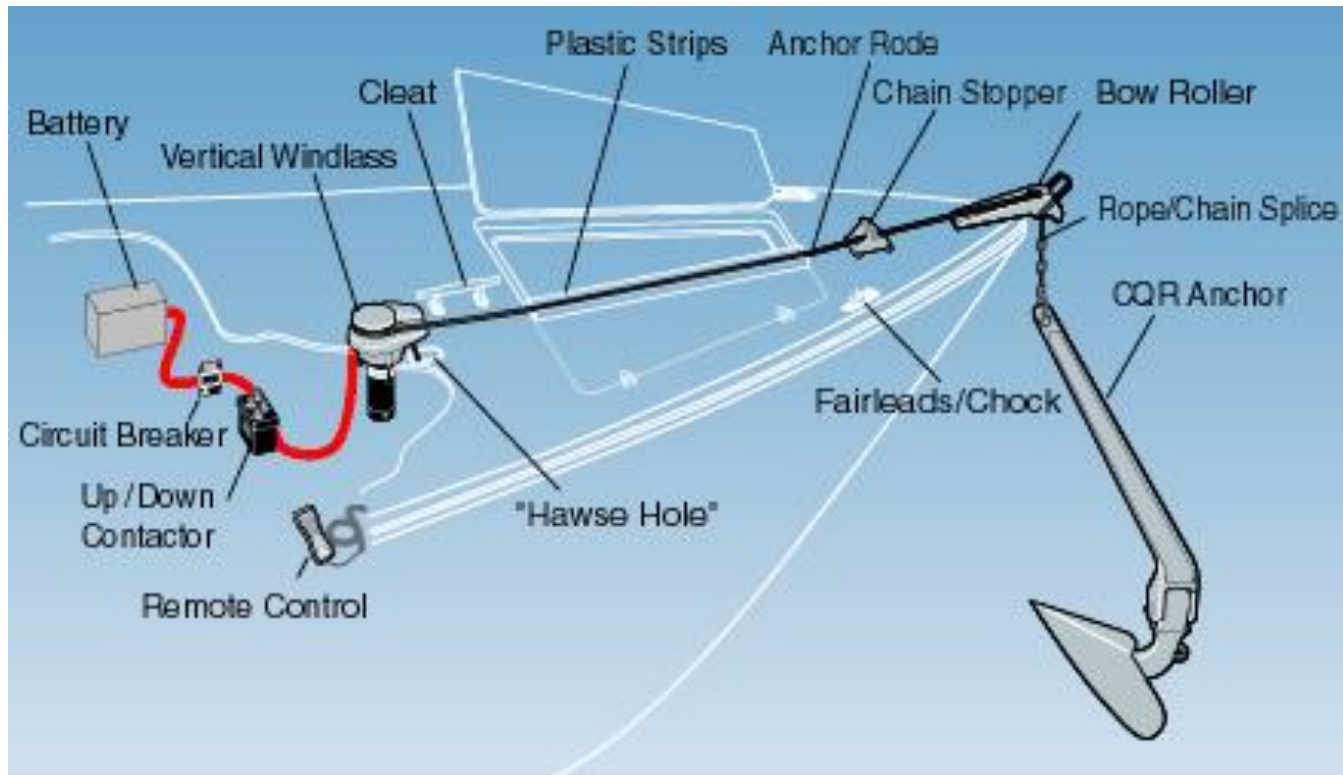


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Anchors & Anchoring

Anchor Windlass System





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Anchors & Anchoring

Doing It

- Anchoring
 - Planning ahead & picking your spot
 - Preparing your boat
 - Preparing your crew
 - Communications
 - Lowering & setting the anchor
 - Anchor bearings
 - Anchor watches
- When things go wrong (***and they will***)
- Retrieving the anchor
- Kedging
- Mooring

Tip: Carry and use a pair of work gloves when anchoring



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Planning Ahead?





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Anchors & Anchoring

Planning Ahead & Picking Your Spot

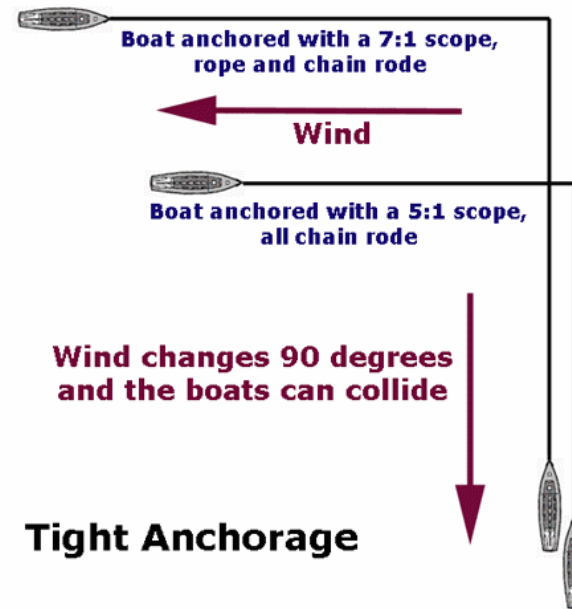
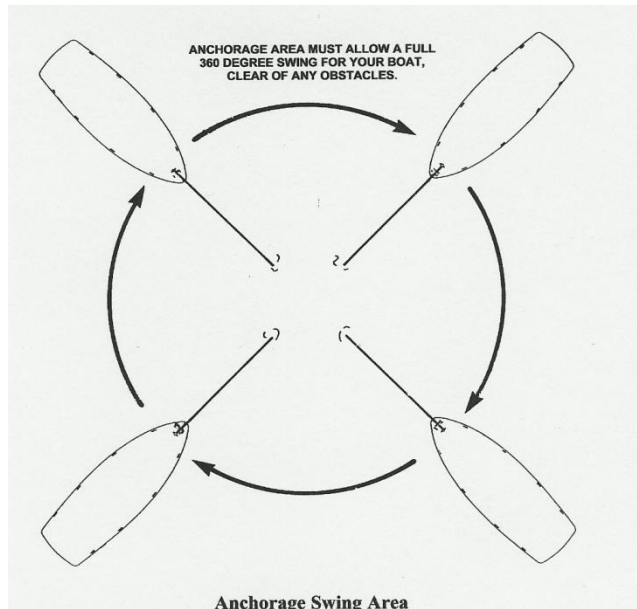
- Planning factors
 - Depth of water & tides
 - Bottom type (local knowledge, charts, briefings)
 - Protection
 - Swing Room
 - Current
 - Weather/wind forecast
- Picking your spot
 - Avoid the lee shore
 - Compare anchorage with chart
 - Motor around anchorage and check how other boats are anchored (usually pointed into wind)





Anchors & Anchoring

Swing Room



Tip: The boat entering the anchorage must keep out of the way of boats already anchored and their ground tackle



Anchors & Anchoring

Preparing Your Boat

- Start engine
- Lower & furl sails
- Clear deck
- Secure the dinghy if you have one
- Prepare anchor locker
- Prepare anchor windlass
- Determine scope & length of rode
- Check that anchor line is ***secured to the boat***
- Flake or coil anchor line on deck

Tip: You may be able to use your boat length to estimate the amount of rode actually put out



Anchors & Anchoring

Preparing Your Crew

- Brief crew on anchoring plan
- Assign anchoring positions
- Ensure that each crew member understands their task
- Warn crew of danger areas (e.g., fingers around the anchor windlass)
- Review hand signals
- Discuss what to do when things go wrong

Tip: Start preparing your crew before you reach your anchorage and things get busy



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Anchors & Anchoring

Communicating While Anchoring

- Communicating while anchoring is difficult
 - Distance from helm to bow
 - Engine noise
 - Many things happening at once
- Put crew amidships to pass directions
- Use hand signals
- Face the person to whom you are talking

Tip: Helm - bow communication is key to successful anchoring; test before lowering the anchor



Anchors & Anchoring

Lowering & Setting the Anchor

- Under power
 - Check your depth
 - SLOWLY motor forward into wind or current (check other boats) to anchoring spot and stop your boat (**set GPS Anchor Alarm**)
 - Stop boat and lower (do not toss) anchor to the bottom
 - Back SLOWLY or drift down wind or current, letting out anchor rode until you have enough scope to set anchor
 - Snub the rode and reverse SLOWLY until the rode becomes taut and anchor is holding, then cleat off
 - While in reverse, feel rode to make sure anchor is set
 - Wait
 - Dive on the anchor if possible

Scope
5:1 minimum
7:1 preferred
7:1 minimum if rafting

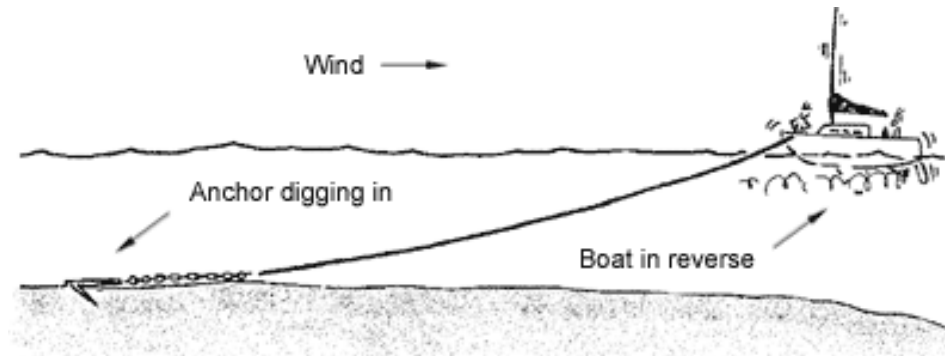


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Anchors & Anchoring

Lowering & Setting the Anchor





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Anchors & Anchoring

Lowering & Setting the Anchor

- Under sail (not usually done)
 - Sail toward anchoring spot on a reach
 - Turn your bow into the wind
 - Wait until the boat comes to a stop
 - Lower (do not toss) the anchor to the bottom
 - Drift down wind or current, letting out anchor rode until you have enough scope to set the anchor
 - Snub the rode and continue to drift back until the rode becomes taut and anchor is holding
 - Lower sails and wait
 - Dive on the anchor if possible



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Anchors & Anchoring

Anchoring with Two Bow Anchors

- Use for strong wind especially if major shift in wind direction is expected
- Set about 60 degrees apart off bow
- Set primary anchor first and motor to second anchor spot
- Alternative set second anchor using dinghy
- Swing pattern will be different from single anchor boats

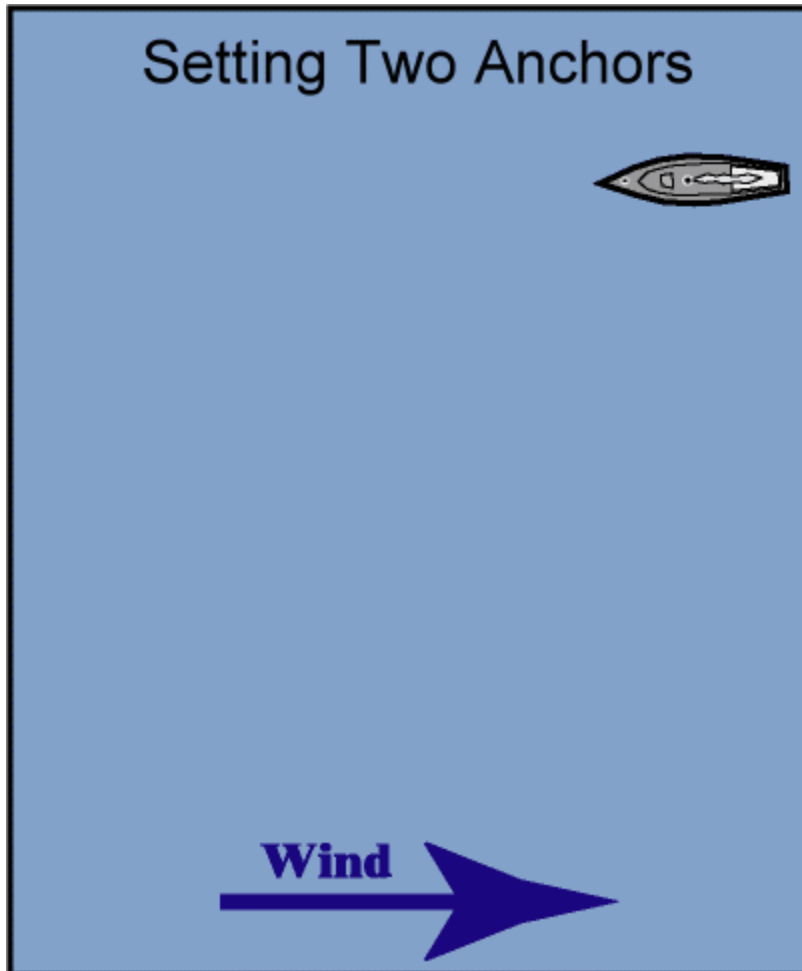


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Anchors & Anchoring

Anchoring with Two Bow Anchors



Tip: You may also use two anchors in tandem; one anchor in front of the other





Anchors & Anchoring

Anchor Bearings & Anchor Watches

- Anchor bearings
 - Take two or more bearings
 - Should be abeam
 - Must be visible and identifiable at night
 - GPS Anchor Alarm (**set for the anchor, not the boat**)
- Anchor watches
 - When conditions warrant, set an anchor watch
 - Take shifts on deck if risk is high
- Check rode, anchor bearings, and swing periodically if risk is lower



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Anchors & Anchoring

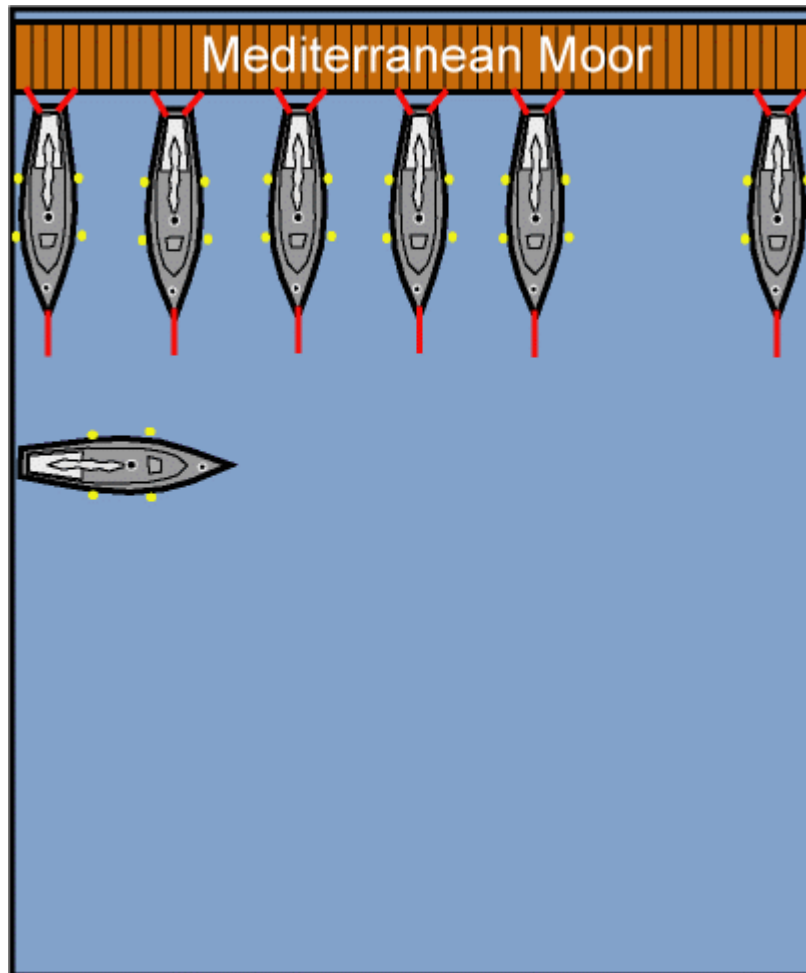
Mediterranean Moor to a Dock





Anchors & Anchoring

Mediterranean Moor to a Dock



Tip: The key is to correctly estimate how far off the dock you start to lower the anchor



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Anchors & Anchoring

What to do When it Goes Bad

- Anchor doesn't set
 - Let out more scope and try to reset
 - Pull it up and start over
 - Pull it up and move
- Anchor drags
 - Let out more scope and try to reset
 - Pull it up and start over
 - Pull it up and move
- Another boat drags toward you
 - Alert the crew of the other boat/start your engine
 - Get fenders ready and crew ready to fend off
 - Move out of the way



Anchors & Anchoring

Anchor Retrieval

- Routine anchor retrieval
 - Do NOT pull boat to anchor using anchor windlass
 - Motor toward anchor, retrieving rode
 - Clean and secure rode & anchor
- Anchor stuck
 - Motor forward
 - Position boat with bow over anchor
 - Move all crew to bow, cleat the rode tight with bow over anchor, move all crew to stern
 - Pull up using buoyed trip line
- Anchor rode wrapped around coral, etc.
 - Dive on anchor
 - Drive boat in circle to unwrap
- Anchor rode fouled with another boat's

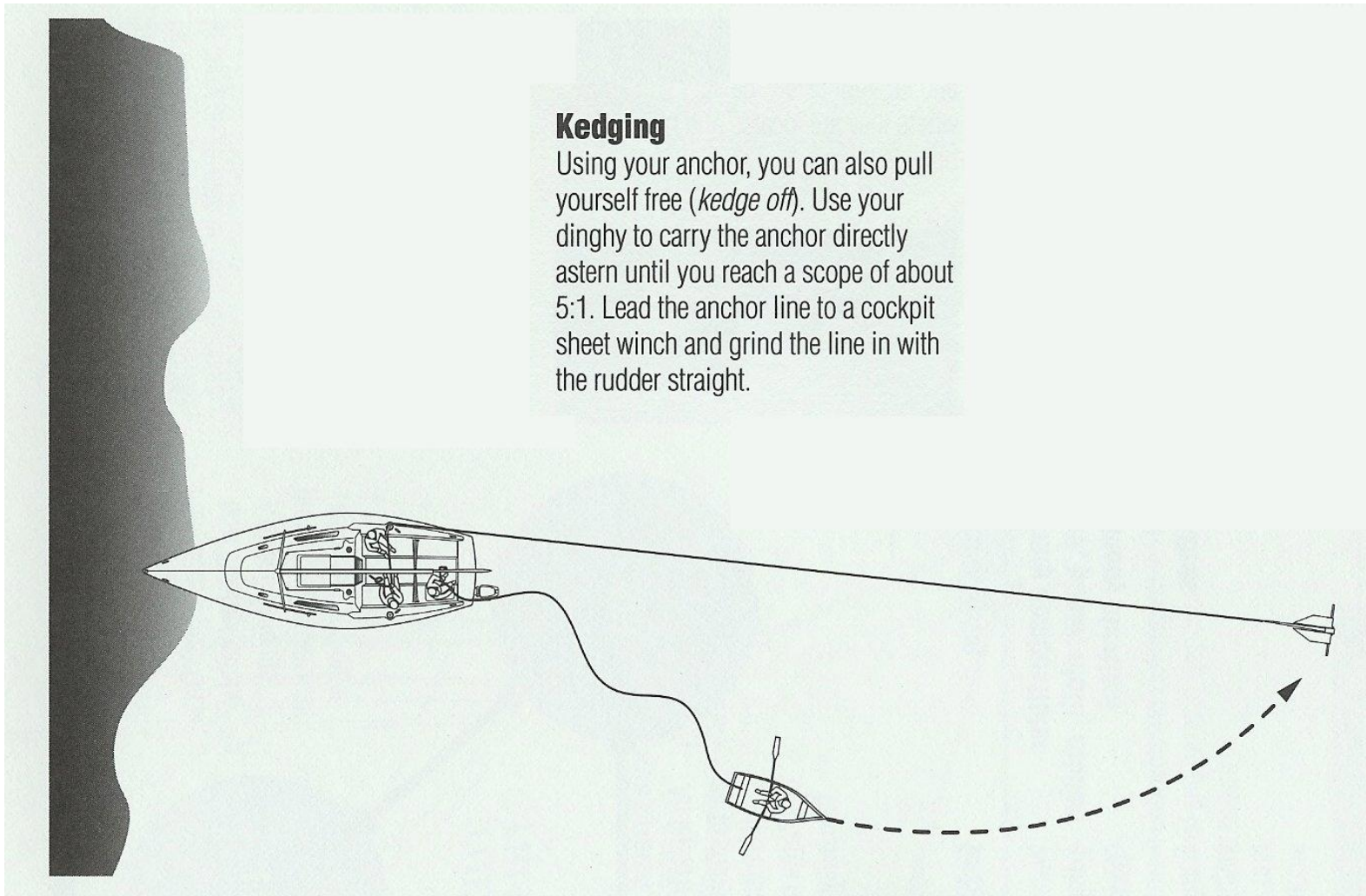


Anchors & Anchoring

Kedging

Kedging

Using your anchor, you can also pull yourself free (*kedge off*). Use your dinghy to carry the anchor directly astern until you reach a scope of about 5:1. Lead the anchor line to a cockpit sheet winch and grind the line in with the rudder straight.



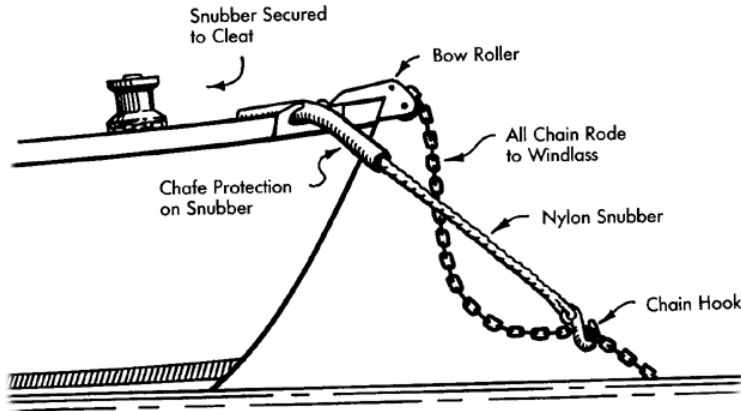


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Anchors & Anchoring

Other Anchoring Accessories



Anchor Snubber



Anchor Buoy



Anchoring Day Shape



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Anchors & Anchoring

Moorings





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Anchors & Anchoring

Picking Up a Mooring

- Preparation same as anchoring
- Place crew at bow with boat hook
- SLOWLY motor forward into wind or current (check other boats) toward mooring ball
- Crew on bow directs boat toward ball/mooring line with hand signals
- Stop and hold boat at ball
- Crew on bow snags mooring line with boat hook and hooks mooring line to a bow cleat or passes a bridle line through the eye of the mooring line and secures to the bow cleat





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Anchors & Anchoring

Picking Up a Mooring



Crew at bow points toward mooring ball and pennant



Moored with bridle from one bow cleat to the other bow cleat



But, check the condition of the mooring line



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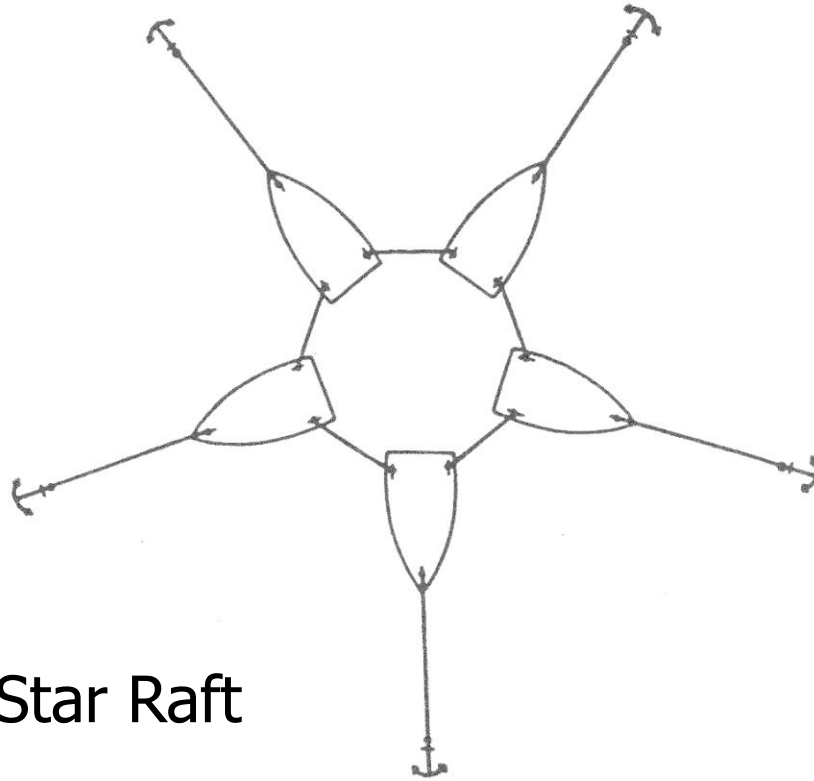




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Rafting Up



Star Raft



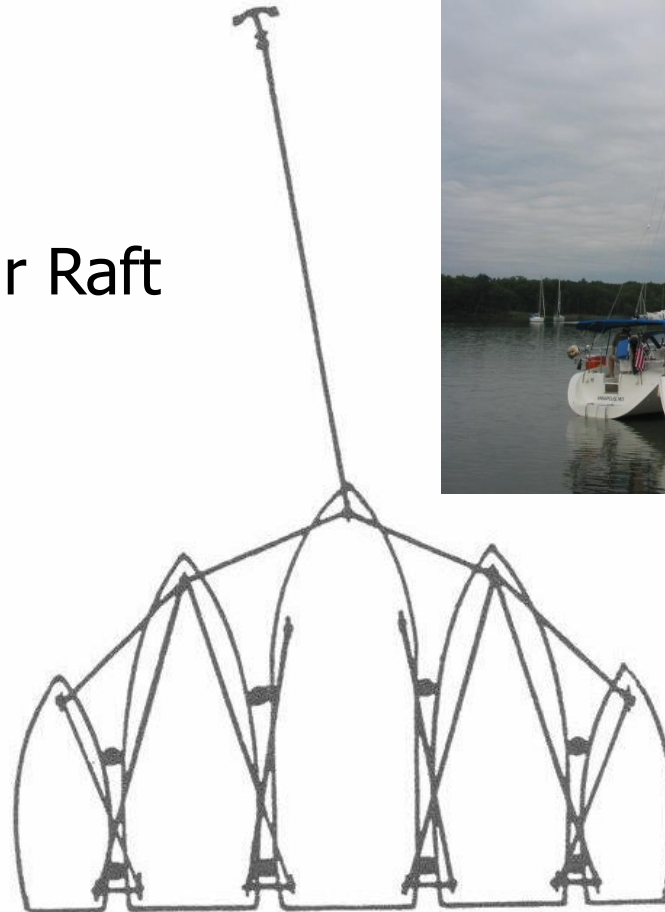


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Rafting Up

Side by side linear Raft



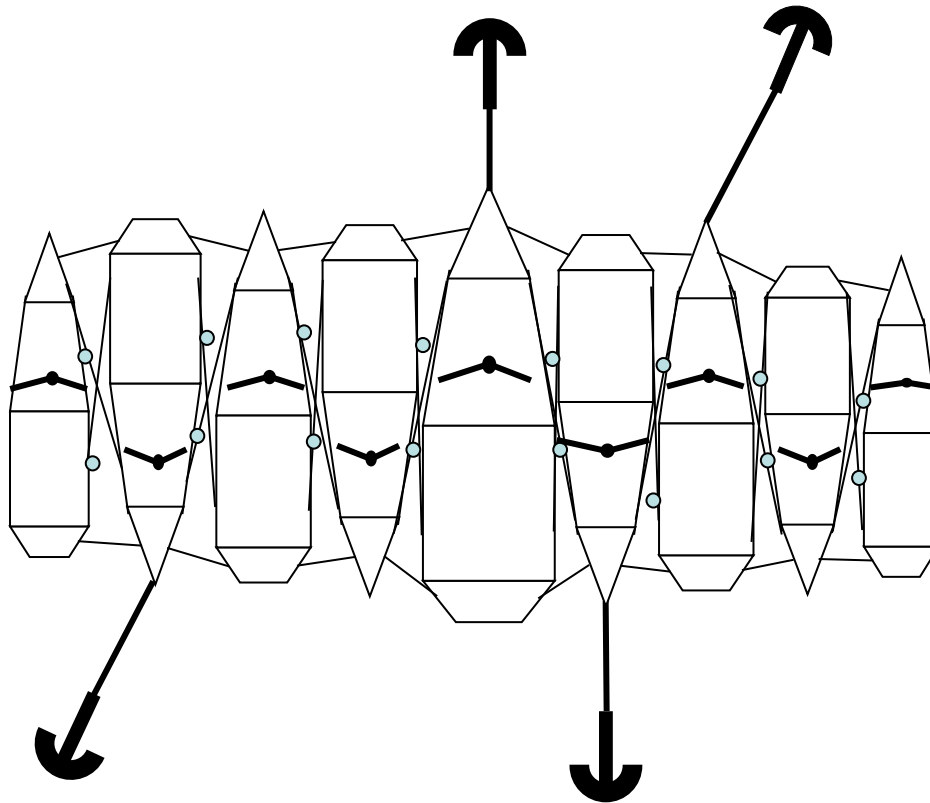


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Rafting Up

Bow to stern linear raft





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Rafting Up

The Raft Captain

- Directs building the raft
- Should be at raft site early (on anchor boat?)
- Determines the form of the raft (bow-to-stern, etc.)
- Communicates with other boats by VHF radio (augment by screaming & pointing)
- Controls boats entering raft
 - When to enter the raft
 - Where (which side) to raft
 - Whether to put out a bow or stern anchor
 - Which side to put fenders and lines
- **Boat skippers responsible for securing their own boats**





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Rafting Up

PSC Rafting Guidelines

- PSC published rafting guidelines for Skippers and Raft Captains to ensure safety and enjoyment at raft-ups
- “Standardized” PSC procedures on how to raft up
- Revised in March 2004 by PSC Training Certification Committee
- “Tweaked” based on Labor Day 2004
- **Does NOT supersede Skipper’s responsibility for safe operation of his or her vessel**



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Rafting Up

PSC Rafting Guidelines

- Largest boat is anchor boat with primary anchor
- Anchor boat anchors first and other boats raft up
- **The Raft Captain directs building of the raft**
- Boats entering raft prepare crew, lines and fenders before entering the raft
- Boats enter raft from alternate sides
- **Raft Captain determines need for additional anchors**
- Boats raft with bow, stern, spring lines and fenders from entering boat
- Use passing line to assist a boat setting an anchor
- **Make sure spreaders are NOT aligned**
- **Be prepared to break up raft at any time**



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Rafting Up

Joining the Raft





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Rafting Up

Joining the Raft





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Rafting Up

Joining the Raft

Note the passing line





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Rafting Up

Joining the Raft





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Rafting Up

Joining the Raft





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Rafting Up

Joining the Raft





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Rafting Up

Completed Raft





Raft-up Planning & Coordination





Raft-up Planning & Coordination

- Raft-up Coordinator/Co-coordinators (Apprentice?)
- Raft-ups are primarily social events
- Picking locations
- Boats, skippers, and crews
 - Cruising and training boats
 - Event prices and cutoff dates (skipper discount)
- Publicity/Raft-up theme
- Raft-up bookkeeping
- Boat/crew assignments
- Skipper and crew packets
- At and after the raft-up

Tip: Use the PSC Raft-up Coordinator check sheet



Raft-up Planning & Coordination

Location

- Quiet (?) Anchorage for 10-13 boats (Saturday night) & a back-up anchorage just in case
- Marinas (Sunday night) – get it in writing and pay deposit to hold
- Restaurants (Sunday night) – confirm this and marina at least monthly
- Check list of previous PSC Raft-up locations on web site



Raft-up Planning & Coordination

Boats

- Bay Commodore gets club boats, decides if boats are cruising or training boats
- Bay Commodore handles all payments for charter boats – not your responsibility

Skippers

- Half price doesn't guarantee skippers – you must recruit skippers!

Crews

- Balance desires/experience, no promises, but meet needs as much as possible



Raft-up Planning & Coordination

Publicity/Raft-up Theme

- Generate interest with information as far in advance as possible; use web site, newsletter, e-mails, phone calls, flyers and personal contact at meetings/classes
- Choose something fun or new or ???
- Realize some boats will and some won't participate
- No budget – it's all up to you (**half price & 5 FVSM coupons**)

Tip: Coordinator MUST be active in marketing the raft-up. You can't just wait passively for people to sign up. You have to go after the membership and make them want to sign up



Raft-up Planning & Coordination

Bookkeeping

- Money holds the slot, not Bay Activity Reservation Form or phone call or....
- Confirm receipt with e-mail and cc Bay Commodore (or send weekly updates)
- Enter data in spreadsheet
- Cell phones best contact numbers
- Private boats pay marina/restaurant charges, if participating – get information and be prepared for changes



Raft-up Planning & Coordination

Boat Assignments

- Coordinate with Bay and/or Training Commodore(s) to decide which skippers go with which boats
- Also appoint a Raft Captain (talk to Bay Commodore)

Crews

- Talk with Bay & Training Commodores, accommodate requests as much as possible, balance, balance, balance
newer skippers = experienced crew
experienced skippers = newer crews



Raft-up Planning & Coordination

Skipper/Crew Packets

- Prepare all (preferred) **OR**
- Prepare for each skipper and let them decide what crew needs
- Float Plan – use examples – they work!
- Include more vs. less information (remember no reimbursement for copies, etc.)

Tip: Get packets to skippers
EARLY otherwise they can get
really cranky; use e-mail



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Raft-up Planning & Coordination

At and After the Raft-Up

- At the raft-up – socializing between boats, if contests = How? Where? Judges? Memorial Day = Bob Howe's Birthday
- Weather – how does it affect Saturday night and Sunday night activities? Back-up is?
- After – cancellations need to be told they won't get money back, don't assume they know (you may have said you'd help but it's their responsibility, not yours to get replacement)
- After – write thank you notes to marina, restaurant, raft-up captain/ helpful commodores (latter may be email?), write article for newsletter-include photos



Tip: You MC any Saturday night raft activities;
Get an MC for Sunday dinner event



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2013 PSC Raft-up/Cruising Opportunities



- Memorial Day Raft-up (25-27 May 2013)
 - Needs a coordinator
- BVI Charter Cruise? (Early-Mid Jul 2013)
 - Not PSC sponsored in 2013
- Croatia Charter Cruise (Sep 2013)?



- Labor Day Raft-up (31 Aug-2 Sep 2012)
- Others-DELMARVA (ASA-106 27 Jul-2 Aug 2013)
- Private Boat Owner Sails??

Tip: Take advantage of these great PSC sailing opportunities



Final Questions, Course Evaluation, & Suggestions for Improvement