

# A Few Key Knots for Seaplane Pilots

This is by no means every useful knot. There are literally thousands, but a seaplane pilot is well advised to know at least one from each category. When considering which knot to use under your particular circumstances, consider at least these factors:

- Is the knot easily untied? It's one thing to secure your floatplane to the dock, it's another altogether to have to use your knife to cut that new line in half when wind, waves and a bouncing floatplane have made it impossible to release. The bowline is famous for being easy to untie. Trucker's knots and reef knots often become permanent parts of the line.
- Will the knot hold under your use conditions? A sheep shank holds great under constant load, but not when the load is constantly changing. When securing a floatplane to the dock, remember the wind and waves and what they're constantly doing to the load on the line. A sheet bend is a poor choice when the lines are of different size.
- What's that knot do to the breaking strength of the line itself? An overhand knot left in the middle of a line (because you were careless and tangled the rope then pulled it taut and now can't get that knot out) can reduce the breaking strength of the line by as much as 50%. Sharp bends reduce line strength.
- Is this a temporary or permanent fixture? For permanent fixtures, consider options such as the splice.

## Knot Index

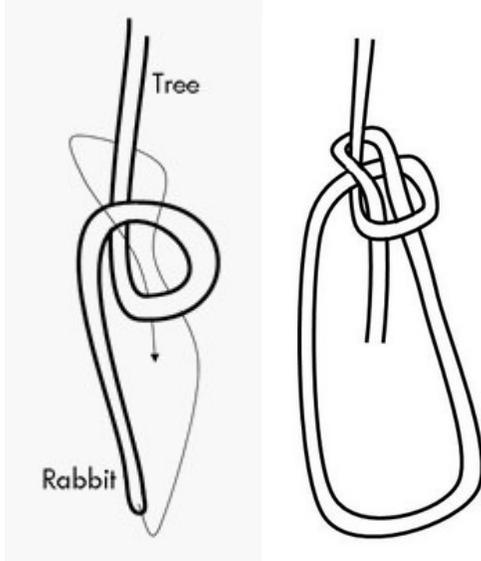
For a very good animated guide to these and more knots, visit the website "[Animated Knots by Grog](#)"

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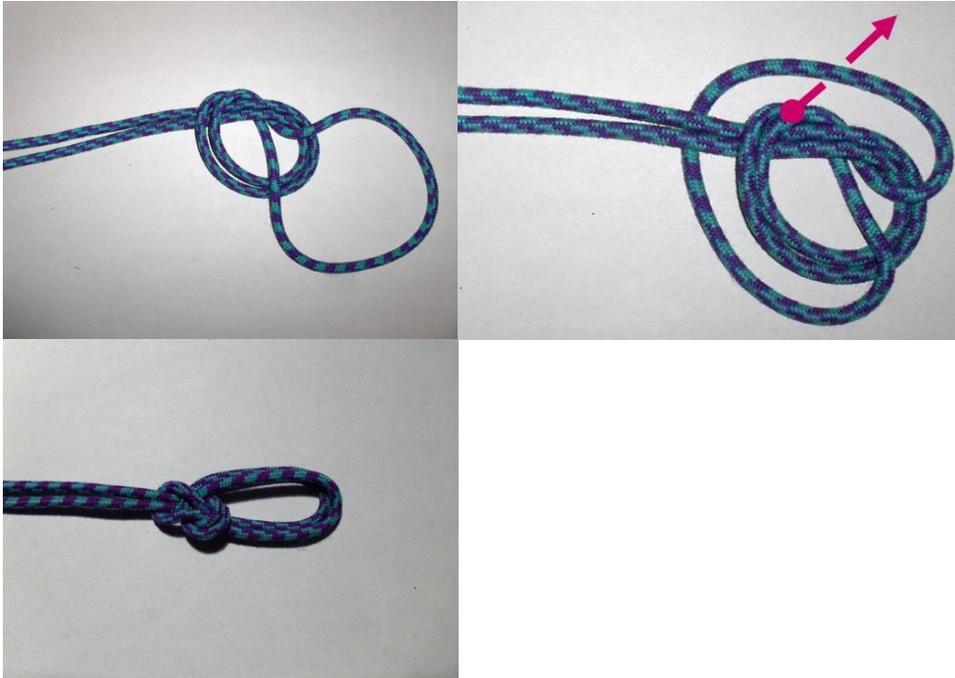
## Bowline

If you only learn one knot, learn the Bowline. It holds fast and yet does not bind up making it easily untied even after heavy loads are applied. The instructions for tying a Bowline are often familiar to people that don't even know the knot. First make a loop near the end of the rope. Imagine this as a tree standing BEHIND a rabbit hole. Now with the end of the rope, "the rabbit comes out of the hole, around the tree and back into the hole".



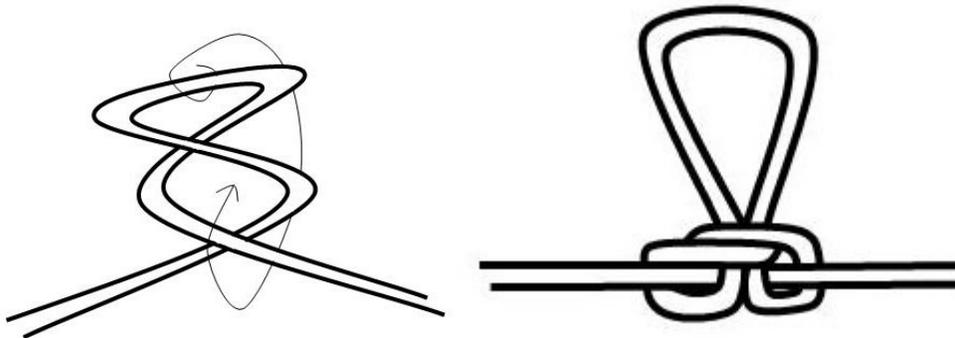
## Bowline on a Bite

Used to provide a double strength loop in the middle of a rope without feeding the entire length of the rope through the knot (or when both ends are secured, making it impossible). Used to create a foothold or place to which another rope can be secured.



## Trucker's Loop

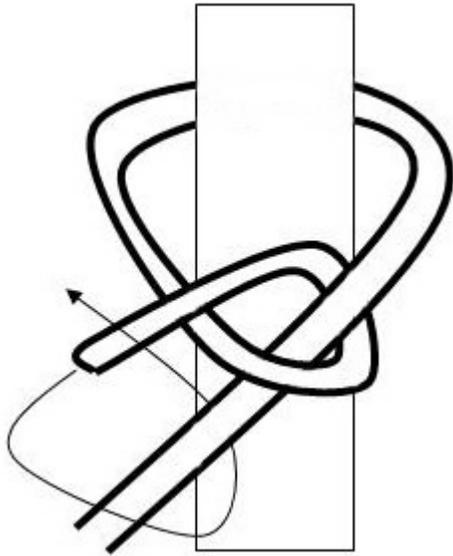
A loop in the middle of a rope (used by trucker's as a makeshift pulley to cinch a load). Pick up the bite, make a full 360° twist. Now take the top of the loop from the back, to the front and through the hole created by twisting. To complete the pulley, loop the loose end around a cleat or post then back through the loop just made. Pulling with now cinch the load with 2x leverage. Using a carabineer will reduce wear.



## Half-Hitch and Double Half-Hitch

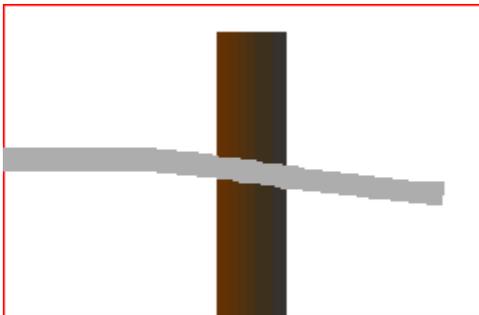
The half-hitch is a basic part of many knots. By itself, it is made by passing the loose end of a rope around a post or stake then tying it off on the line itself (the standing part is the part of the rope leading to the boat or object being tied up).

Most commonly, two half hitches are used together.



## Clove Hitch

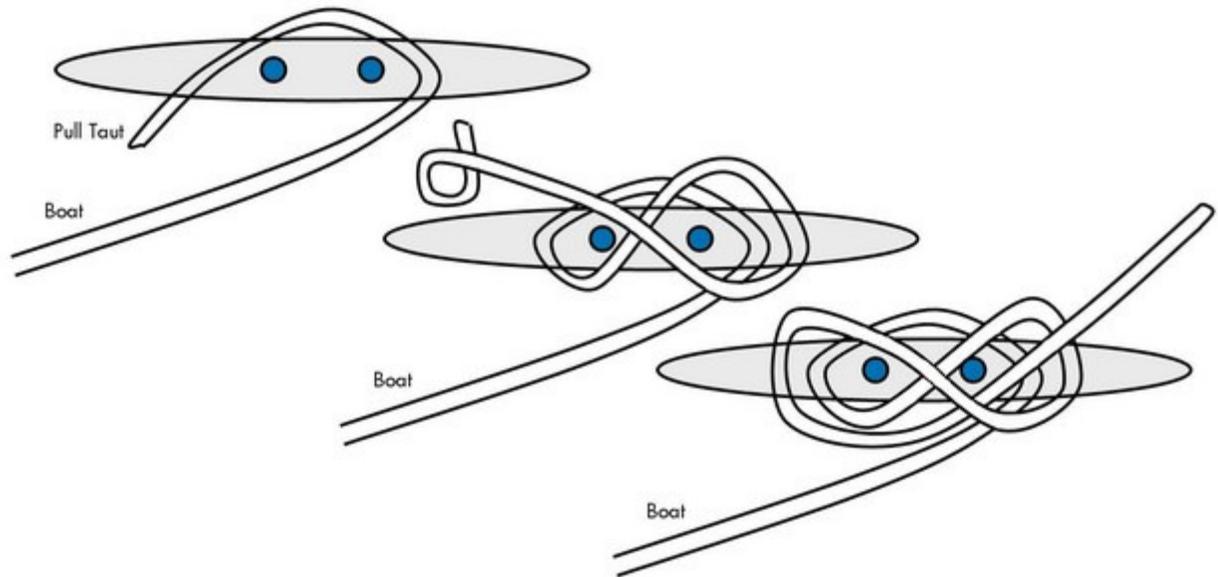
The Clove Hitch is a convenient way of making a line temporarily fast to a piling or post. It can be worked loose by repeatedly varying the angle of the pull, which may happen if a seaplane is rocking from wave or tide motion. To make the clove hitch even more useful in very temporary situations, "slip" it. In the diagram below, instead of pushing the end of the line under the wrap in the last movement, double the line over and push that bite under the wrap. To untie, pull on the end.



## Making Fast to a Cleat

Everybody knows how to secure a boat or seaplane to a cleat on a dock, but few do it right. When done right, the boat pulls from around the base of the cleat and the tail of the rope extends away from the boat. To make fast, loop the end of the rope around the base of the cleat and pull back towards the boat until snug. Pass the loose end over the center of the cleat, under the far horn, and back over the center. Before passing under the near horn, flip the tail of the rope under your

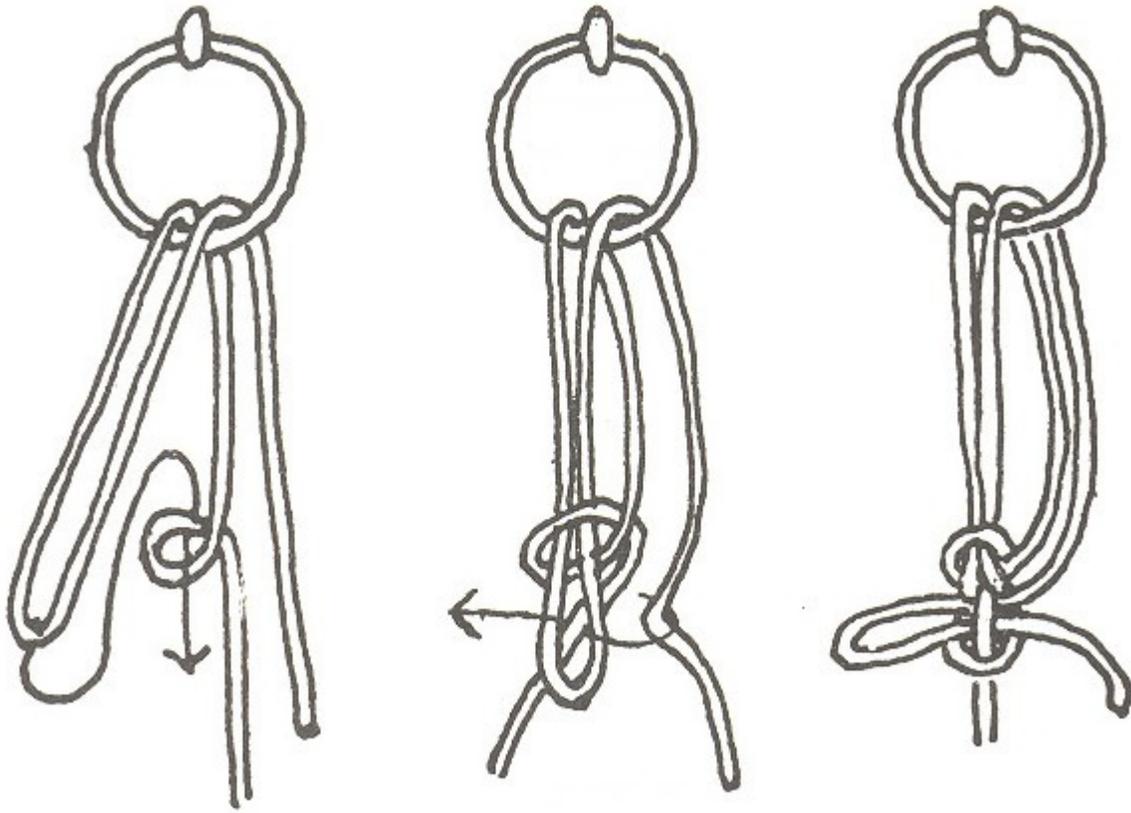
hand to form a half-hitch like loop. Now as you place this loop over the near horn, the tail will be trapped between the loop and the cleat. Pull it away from the boat until taut.



## Ring Hitch

Some docks install rings rather than cleats. This hitch has the advantage that it can be released without having to let go of the rope as it passes through the ring. To begin, double over the line and pass the doubled end (called a bite) through the ring. Now, put a loop in the rope between the boat and the ring and use this to put a half-hitch around the bite. Again between the boat and the hitch, pick up a bite and push it through the end of the original bite. Finally pick up a bite from the loose tail and push it through the opening just created. To release, jerk the

loose tail.

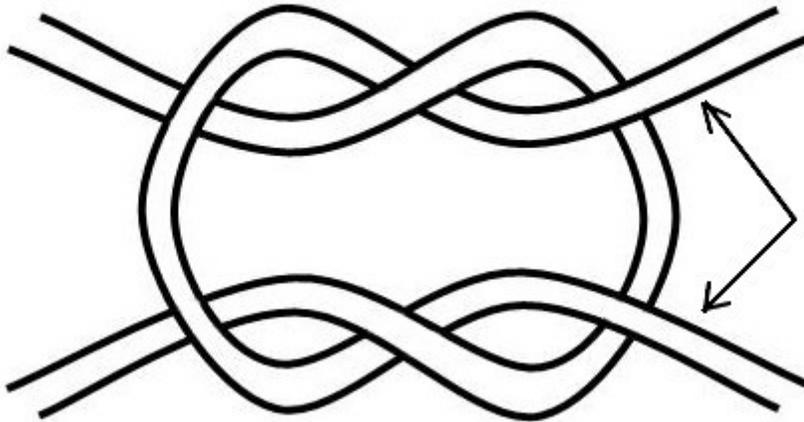


## Reef Knot

The square knot is the only knot many people know and a lot of them use it wrong! The square knot is excellent for tying packages. It should never be used as a bend (to tie two ropes together). If not carefully tightened and shaped, it collapses into an inferior knot (reversed half hitches) and if the ropes are of different size or stiffness, it'll fail (spill actually). Note how a proper square knot resembles two interlocked loops. The most common mistake in tying a square knot results in the Granny Knot when the second overhand knot is tied the same

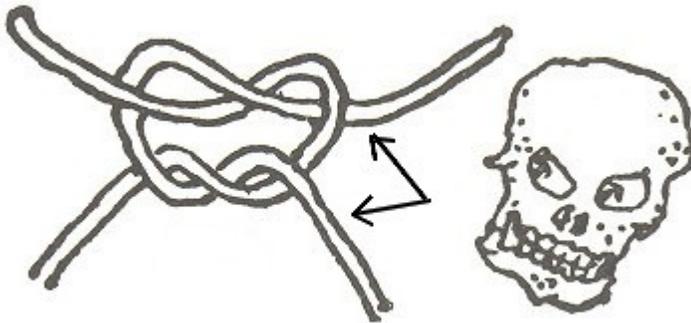
way as the first – never use this.

### Reef Knot



### Granny Knot

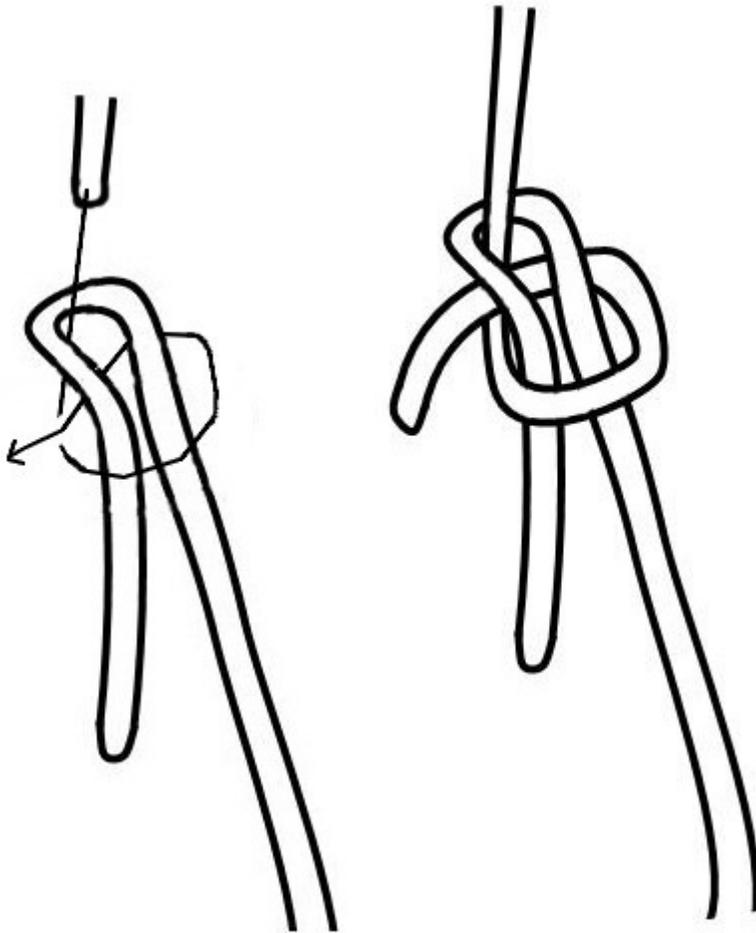
Commonly tied when trying to tie a square knot. Learn the difference.



### Sheet Bend

The Sheet Bend is actually a variation of the Bowline (which explains its holding properties). Many ropes on sailing vessels are called “sheets” and a “bend” is any knot that connects two loose ends, thus the name of the most common knot for this purpose. Though they are the same knot, because the Sheet Bend is used to connect two loose ends, it is tied differently. Double over the end of one of the two ropes. Pass the end of the other rope through the loop formed by the doubling, around the neck of that doubling then beneath itself where it originally

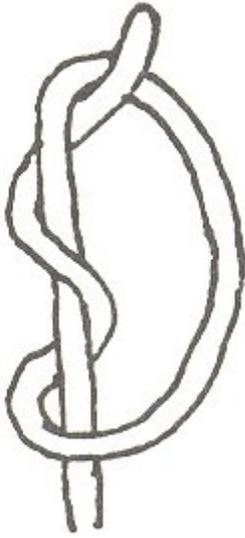
came through the doubling.



## Double Overhand Stop Knot

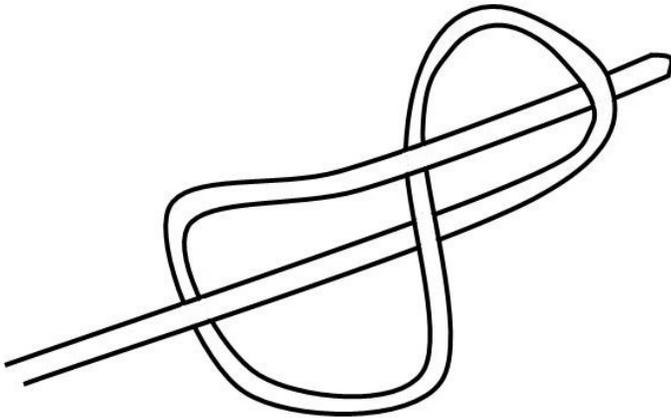
A stop knot is used to prevent a rope from sliding back through an eye or to help ensure a rope doesn't slip totally through your hands as it's fed out. An overhand knot is commonly used, but it's small and easily binds up. An extra wrap creates the double overhand stop knot which is slightly larger and less likely to become

impossible to remove.



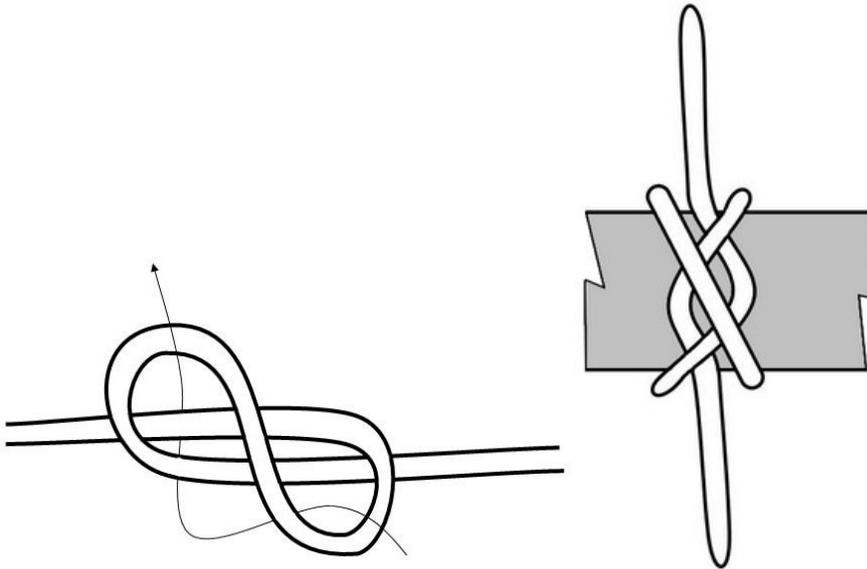
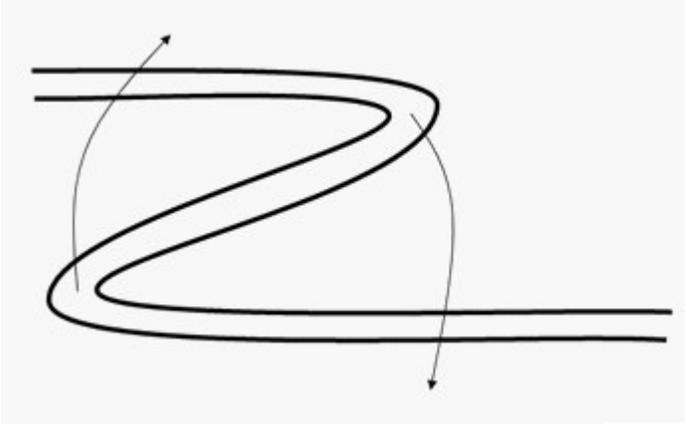
## Figure-8

A popular alternative to the double Overhand as a stop knot.



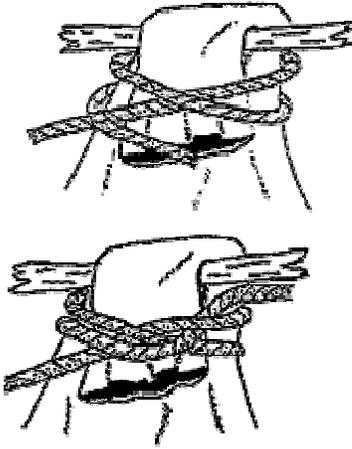
## Constrictor

Best knot for tying up bundles or around the neck of a sack. Easiest way to form a constrictor is to lay a cord out straight in front of you. Cross your hands and grasp the cord in two places. Un-cross you hands so the cord forms an “S” then continue by moving your hands across the loose ends to form sort of a figure-8. Lift the center bending the two loops down and pass the bundle or sack through the two loops. A constrictor can be difficult to untie under load such as a seaplane being driven away from the dock by the wind.



## Miller's Knot

By far, the more popularly known way to tie off a sack. Also useful for securing a floatplane to a post or piling. Form an **Overhand Loop** around the end of the piling. Wrap the **running end** around the piling a second time and pull it through the first **Overhand Loop** as shown. Cinch the knot tight. To untie, simply unwind the running end up and over the top of the piling.



## Sheepshank

The sheepshank is used to make a short rope out of a long rope. From the center of the rope, coil the unnecessary length and collapse it into a bundle. Grab the loose rope a short distance from the bundle and place a half-hitch around the end of the bundle. Repeat with the other end. The sheepshank holds well under

constant load, but will fall apart quickly under other conditions.

