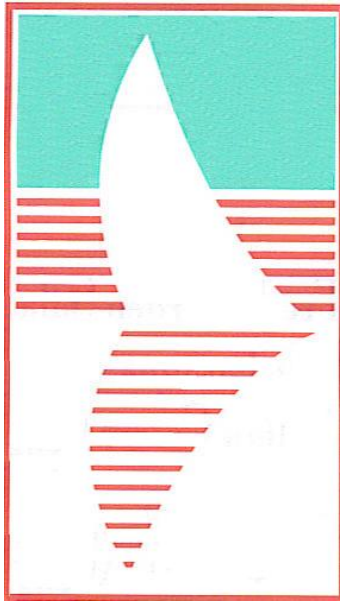


# **A Mooring Guide**



**Courtesy of the Cape Royale Boating Association**



# A Mooring Guide

## Purpose

This guide is a relatively simple aid for boat owners using the Cape Royale Marina. It recommends and explains safe, tried, and proven practices for securing boats inside marinas. It's intended to help new boaters, primarily those not experienced in securing their boats to piers. Methods described herein are not all inclusive; so some readers may know of other equally effective methods. The practices described herein are not necessarily recommended over other effective methods.

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It's essential for boaters to properly secure their boats before leaving them unattended in a marina. Failure to do so can and often does result in damage to boats and/or other property. Not only may an improperly docked boat be damaged by sudden changes in wind and/or water conditions; other boats in the marina may also be damaged by any boat that breaks loose from its mooring.

### Line Requirements

Boat size determines what size dock lines are needed to safely tie boats to marina piers. Recommended sizes:

<b>Boat Length:</b>	Up to 27'	28'-31'	32'-36'	37'-45'
<b>Line Diameter:</b>	3/8"	7/16"	1/2"	5/8"

Larger lines are needed for larger boats. It is unlikely, however, that boats larger than those listed here will be moored in the Cape Royale Marina.

## Attaching Lines

It's important to attach mooring lines to cleats in a way that minimizes chances of their working loose during turbulent conditions. Most bona fide mooring/dock lines have a loop at one end of the line. When a boat will regularly be moored in the same slip or along the same pier, it's a good idea to secure the running end (end without a loop) to cleats on the pier and the loop end to cleats on the boat. If the lines are tied off at the proper length and are then just loosened from the boat as it prepares to get underway, they should normally be at the right length when the boat returns. There are different ways to attach lines to cleats, but the methods describe herein are tried and tested ways that all boaters should understand.

The running end of the line should be passed through the opening in the center of the cleat, unless the line is too large for the opening. In any event, the line should be fully wrapped around the cleat "horns" two or more times, at least once in a complete figure-eight weave. The running end should be tucked back under the weave so the line won't be loosened when the line is repeatedly tugged upon and relaxed. See Figure 1.

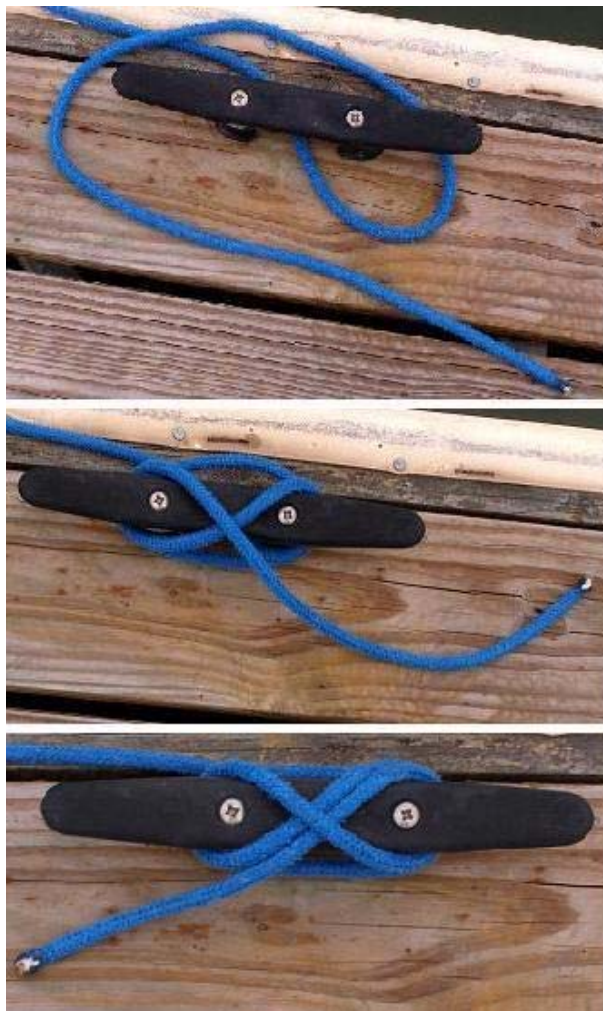


Fig. 1

When connecting a fixed loop to a cleat, one should wrap the looped portion of the line around the cleat “horns” at least twice, as shown in Figure 2 below.



Fig. 2

### **Inside One-Boat Slips**

Docking a boat properly inside a slip will normally keep the boat from breaking loose. If it is not properly secured and gets loose in a marina, not only is that boat apt to be damaged; there is also a good chance it will damage other property. In Figure 3 below, a boat is secured inside a one-boat slip.

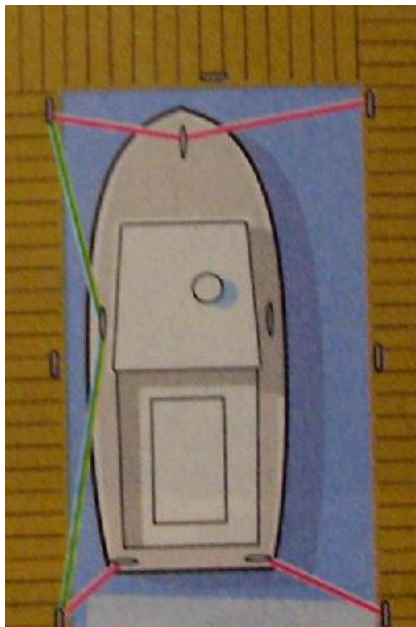


Fig. 3



Fig. 4

Please note that the boat is held in place with two bow lines and two stern lines as shown in red and two spring lines as shown in green. The bow and stern lines determine the full range of movement in the slip. They should be installed before the

spring lines and should not be over tightened. They should be tight enough, however, to keep the boat from contacting any part of the slip structure. Yet, they shouldn't be so tight that they keep the boat from moving around some during turbulent conditions. If a boat is allowed to rub the frame of its slip, even lightly, it will probably incur damage, especially when the winds increase or the water becomes turbulent for some other reason. If the lines are too tight, damage to the lines and/or the cleats may occur.

Spring lines further limit the movement of the boat within the absolute limitations imposed by the bow and stern lines. When turbulence causes the boat to move about within those limitations, spring lines can bring it back to its optimum position. They can also keep the boat nearer the boarding side of the slip. Spring lines should be somewhat tighter than the bow and stern lines. To facilitate their elastic quality, they should be wrapped around mooring "snubbers" several times, as shown in Figure 4. These "snubbers" allow the spring lines to expand and retract as water conditions change, but always bring the boat back to its original, desired position. When a boat will be left in a slip and unattended for an extended period, it's also a good idea to drop a couple of fenders off the side nearest a side of the slip.

### **Outside Piers and Inside Oversized Slips**

The boat in Figure 5 below is secured on only the port side; that's because it's not in a slip. That means there is nothing to attach bow or stern lines to on the starboard side. The sort of mooring recommended for this situation should also be used for boats inside extra-wide slips intended for two or more boats. Failing to do this properly can be risky business.

First of all, lines stretched across the open side of an oversized slip keep other boat's from safely docking there. If lines stretched across the vacant side of an oversized slip aren't noticed by a skipper planning to dock there, serious damage can be done to one or both boats. Such an accident may also cause serious damage to the slip/pier and, in extreme conditions, may result in personal injury. Therefore, boats moored in oversized slips should be secured so that they occupy no more than half the space and remain in just one side of the slip.

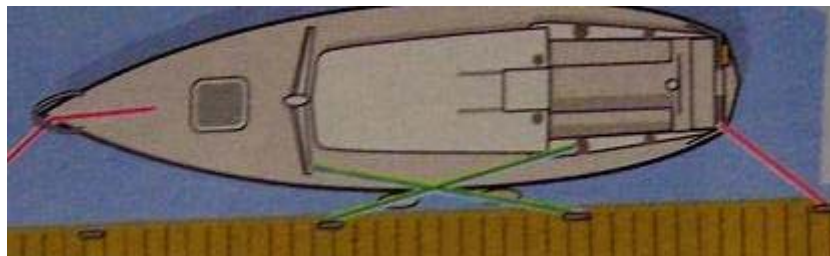


Fig. 5

Securing boats in such situations requires only one bow line and one stern line, but two spring lines are needed. The spring lines should be crossed as shown in Figure 5 above.

When mooring a boat this way, it's always advisable to drop two or more fenders off the side of the boat next to the pier structure.

### **Caring for Dock Lines**

Dock lines should not be neglected. They should be checked often for tightness and condition. Just the normal movement of boats in the water can sometimes loosen the lines. It can also cause chafing and, in turn, weakening of the lines. Once this damage starts, the strength of the lines is reduced quickly. Of course, a broken dock line that isn't detected early is likely to result in some property damage.

In addition to keeping an eye out for deteriorating dock lines, other measures can be taken to extend their life cycle. Ropes and fabrics are not immune to effects of ultraviolet light; dock lines are certainly no exception. Another likely cause of dock line deterioration is chafing caused by the lines rubbing against boat and dock hardware. It is, therefore, a good idea to use some kind of chafe guards to protect dock lines from such abrasive damage.

Chafe guards made of such materials as polyester and leather are available through marine supply vendors. Boaters have also found that simply inserting dock lines through short lengths of plastic tubing and old water hoses at the point where they are apt to rub something may limit chafing as well.

### **Summary and Conclusion**

To protect boats moored in marinas, it's always important to make sure they are properly secured to the piers when left unattended. Failure to do so will almost always result in costly damage to the boats and often to other property as well. Properly securing boats, especially when leaving them overnight or longer, requires that certain measures be taken. First, the proper-size dock lines must be chosen based on boat size. Once the proper lines are acquired, understanding and employing effective methods of connecting them to piers and boats is essential.

It's also important to consider the locations in which boats will be docked. Boats in single-boat slips must be secured differently than boats in over-sized slips and those moored along the outside of piers.

Finally, when all else is properly done, boats may still not be safe unless the condition of mooring lines is monitored to make sure that ultraviolet light and chafing has not weakened them.

<p>Presented by the Cape Royale Boating Association Researched, written, and illustrated by Bobby Hughes Sources included the West Marine Annual Catalog, 2009</p>
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