

Chapter

11

Lines And Knots For Your Boat

Boating Skills And Seamanship



United States Coast Guard Auxiliary
America's Volunteer Lifesavers





Lesson Objectives

Boating Skills And Seamanship

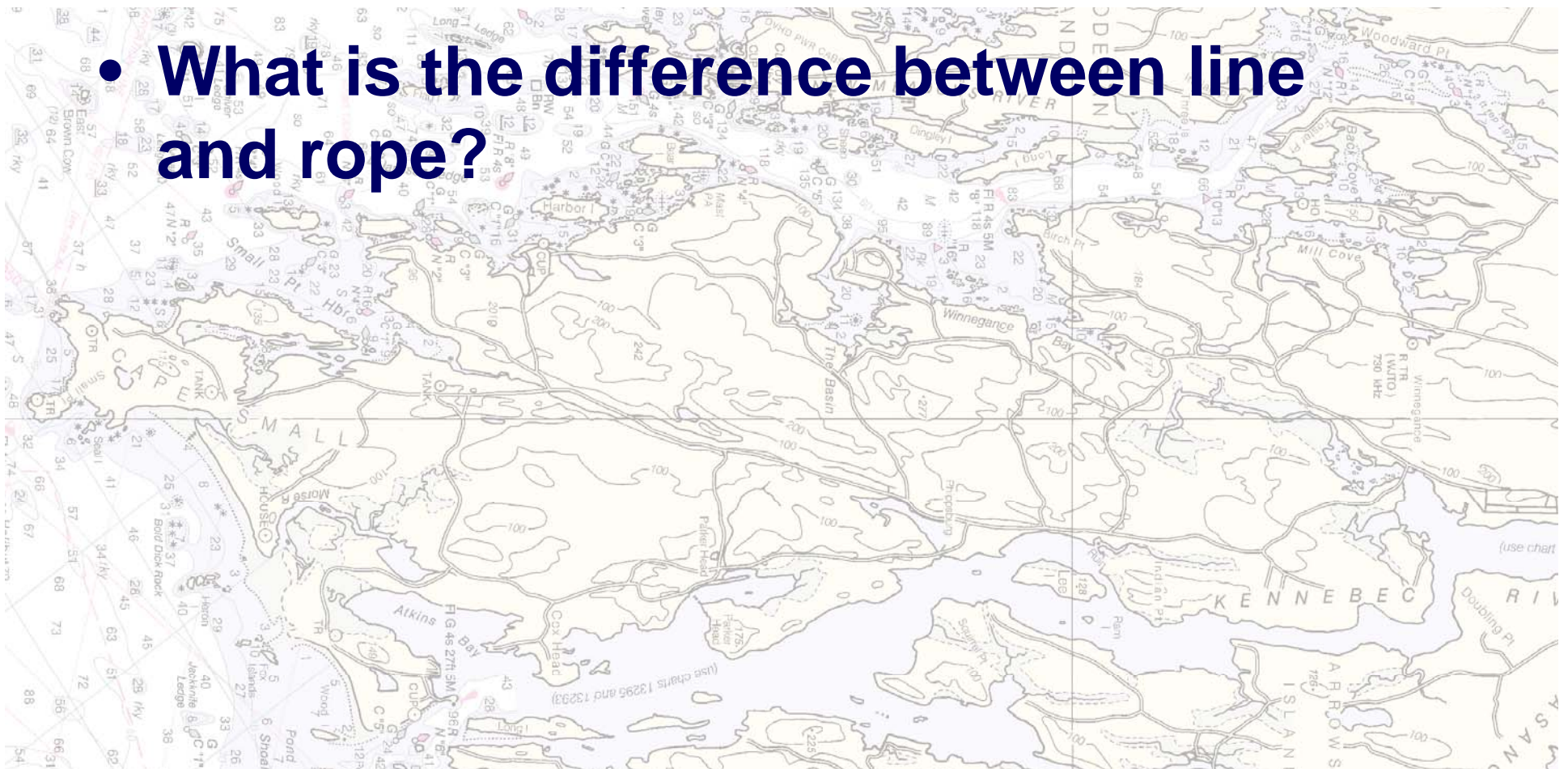
- **Marlinspike seamanship**
- **Rope**
 - Use and care
 - How to store
 - Handling hardware
- **Useful knots**
- **Securing boat lines**



Line vs Rope

Boating Skills And Seamanship

- **What is the difference between line and rope?**





Rope Materials

Boating Skills And Seamanship

- **Nylon**
- **Polyester**
- **Polypropylene**
- **Special ropes**
- **Wire**



Rope Materials

Boating Skills And Seamanship

- **Nylon**

- Strongest size for size of synthetic
- Stretches most, resists chafing
- Good for dock lines, towing and anchoring

- **Polyester**

- costs more than nylon
- easier & smoother to handle,
- little stretch



Rope Materials

Boating Skills And Seamanship

- **Polypropylene**
 - Floats
 - costs less
 - deteriorates in sunlight
 - Hard, smooth surface
 - slips on cleats
 - cuts



Rope Materials

Boating Skills And Seamanship

- **Wire Rope**
 - **Mostly Stainless Steel**
 - **Maximum STRENGTH**
 - **Minimum STRETCH**
 - **Used mostly on sailboats for standing and running rigging**
 - **Used on davits**



Rope Construction

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Laid rope



Webbing



Braided rope

THREE-STRAND



SINGLE-BRAID



DOUBLE-BRAID



PARALLEL-CORE



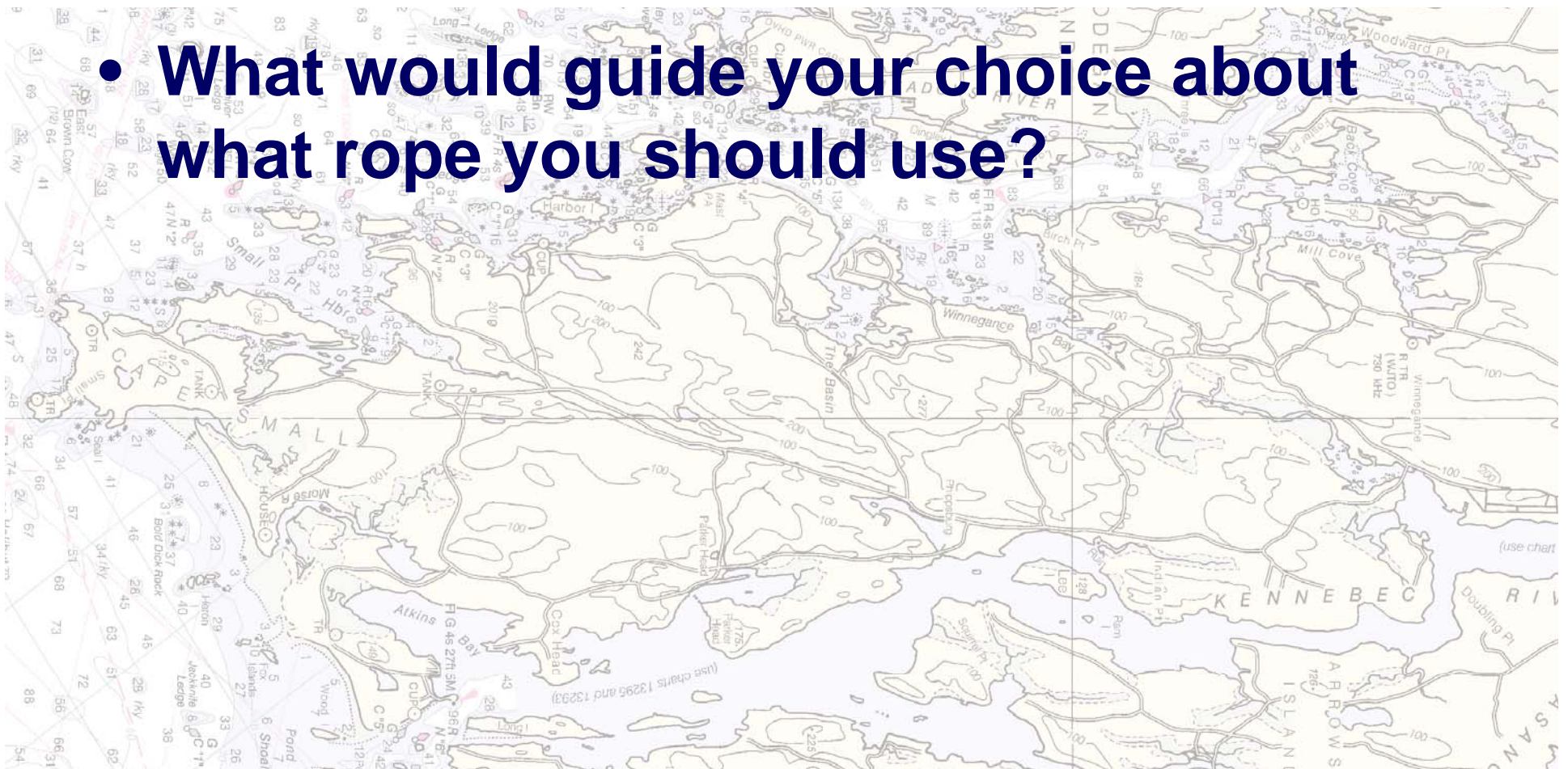
Reprinted with permission from *Knots, Slices and Line Handling: A Captain's Quick Guide* by Charlie Wing



Best Type to Use

Boating Skills And Seamanship

- **What would guide your choice about what rope you should use?**





Best Type to Use

Boating Skills And Seamanship

- **Strength**
- **Elasticity**
- **Resistance to chafing**
- **Resistance to sunlight**
- **Resistance to slipping**
- **Buoyancy**
- **Ease in handling**
- **Storage conditions**



Care of Rope

Boating Skills And Seamanship

- **Uncoiling**
- **Do not over stress**
- **Clean and dry**
- **Prevent chafing**
- **Prevent fraying**
- **Inspect often especially wire rope**



Making Up a Line

Boating Skills And Seamanship

- Coiling
- Faking
- Flemishing

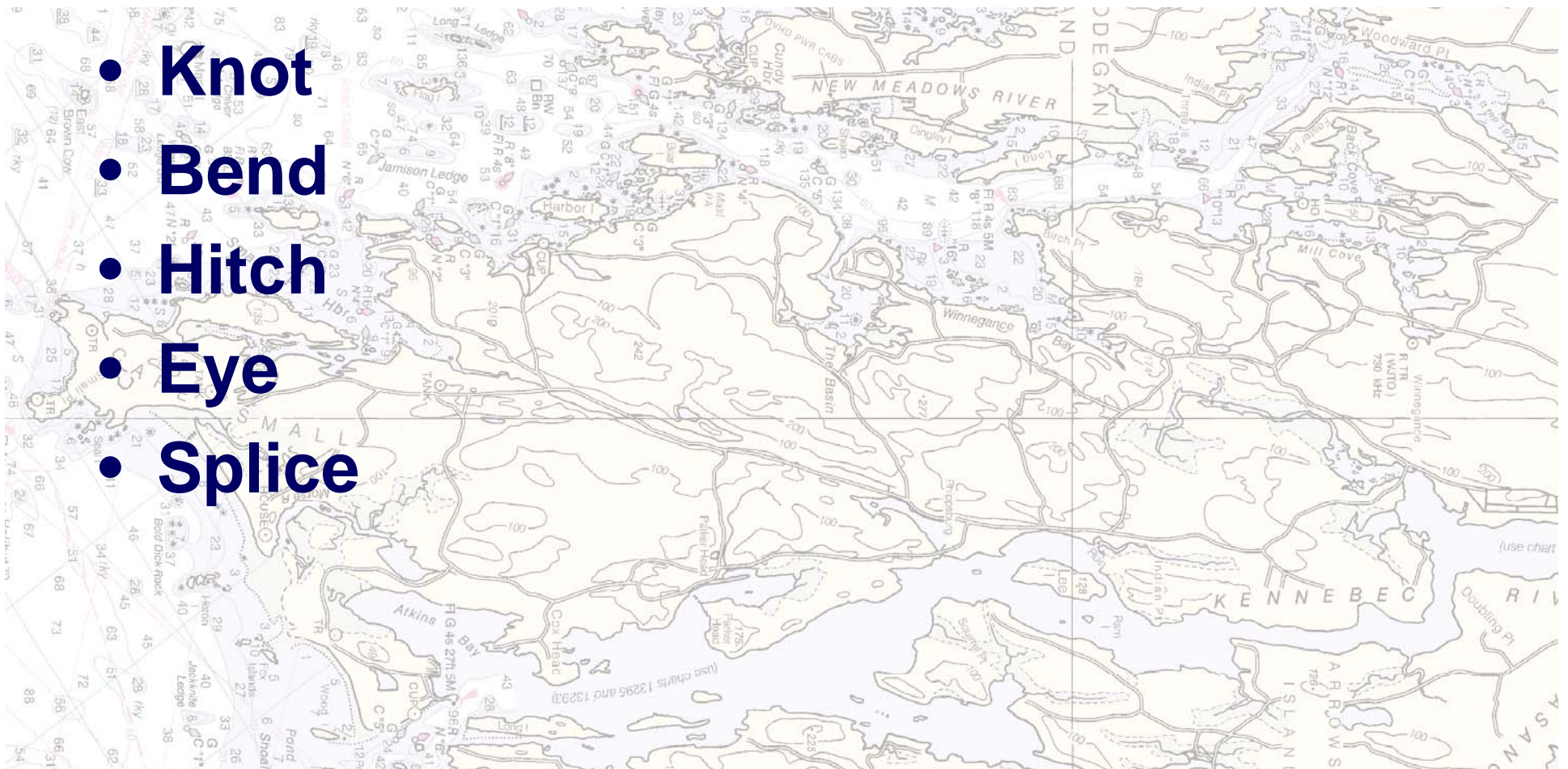




Knots, Bends, and Hitches

Boating Skills And Seamanship

- **Knot**
- **Bend**
- **Hitch**
- **Eye**
- **Splice**





Knots, Bends, and Hitches

Boating Skills And Seamanship

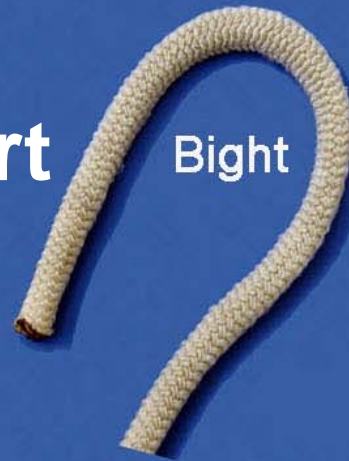
- **Knot formed in the line**
- **Bend ties one line to another**
- **Hitch joins line to spar, ring, etc.**
- **Eye loop at an end of a line**
- **Splice making an eye or joining 2 lines**



Parts Of A Line

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- Working end
- Bitter end
- Standing part
- Bight
- Round turn
- Overhand loop
- Underhand loop



Standing Part

Overhand Loop



Underhand Loop



A turn



A Round Turn



Stopper Knot

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Square/Reef Knot

Boating Skills And Seamanship





Sheet Bend/Becket Bend

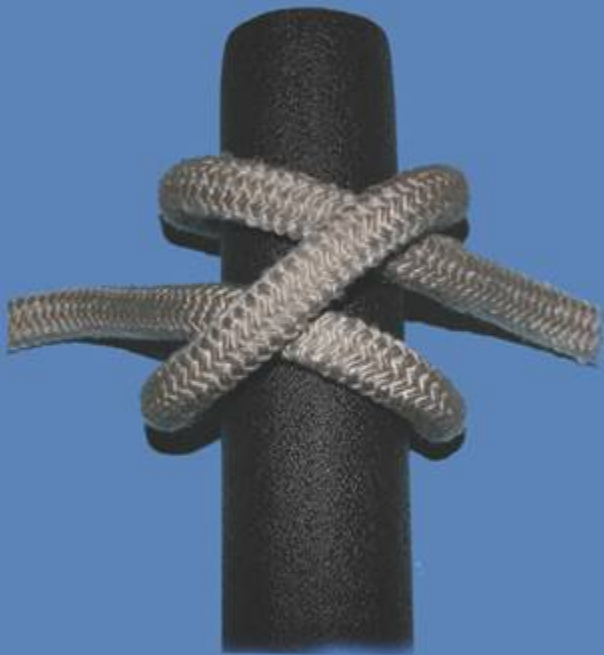
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Clove Hitch

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Two Half Hitches

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Anchor or Fisherman's Bend

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Rolling Hitch

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Bowline

Boating Skills And Seamanship





Various knots

Boating Skills And Seamanship

- **Stopper** – prevent line from pulling through
- **Square** – equal size lines, hard to release
- **Sheet/Becket Bend** – different size lines, double more secure, easier to release
- **Clove hitch** – for piling or rail but works free
- **Two Half hitches** – as above but easier to release when under tension



Various knots

Boating Skills And Seamanship

- **Anchor or fisherman's bend – to secure slippery line e.g. fishing line**
- **Rolling Hitch – one use is to tie new line to one under tension. Pull on the new line to take the tension off the original line.**
- **Bowline – temporary eye in line, easy to release, frequent choice of boaters**



Splices

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- **Short Splice**
- **Long Splice**
- **Eye Splice**



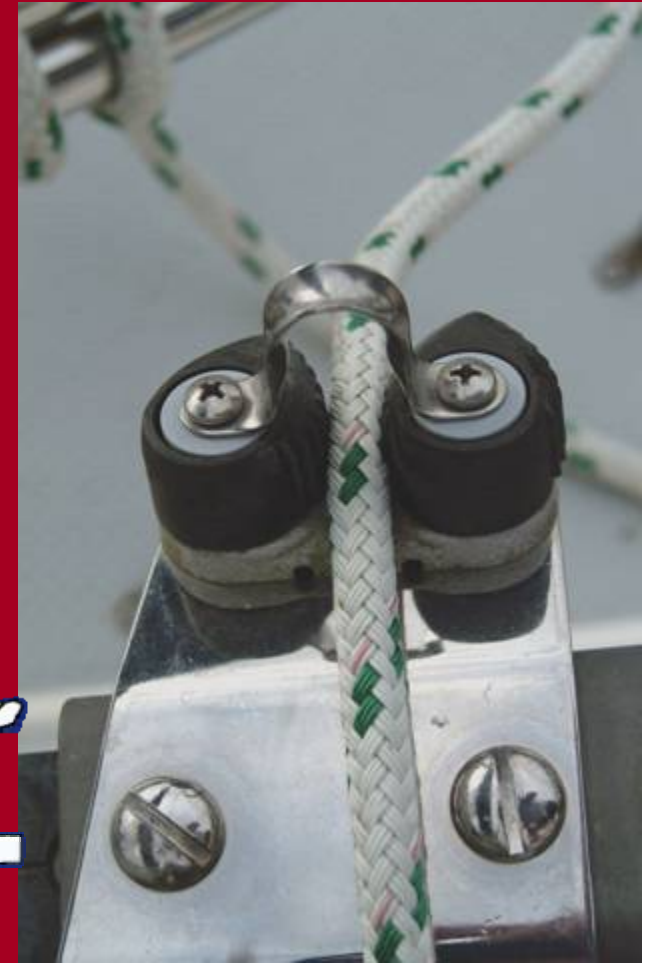
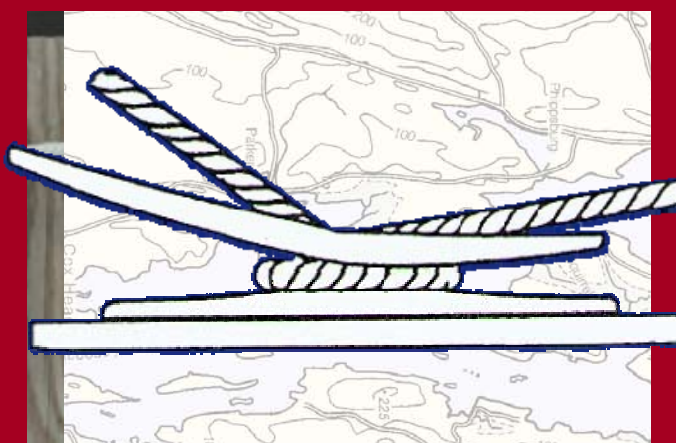


Securing Lines

Boating Skills And Seamanship



- Cleats
- Horned
- Jam
- Cam

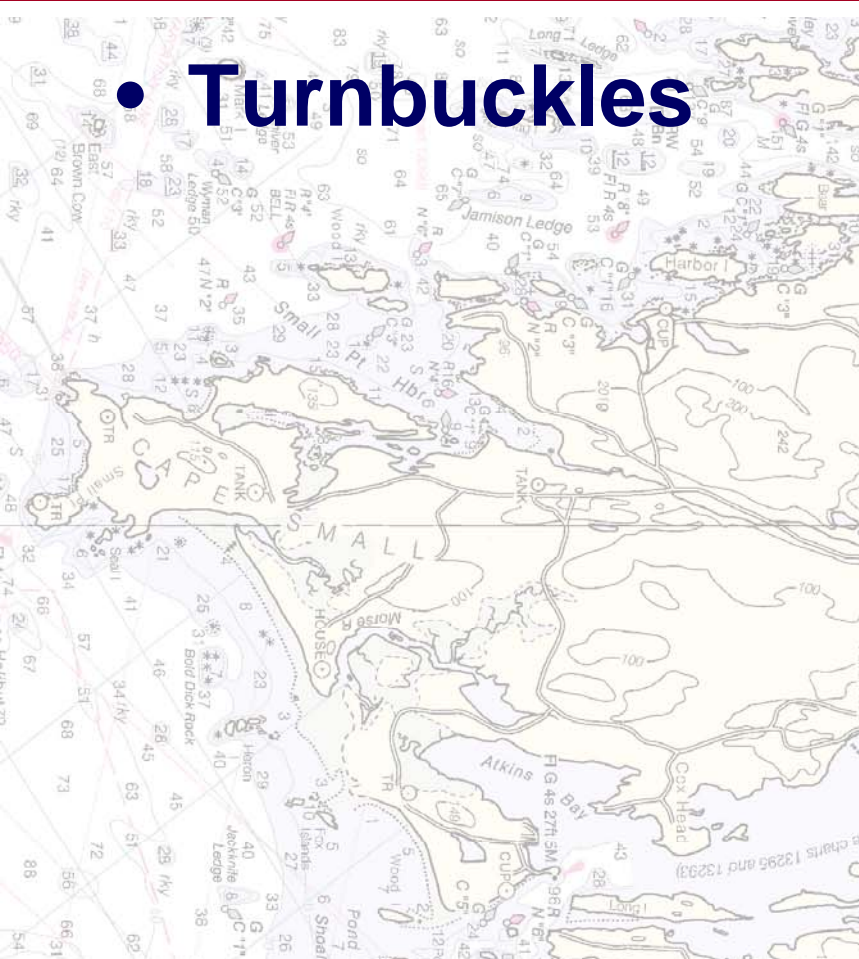




Securing Lines

Boating Skills And Seamanship

- **Turnbuckles**





Securing Lines

Boating Skills And Seamanship





Lead Lines

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Dipping the Eye

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