

A properly made cleat hitch: one turn around the base, figure-eights over the horns, finished with a single locking hitch. *1

MARLINSPIKE SEAMANSHIP / FIELD REFERENCE

Knots to Know

Six working knots and hitches every boater should be able to tie, check and release — by feel, in the dark.

A knot is a tool. The right one holds under load, does not jam, and can be released quickly — sometimes while the line is still loaded. These six cover nearly every job on a recreational yacht: tying up, hanging fenders, making a fixed loop, securing to a piling or ring, stopping a line from running out, and joining two lines. Learn them on your own dock lines until you can tie each one with your eyes closed.

AT A GLANCE

Cleat hitch Dock lines to a horn cleat — the knot you will tie most.	**Bowline** Fixed loop that will not slip or jam; easy to untie after loading.
Clove hitch Quick, adjustable hitch for fenders on a rail or post.	**Round turn & two half hitches** Secures to a ring, piling or rail under steady load.
Figure-eight stopper Keeps a sheet or line from running out through a block.	**Sheet bend** Joins two lines, including lines of different diameter.

*General guidance only. Always follow vessel manuals, current regulations and the judgment of the vessel's master. * See photo & reference credits.*

The Language of Rope

Every set of knot instructions uses the same handful of terms. Knowing them makes the steps below, and any instructor's directions on deck, easy to follow.[1]

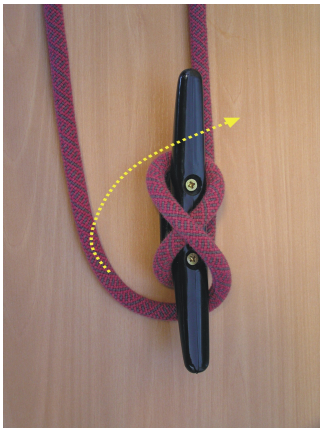
Term	Meaning	Why it matters
Standing part	The long, inactive part of the line — the part leading to the load.	Most knots are formed around it; it takes the strain.
Working end	The short free end you move to tie the knot.	Leave enough tail — roughly 10–12 line diameters on most knots.
Bight	A U-shaped bend in the line that does not cross itself.	Many hitches start with a bight; a slipped knot finishes with one.
Loop	A bight that crosses itself.	The "rabbit hole" of the bowline is a loop.
Turn / round turn	One pass around an object / a full 360° pass plus one more.	A round turn takes the load so you can finish the knot calmly.
Dress and set	Arrange the parts neatly, then pull every part tight.	An undressed knot can capsize, slip or lose much of its strength.

RULE OF THUMB

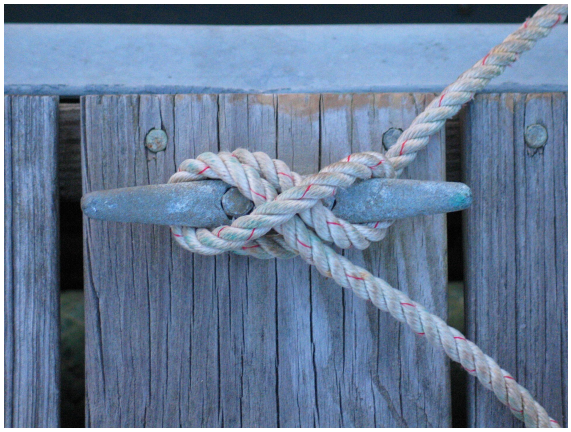
Any knot weakens a line — commonly by a third to a half of its rated strength. For a highly loaded or life-safety connection, use a spliced eye, rated hardware and the vessel's own procedures rather than an improvised knot.[1]

1. Cleat Hitch

Use it for: making a dock line or anchor snubber fast to a horn cleat, on the boat or the dock. A correct cleat hitch holds with only one locking turn and can be released under load — a tangle of extra turns can not.



Start: lead the line to the far horn first and take a full turn around the base. *2



Finished cleat hitch on a dock cleat — neat, flat and with the tail clear. *3

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01	Lead the line to the **far** horn of the cleat (the horn away from the load), so the line approaches at a fair angle.
02	Take one full turn around the base of the cleat, passing under both horns. This turn carries most of the load.
03	Cross over the top of the cleat and pass under the opposite horn, making a figure-eight. Repeat once.
04	Finish with a **locking hitch**: make an underhand loop, slip it over the horn and pull snug so the tail lies parallel to the last figure-eight.
05	Check: the lines lie flat and parallel, nothing crosses itself awkwardly, and the tail is coiled clear of feet.

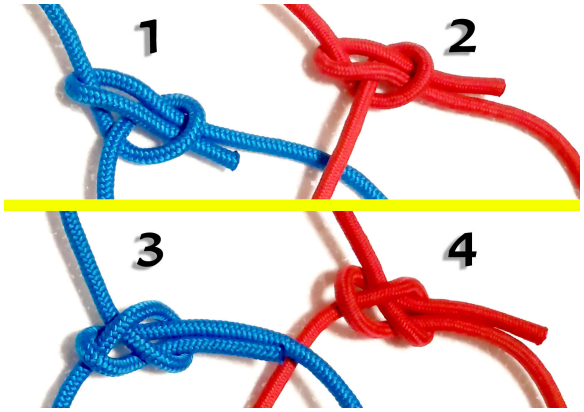
Common mistakes: starting on the near horn (the line jams against itself), adding several locking hitches (impossible to release under load), and leaving a locking hitch on a cleat that someone must cast off quickly in a surge.[2]

2. Bowline

Use it for: a fixed loop at the end of a line — dropping over a piling, making an eye for a dock line without a splice, or a rescue loop. It does not slip or tighten on itself, and it can be broken loose after heavy loading by "breaking its back." It *can* shake loose when unloaded and flogging, so inspect it and leave a long tail.



*A dressed bowline: the working end comes back down through the small loop and lies inside the main eye. *4*

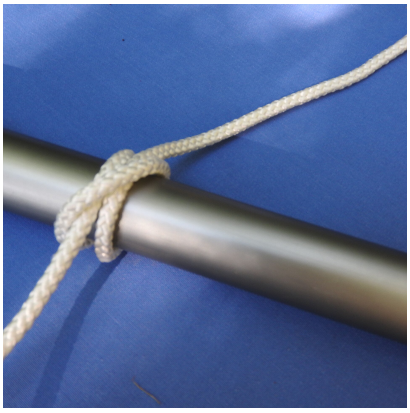


*Common bends and loops side by side — practise recognising each by shape. *5*

01	Form a small overhand loop in the standing part, with the standing part underneath. Size the large eye below it as needed.
02	Pass the working end up through the small loop from underneath ("the rabbit comes out of the hole").
03	Take the working end around behind the standing part ("around the tree").
04	Bring it back down through the small loop ("back down the hole"), alongside itself.
05	Hold the working end and the side of the eye together and pull the standing part firmly to set the knot. Leave a tail of at least 10 line diameters.

3. Clove Hitch

Use it for: hanging fenders from a rail or stanchion and quick, temporary attachments where you want to adjust height easily. Under changing loads, or on a smooth stainless rail, it can roll and slip. For anything more than a fender, add a half hitch or use a round turn and two half hitches.



*Clove hitch on a rail: two turns, with the second crossing over the first and tucked under itself. *6*

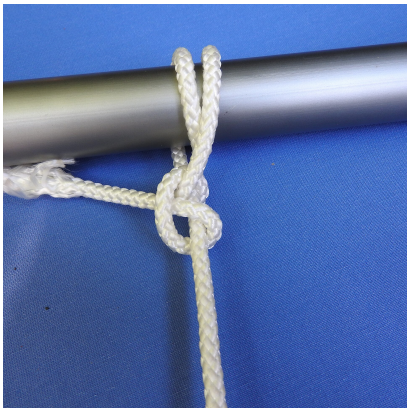


*Fenders and dock bumpers protect the hull; fender lines are usually clove-hitched so height can be set quickly. *7*

01	Pass the working end around the rail.
02	Cross over the standing part and take a second turn around the rail.
03	Tuck the working end under that second turn, so it exits between the two turns in the opposite direction from the standing part.
04	Pull both ends to set. For fenders, adjust height so the fender is at the widest point of the hull against the dock, then back it up with a half hitch.

4. Round Turn and Two Half Hitches

Use it for: securing a line to a ring, rail, mooring pendant eye or piling where the load is steady. Its great advantage is that the round turn takes the load almost immediately, so you can hold a heavy boat with one hand while finishing the hitches with the other. It can also be untied while under load.



*Round turn and two half hitches on a rail. *8*



*The same knot made to a ring — note the two full wraps before the hitches. *9*

01	Pass the working end around the object twice — a full round turn. Let friction take the strain.
02	Pass the working end over and around the standing part and back through itself: the first half hitch.
03	Repeat in the same direction for the second half hitch. Together they form a clove hitch around the standing part.
04	Slide the hitches snug against the round turn and leave a reasonable tail.

5. Figure-Eight Stopper

Use it for: preventing the end of a sheet, halyard tail or control line from running out through a block, fairlead or clutch. It is bulkier than an overhand knot, does not jam, and is easy to untie after a hard pull.

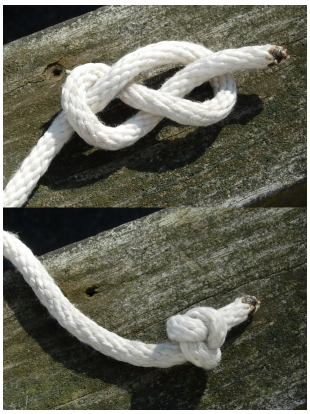


Figure-eight stopper knot — a stopper should be in the end of every sheet and halyard tail aboard. *10



Well-dressed line aboard: tails coiled, nothing loose to trip over or run out. *11

01	Make a loop near the end of the line, with the working end crossing over the standing part.
02	Take the working end around behind the standing part.
03	Pass it down through the loop from the top. The knot should now look like the numeral 8.
04	Pull both ends to tighten and leave a short tail.

6. Sheet Bend

Use it for: joining two lines, especially lines of different diameter or stiffness — extending a dock line, or bending a heaving line to a heavier hawser. Always form the bight in the **thicker** line. For a slippery or very unequal pair, use a double sheet bend (an extra turn). A bend is a temporary connection, not a substitute for a long splice.



Sheet bend joining two lines of different color: the bight is formed in one, the other wraps around and tucks under itself. *12

01	Form a bight in the thicker line and hold it.
02	Pass the working end of the thinner line up through the bight from underneath.
03	Wrap it around behind both legs of the bight.
04	Tuck it under itself, between the bight and its own standing part. Both short ends should finish on the same side.
05	Set by pulling all four parts. For extra security, take a second wrap before tucking (double sheet bend).

Choose the Right Knot

Job aboard	Best choice	Alternative / note
Dock line to a horn cleat	Cleat hitch	One locking hitch only; omit it where fast release is needed.
Fixed eye over a piling or dock cleat	Spliced eye; bowline	Bowline can loosen when flogging — inspect it.
Fender on a rail or stanchion	Clove hitch + half hitch	Slipped clove hitch for rapid adjustment.
Line to a ring, rail or mooring eye	Round turn & two half hitches	Can be released under load.
Stop a line running out	Figure-eight stopper	Check sheets and halyard tails before getting under way.
Join two lines	Sheet bend / double sheet bend	Bight in the thicker line.

Practice Drill

- Practise with an actual dock line of your boat's size — a 5/8-inch nylon line behaves very differently from cord.
- Tie each knot five times correctly, then five times with your eyes closed, then once around a real cleat or piling with the line under some load.
- Have a second person check: is it dressed, set, the correct knot, and with a sufficient tail?
- Untie every knot after loading it. If it jams, it was probably tied wrong.
- Keep line ends whipped or heat-sealed. A frayed end is harder to tie and signals line that needs attention.

CAPTAIN'S NOTE

Different references show a cleat hitch with or without the locking turn. On a working dock line in surge or a tidal range, ease of release often matters more than an extra hitch. When I teach owners aboard, we tie every line on their boat, on their dock, in the conditions they actually use.

*General guidance only. Always follow vessel manuals, current regulations and the judgment of the vessel's master. * See photo & reference credits.*

Further Reading & Official Sources

[1] USCG Boat Crew Seamanship Manual, COMDTINST M16114.5 (Ch. 7, Marlinspike Seamanship) — https://www.uscgaux-ocnj.org/Training/Crew%20Manuals/BOAT%20CREW%20HANDBOOK%20-%2016114.4A_Seamanship%20Fundamentals.pdf#page=40

[2] Animated Knots by Grog — Boating knots (step-by-step animations) — https://www.animatedknots.com/boating-knots

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*10 Figure eight knot.JPG — Just plain Bill. License: CC BY-SA 3.0. Wikimedia Commons: https://commons.wikimedia.org/wiki/File:Figure_eight_knot.JPG

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