



# Warp Speed



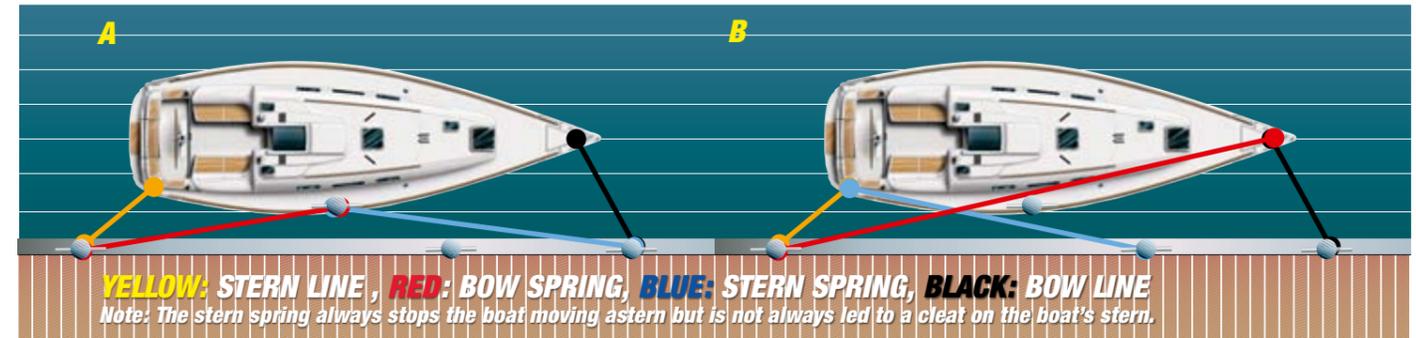
Time and again we see marina snarl ups caused or exacerbated by shoddy mooring warp usage. Hamble School of Yachting's **James Pearson** gives us a solid grounding in the basics of tying and untying our boats.

One of the key set of skills that often betrays whether a sailor has ever been taught, or has worked it out for themselves, is how they moor and unmoor their boat. Looking around any marina, you see a variety of ways of tying up, some of the variety is within the range of individual taste, although some of it is plain wrong. While we are not in the business here of complicating things, mooring is one of the few aspects of sailing tuition where adding more stages to how we consider it actually can help. The classic mistake is to consider 'moored' as a single state and 'underway' as the only other. Simplifying like this into two states can mean we are tempted into thinking that un-mooring a boat is simply a case of reversing whatever we did to moor it which can lead to problems in anything other than settled weather and little tide. Instead mooring and unmooring a boat should be considered in five distinct stages, which we should get into the habit of considering even in light wind, tide-less conditions:

1. Preparing boat, lines and crew to moor.
2. Getting the boat moored, safe and initially attached to the pontoon
3. Ensuring the boat is suitably moored for the length of time it is due to be left
4. Preparing boat and lines to slip
5. Slipping (un-mooring)



Even when moving our boat solely under motor, it is good practice to have all sail covers off and the main halyard on in case of engine failure.



## TERMINOLOGY

**Lines and springs**— The bow and stern lines stop the bow and stern moving away from the pontoon. The bow and stern springs stop the boat moving forwards and backwards along the pontoon. The key for recognition of the springs is that the bow spring stops the boat moving forwards and the stern spring stops it moving astern. The bow spring gets its name from frequently being attached near the bow of the boat and the stern spring the stern. With a vessel using amidships cleats such as boat A (above) though, the bow spring need not go near the bow and the stern spring need not go near the stern. As in boat B the springs might cross each other, but their exact locations depend upon the available cleats on the boat and pontoon. Springs should ideally be more than half the length of the boat (longer ropes stretch more so can absorb more energy than shorter ones), and not cross the bow and stern lines to prevent chafe with these lines which will snub in a substantially different direction.



**Slipping**— This is the way we un-moor a boat by paying it out on one end of a doubled mooring line passing round a cleat or bollard and back to the boat. The most professional method of un-mooring

our boat! (As above). Note that the way the lines are arranged when the boat is moored is quite different from the way they are arranged to slip. Awareness of this difference is a key mooring skill. >>



**OXO-ING TO A CLEAT**

Using a cleat correctly is simplicity itself. Firstly ensure a fair lead to the cleat by taking the rope from the boat under the horn of the cleat leading away from the load first. Then it's just a case of doing as follows:

Loop once round the base of the cleat



(the O)



Add a criss cross both ways (the X)



And a final loop round the base (the final O) Many sailors can't believe this simple sequence will hold their boat, but have faith and don't fall into the common trap of adding a few more X-es and Os for good luck. It only uses up space on the cleat that might be needed for something else or by someone else.

**PREPARING TO MOOR**

The first and most important priority when it comes to getting the boat secured is to ensure that you end up with at least one warp holding the boat to the pontoon you are attempting to secure to! This might seem like a gross simplification, but we've all heard of the classic mooring mess-up (recreated above) when the wind is blowing the boat off and a crewmember is dropped off. Thanks to the time lost by perhaps tangling the warps together as he holds them in one hand to lower himself down to the pontoon with the other hand, plus a bit of indecision time about which end of the boat to secure first, he has failed to secure anything and the boat has blown beyond his ropes.

So, if we prioritize the necessity of getting the most important warp secure, rather than the 'nice to have' of getting two warps secure, we can greatly reduce our chances of getting nothing secure. In deciding which to secure first we consider which end of the boat will get moved out of position first and furthest if we do not secure it. Our plan should second guess and prioritise the order we should attach the other warps. Two warps normally will hold the boat fairly safely while others are secured so our initial mooring plan only needs to consider two ropes. Though these are often the bow and stern lines this is not always the case and the first warps on might be any combination of lines and springs. Some short handed sailors swear by a single, short midships spring, which can be motored against to keep the boat level while other warps are secured. Deciding where to position our step ashore crew is always a simple matter of predicting which part of our boat will reach the pontoon first. To aid us in all these predictions we

should recall the Big 5 Principles of Boat Handling (ST 172- August 2011). For example if the wind is blowing directly off the pontoon, and there is no tide we can be fairly confident in the above example, the bow will blow off the wind faster than the stern due to the boat's windage and pivot point. So we can see, in this case that our crew should be stepping off at the shrouds (the widest part of the boat, plus the shrouds themselves are a useful handhold for the step down), and should be securing the bow line first. There are multiple ways of keeping the second (stern) line available without our crewman having to jump ashore with both hands full. We simply had it close at hand for the helmsman to pass across to the crewman (below), once he had secured the bow line and had walked unhurriedly back to the stern. In this offshore breeze there would then be plenty of time to secure springs.

The final key consideration in planning is taking warps ashore of the correct length, as over-long ropes are harder to manage. In this case when the first two warps on are bow and stern lines the distance from cleat to shrouds plus a metre was fine for line length.



**TYING TO A CLEAT**

We could use any of the following methods to terminate the non-adjustable end of our lines at a cleat:



• **Bowline hooked over cleat** Easy to whip off a cleat from on board the boat but if the load is likely to come on and off it could come undone over time or unhook itself. The reason most people use this is that if the boat is properly moored it won't be possible for loads to come on and off lines and cause trouble.



• **Bowline through cleat** More secure than the bowline as it removes the possibility of the loop coming unhooked, but does not remove the possibility of the knot itself working undone.

• **Cow hitch**

(Bowline passed through legs and over the horns of the cleat – sometimes only over one horn for springs) Spreads more of the load of a bowline loop around the cleat, cutting down chafe, but considered unseamanlike by many due to it being harder to unhook in a hurry than a straight bowline loop. All the fiddly undoing downsides of the round turn and two, without the upside of being releasable under tension.



• **Round turn and two half hitches** The loop spreads the load well, preventing chafe, plus it's the only method that can be released from tension in a controlled manner. Also an easy knot to teach to novice crewmembers. Great bells and whistles solution for peace of mind.



**MOORING**

Having decided which warps we will be attaching in which order and who will be doing what, ensured that lines are of the correct length for the job in hand, not over long and led outside of all fender lines, rigging pulpits etc. and got fenders out at

the appropriate height for the pontoon, we are ready to approach the dock and make fast. In this example our crewmember who is stepping ashore, as will often be the case, is going from the shrouds. As the boat nears the pontoon and is stopped or going very slowly, and our man is absolutely sure it is



a short enough gap between the boat and pontoon he steps off, never jumps. At HSY we always advocate the crew approaching the pontoon facing the direction of travel with one foot either side of the guardwires so he has a good idea of the approach speed. In the final metre, the crewman steps the other foot over the guardwires to leave himself facing backwards with the shroud in one hand and his prioritised warp in the other. The backwards climb down is rather like climbing down a ladder and also reduces the temptation for novice crew to leap the gap when the boat is not close enough in to make it ashore safely. Our crewman secures the first line, approximately the length it will be expected to be with a simple OXO (see boxout opposite) on an appropriate cleat. If the first line attached is the bow line (which due to the aforementioned nature of the pivot point and windage it will be more often than not in a wind off berth), our crewman should resist any temptation to attach the line too short as pulling the bow in will shunt the stern out. In a properly planned and executed berthing manoeuvre it should not be necessary for anyone to run or shout, indeed there is something quite pleasing to watch in a well practiced crew unhurriedly strolling up and down a pontoon to attach their lines.

**MOORING MORE PERMANENTLY**

When we have our first two warps secure, providing our boat is adequately fendered we have plenty of time to snug it down appropriately for the length of time we will be leaving the boat. If we are leaving her on a marina berth for a month unattended we need to allow for tidal flow in two directions and possible winds of all strengths from all points of the compass, so will need correctly tensioned lines, bow and stern springs, and »

## SEAMANSHIP ROPES

we will need to consider chafe too. If we are stopping for lunch, will be aboard, or are making a brief stop at a fuel pontoon for example, our initial two warps alone might well suffice, perhaps with a third such as a single spring in the direction it is required in the short term for good measure.

One of the most obvious indicators of both good and bad seamanship, as the way a boat is left is on show for weeks on end for other sailors to see. On the HYC pontoons we see some cracking examples of bad mooring practice, especially in the way our charter boats are left by their skippers in their hurry to leave the boat after a week's sailing. One example which will always stay with me is the boat with a single 'spring' line consisting of a loose loop from the boat's bow cleat, into the water where it was floating limply and back out onto the boat's stern cleat.

We set up our Jeanneau 36i (page 98) showing some of the more regularly seen bits of bad practice.

One regularly seen piece of bad seamanship is to double up on lines, such as using the long tail of a mooring line to lead back to the boat as a spring. For a start, it suggests that we had our crewmember step ashore with an overly long mooring



### LOCKING TURNS

We're not going to get into a debate here about locking turns, but it's highly unlikely that a locking turn will jam on with modern rope of the correct type used on a correct sized cleat.

### TYING FENDERS:

While a cow hitch will suffice for short duration stays and can provide easy fender height adjustment, for more



permanent mooring a clove hitch backed up by a couple of half hitches is more dependable. Although

lashing round a stanchion can help keep a fender from moving, it can also be a good way of ripping a stanchion off, when a fender jams and pulls.

line which risked a tangle when we first moored. Secondly. Once we leave our boat, etiquette suggests that we should leave it in such a fashion that other interested parties, such as marina staff can easily adjust lines, and adjustments are much easier to make with individual lines. One line for each job. Similarly, to make adjustments easier for ourselves as well as others, we should try to have one job for one cleat, though this is not

always possible in a marina berth with only one pontoon cleat for each end of the boat.

As it is good practice to be able to adjust all our lines from the boat rather than the pontoon, bowline the extreme end of the warps to the shore cleats or bollards and tension the lines with an OXO on our boat's cleats with the excess coiled on deck or our guardwires. A rope traps less dirt when coiled up on the guard wires than on deck.



When preparing to slip, run the slipping lines before you undo the mooring warps



When slipping lines try not to share slipping points and fairleads. At the stern the genoa winches can often provide a useful extra slipping point.

### PREPARING TO SLIP

With small boats and settled conditions, many people will get their crew to untie the lines in no particular order, give the boat an almighty shove in the appropriate direction, jump on and go. It's a technique you will see in any marina any weekend, and many sailors will happily do it for their whole sailing life without getting into too much difficulty. However, it is not considered good seamanship for three reasons: 1) The boat might end up in limbo between moored and

underway, with no lines ashore to control it with but still unable to get clear of the pontoon. 2) The crew member risks falling in the water or pushing the boat off too far to jump so they are left behind. 3) There will be instances where it just won't be possible regardless of the strength of the crew and size of the boat, such as when a stiff tide is pinning the boat onto a cross tide pontoon. While there is not space here to look into the individual methods of actually using lines to drive the boat out of different tricky berths,

the basics of un-mooring are as follows:

Like all manoeuvres, talking it through beforehand is key to success. Everyone aboard needs a clear idea of the whole plan and their part in it. Even if there is one helmsman and one crewmember it is almost always best practice for the crew to slip from aboard the boat. If there are additional spare crew, they are appropriately agile, and the manoeuvre would definitely benefit from a final 'shove and climb on' tactic, (which is rarely the

IN ASSOCIATION WITH



A wide triangulated slip, with incoming line not sharing a fairlead with the out going one and without excessive amounts of line to slip.

case) this can be viable, but it is rarely required and so should not be considered a core part of the repertoire.

While we are preparing, we might as well start the engine so it is reasonably warmed through before we put it into gear. Surprisingly some sailors get so embroiled with the order of slipping lines they forget to fire up the motor until after the boat is being slipped. At HSY we teach students to not leave the dock without the sail covers off and the main halyard on in case of engine failure. We also find that folding the sprayhood

down to the deck for the duration of either berthing or unberthing manoeuvres eases communication and movement.

The first move is to remove the lines that are not doing anything, betrayed by the fact they are loose and clearly not holding the boat in any way.

Without setting the boat free, one by one we set up the lines that are holding the boat as slips, doubled back to the boat and OXO-ed.

One useful tip here is to arrange the slips so that the end that is going to be released is made as short as possible; so only long enough to go from the boat, under the pontoon cleat and back to the boat. This reduces the possibility of a line going through the prop.

Be sure that the fenders are the correct side of the slipping lines so they are not lifted up as the angle on the lines changes. The correct order in which the elements should lie is; Boat- Fender- Warp- Pontoon.

Multiple cleats aboard help here, and usually the bows are better supplied with cleats than the stern. The slipping task is

easier if the ends of the slip go to different cleats, ideally some distance apart to reduce possible tangles and maintain a clearly visible triangulated slip. Clearly, reducing friction is key if slipping a line is not going to result in hauling the boat into the pontoon, so as well as avoiding sharing fairleads between the incoming and outgoing parts of the slipping line, definitely ensure the lines do not cross.

Normally the boat, immediately prior to departure will be held by two slips, and the order in which they will be released will be similarly worked out to our arrival, so once again we will consider the Big five principles of boat handling (ST 172- August 2011). However, as we are still tied to the pontoon at this stage we can get a clue on which lines are most heavily loaded by giving them a tug.

Armed with all this information we should be able to formulate a slipping plan to leave our berth at the angle we require.

### SLIPPING

You will note from this article that there is less to say about slipping than any of the other considerations, especially the 'preparing to slip' section. This is because it really is all in the preparation. Aside from making sure nobody steps on a line that needs to run out and stressing the importance to pull the bitter end in quickly once it is free of the pontoon cleat and in the water, especially at the stern where it is in range of the prop, there is little to say that does not lie in the domain of the screamingly obvious. As always on a boat there needs to be a single person in charge and conventionally it is the helmsman. The helmsman is best positioned to issue the orders to slip the various lines as he can see how the boat is moving in relation to her surroundings from his stern position that will allow him to sight using the mast. Communication is also key, as our



helmsman would like to know when he is slipped by each line, but providing the plan was sound and the boat carefully prepared

to slip and the pre-discussed plan has been well adhered to there should be little scope for embarrassing foul ups.

### About the Author

James Pearson is an RYA Yachtmaster Instructor and Chief Instructor at Hamble School of Yachting. He has been a keen sailor since the age of seven, sailing on a variety of craft ranging from racing dinghies to tall ships. He became a professional instructor at 18 and has sailed tens of thousands of miles since and taught hundreds of people at various levels through the RYA schemes.

### Hamble School of Yachting



Hamble School of Yachting's friendly and experienced instructors have offered high standards of tuition for over 30 years. The school offers the full RYA training programme both ashore and afloat for all levels of experience as well as own boat tuition from one day covering sailors' own particular needs right through to a full RYA course. As demand has increased, the school has introduced many bespoke courses, such as yacht maintenance training, ISAF Offshore Safety Training and professional STCW qualifications. More recently, the School became the official training partner for the World Cruising Club, the organisers of the Annual Atlantic Rally for Cruisers (ARC).  
Contact: [www.hamble.co.uk](http://www.hamble.co.uk)