

Mooring technics


Stern-to mooring


Stern-to mooring is also known as Mediterranean mooring, because this is almost the only sea in Europe where this manoeuvre is performed. Let's see how to moor a boat equipped with a S-Drive and one with a drive shaft stern-to

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It is too simple to just say “mooring manoeuvre”. Let’s keep in mind that there are many mooring methods, and even if we consider just the stern-to mooring (or the Mediterranean mooring, as it is often called because it is typical of the Mediterranean Sea) we must at least distinguish between mooring with an anchor and mooring with a lazy line, the latter being the line that rises from the sinker, that is typically found in private marinas or floating piers. In this article we will deal with what has become the most common mooring technique at present, namely the lazy line method.

There are many ways to perform a mooring manoeuvre in a marina. The stages of the manoeuvre are always the same, but the details change. The procedure shown in these pages is the simplest and the most suitable for those who are not mooring professionals.

We will examine the manoeuvre on two different types of boats, a boat equipped with S-Drive and one equipped with a drive shaft. The former responds very well to the rudder even in reverse gear, whereas the latter has much trouble in reacting to the rudder in reverse gear, when the propeller turns. This difference requires two very different behaviours, that we are now going to discover.

Preparing the manoeuvre

The success of a mooring manoeuvre is established long before starting the manoeuvre itself. This begins with preparation of the manoeuvre. Only careful preparation will ensure that, once the manoeuvre is carried out, everything will go fine.

So let’s see how to prepare the boat:

a) Fenders - These must be placed neither too high nor too low, concentrating them in the central part of the boat. A fender at the bow is completely useless, and one at the quarter is almost completely useless.

b) Mooring lines - These should be grappled to the cleat, led under the pulpit, coiled and arranged so



► This lesson has been filmed in marina Cala dei Sardi in north east Sardinia



► Preparation is a key moment of the mooring manoeuvre. When approaching the berth, the lines must already be coiled and ready to be tossed, and the fenders must be in place

that it is easy to take them and toss them on the quay.

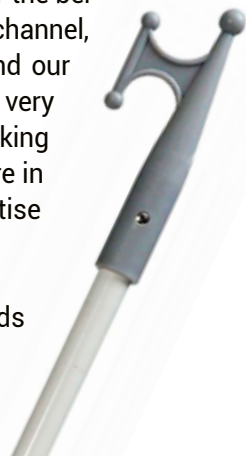
c) Boat hook - The boat hook must be within easy reach to grab the lazy line and lead it forward. Each crew member must know what to do. Harbours are full of arriving boats whose panicked crew members, once at the berth, rush to collect the lines in the lockers, place the fenders just anywhere and grab the lazy line with bare hands. Such a situation often results in some accident.

Speed

The key factor for a good mooring manoeuvre is speed, or rather its lack. When entering the mooring, in order to keep control of the boat we must be slow; the slower we proceed, the better the control we will have on the boat. This is why, when approaching the dock, we need to engage neutral gear.

In case of strong cross wind, we will unfortunately need to increase speed, otherwise the wind will move us sideways, not allowing us to enter the berth any more, but once we reach the channel, between the two boats that surround our berth, we will still have to proceed very slowly. Those who arrive fast, thinking to show their dexterity in this way, are in fact only proving their lack of expertise and experience.

The manoeuvre with the S-Drive
The success of a manoeuvre depends





► In the four photographs on top, the phases of the boat rotation to enter the berth. This must start with the boat that proceeds very slowly as soon as she faces the berth

on the moment when we start to rotate the boat to have it perpendicular to the berth.

There is a light wind blowing from the quay, so it will not give us any problems.

We approach the berth very slowly (2 knots). When our bow faces the berth, we will begin to turn until the boat is perpendicular to the berth itself. Shortly after starting the rotation, we will have to engage neutral gear. We must also remember to move the rudder back to the centre just

before the boat reaches the perpendicular, because the boat will respond to the helm commands with a delay that is directly proportional to her length.

When we are perpendicular to the berth, or just before, we will engage reverse gear. When the propeller has caught up and the boat starts to move backwards, we'll open the throttle a bit to make her build some momentum, without overdoing it. A little bit of speed will cause the rudder to respond better. Let's recall that in reverse gear a boat equipped with a S-Drive steers almost the same as in forward gear. So, even if we are not perfectly aligned with our berth, we can correct the boat's direction. Once we are inside the berth for a third, we can disengage the gear and continue with the boat in neutral. Once we are a few meters from the quay, we will engage forward gear without opening the throttle, which we will do in moderation when the boat will be close to the quay until she stops.

Completing the manoeuvre

Arriving inside the berth and stopping near the quay does not mean having done the manoeuvre. Now we will have to moor the boat. If there is no one ashore when we arrive at the quay, a crew member will have the task of jumping ashore and collecting the lines while his companions toss them to him. This man will wrap a line around a bollard and pass it over again to his colleague on the boat. He will prepare it around the cleat without securing it, ready to ease it off.

With the stern lines ready to ease off, the helmsman can move the boat slightly forward, so as to allow those who have led the lazy line forward to secure it to the cleat, without having to work hard to pull the lazy line on board. Once the lazy line is secured to the bow cleat, the helmsman will engage reverse gear and lead the boat near the quay forcing the throttle a little bit, so the men aft will be able to fasten the stern lines without having to work hard to haul them.

Once the stern lines are fastened to the cleats, the helmsman can disengage the gear and switch off the engine. The manoeuvre is finished. This step is critical.



- ▶ On top, a boat enters a mooring place, everyone looks around, but nobody has prepared the mooring lines and the boat hook, fortunately there is no wind, so when the boat reaches the quay there will be time to pull out the lines and the hook. In the center, a crew member struggles to haul the lazy line of the sinker, but if the skipper came a little further he could achieve the goal without effort. Here above, someone has done a wrong mooring, and skippers of other boats show their solidarity by helping to control the boat.

This is what enables a person without particular physical strength to handle the lazy line without excessive effort. Unfortunately, securing the stern lines before fastening the lazy line is the most common mistake in this manoeuvre, along with starting the manoeuvre without having prepared the boat. And it is that mistake that usually causes the skipper's wife to end up refusing to do the manoeuvre because it is too tiring.

The manoeuvre with a drive shaft boat

With a boat equipped with a drive shaft, the manoeuvre is mostly the same as with a S-Drive. The main difference concerns the choice of the moment when the rotation of the boat in front of the berth will be interrupted.

As we have seen, in reverse gear a boat equipped with a S-Drive proceeds straight and responds to the rudder, because the propeller is very far from the rudder blade. If the boat is equipped with a drive shaft, things are different. Here the propeller is set much further back under the hull, and because of its proximity to the rudder blade, the turbulence caused by its rotation reaches the rudder and makes its action ineffective. For the rudder to steer, the propeller must stop.

We also need to remember that a propeller turns by rotating to the right or to the left, and in reverse gear it will rotate in the opposite direction and push the stern in the direction of its rotation.

This concept is important, because when you engage reverse gear, not only will the boat stop responding to the rudder, but the stern will turn on the side where the propeller rotates, and the helmsman will not be able to do anything about it.

It is therefore essential to know which side the propeller turns, or which side the stern pulls. If we are not familiar with the boat, a small reverse will be enough to figure out which side the stern pulls.

At the beginning of the manoeuvre, we need to get to the berth as much as possible from the right if the propeller is right-handed, or from the left if the propeller is left-handed. In this way, once we have started to rotate the boat and prepare to enter the berth, we will be able to stop shortly before getting on the perpendicular of the mooring and, when we will be engaging the reverse gear, the propeller will have reversed its rotation. And its tendency to push the stern from one side will lead it towards the entrance of the mooring place.

Performing the manoeuvre

(Let's suppose to find ourselves on a boat with a right-handed propeller and to get to the mooring



The berth



Not all mooring places are the same. If it's windy and the skipper has a bit of experience, and if you have a choice, you may prefer a berth placed between two boats, because once in the canal between the two boats, they will contain the leeward decay of the bow and you can perform a manoeuvre with some calm. If the berth aside is empty and the wind hits the bow, it will be pushed leeward, and in that case, it is very often necessary to exit and try again, unless you have a good bow thruster available.

If you can choose between a berth with head wind and one where the wind comes from the quay, choose the latter. The head wind will crush us against the quay, and it will be a little more difficult to control the boat, otherwise the wind will keep the boat away from the quay.

► The mooring boat, a Sun Odyssey 54 with drive shaft, stops her rotation when she is still far from the perpendicular position to the berth, because the skipper must take into account the movement of the stern. In the picture below, as you can see from the movement of the water at the bow, the skipper has opened the throttle and allowed the boat to build momentum, now the boat steers and he leads her in the berth

place from the right in relation to the berth as seen from the quay).

Once we are approaching the berth at low speed, as soon as the bow faces it, the helmsman will start to rotate the boat. Because the propeller tends to move the stern to the side, the helmsman will not wait to get at a right angle to the berth: he will stop the boat earlier, when she is still offset to the mooring place. The stronger the tendency to move the stern aside, the more offset will the boat be in relation to the mooring place. As done in the manoeuvre with the S-Drive, the helmsman will engage neutral gear before finishing to turn around, then he will engage reverse gear and, when the propeller has grabbed the water, he will open the throttle, this time sharply so that the boat builds momentum. Once the boat has built momentum, he will engage neutral gear. As soon as the water around the rudder stops swirling, it will be possible to steer the boat. Meanwhile the boat has approached her berth by turning to the left and placing herself perpendicularly to it. From this moment on, things work as described about the previous manoeuvre. The only thing to remember is that if we use the throttle in reverse gear, the boat will progressively stop responding to the rudder. When the boat is close to the quay, the helmsman will engage forward gear and open the throttle gradually to stop the boat without jitters. The men will toss the lines on the quay, and they will be passed back to them in a bight. They will hold them in their hands without securing them to the cleat, so as to enable the helmsman to move the boat forward and allow those working at the bow to retrieve the lazy line without effort. Once the lazy line is secured, the stern lines will be returned on board before and fastened to the cleats, and the manoeuvre will be over. ●

L'autore



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