



Magnificent Squadron

BOSUN



Boatswains Manual

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TIMES AND WATCHES

TIMES

As you learned in New Entry Training, The Navy and all military units use the Twenty-four Hour Clock. Use of the 24-Hour Clock is precise. If I told you to meet me at six o'clock would I mean that we were to meet in the morning or the evening? However, if I told you to meet me at eighteen hundred hours you would know right away to meet me in the evening.

The following is a list of examples of times in the twelve-hour clock, twenty-four hour clock and how to say the time correctly.

1 a. m.	01:00	zero-one-hundred-hours
1:25 a.m.	01:25	zero-one-hundred-hours-twenty-five-minutes
6 a.m.	06:00	zero-six-hundred-hours
12 noon	12:00	twelve-hundred-hours
1:35 p.m.	13:35	thirteen-hundred-hours-thirty-five minutes
6 p.m.	18:00	eighteen-hundred-hours
12 midnight	00:00	zero-hundred-hours
12:01 a.m.	00:01	Zero-hundred-hours-one-minute

WATCHES

The seaman uses the twenty-four hour clock and his day is divided into seven periods called watches. In the watch system the day starts at midnight (00:00).

The watches are like shifts at work. Every time a new watch starts, so does a new shift of personnel. Each member of the ships crew and her officer's are assigned shifts on this watch system. A breakdown of watches follows:

SHIPS WATCHES

0000	TO 0400	MIDDLE WATCH
0400	TO 0800	MORNING WATCH
0800	TO 1200	FORENOON WATCH
1200	TO 1600	AFTERNOON WATCH
1600	TO 1800	FIRST DOG WATCH
1800	TO 2000	LAST DOG WATCH
2000	TO 0000	FIRST WATCH

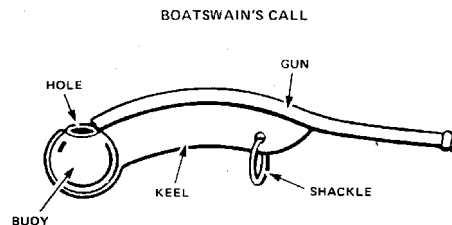
NOTE: The First Dog Watch 1600 to 1800 and the Last Dog Watch 1800 to 2000 are only two-hour watches. This is done to break up the cycle of watches so that the same watch personnel will not have to do the same watch over and over in the cycle. I'm sure that you would not like to always have to do the Middle Watch every duty day.

BOATSWAIN'S CALL

The use of the "boatswain's call" in English ships can be traced back with certainty to the days of the Crusades, 1248 AD. In former days, it was worn in English ships and fleets as an honored badge of rank, probably because it had always been used for passing orders. As long ago as 1485, it was worn as the badge of office of the Lord High Admiral of England, and by his successors in office up to 1562. Thereafter, it was used throughout the English fleets for passing all orders, and since about 1671 it has always been known as the boatswain's call. Nowadays, the boatswain's call and chain are the badge of office of the Chief Boatswain's Mate, quartermasters, boatswain's mates and junior qualified servicemen.

To sound the boatswain's call, hold it between the thumb and index finger so that the thumb is on or near the **shackle**. See figure 1 below for terminology. The **buoy** will then rest comfortably in the hollow of the hand.

and closing and you will be able to come out of the edges of the **hole** or the sound completely.



By blowing into the end of the **gun** opening with the last three fingers, vary the note by throttling the air as it **hole**. Do not let the fingers touch the the end of the **gun** as this will stop

Although a variety of notes and tones may be sounded on the call, only two notes and three tones are used to make pipes in ships.

The **low note** is sounded by blowing into the gun with the fingers clear of the hole.

The **high note** is sounded by blowing into the gun, and throttling the hole by closing the fingers.

Blowing steadily into the gun sounds the **plain note**, either low or high note.

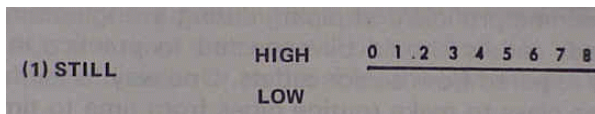
The **warble** is made by rapidly opening and closing the fingers as you blow into the gun.

Vibrating the tongue against the roof of the mouth makes the **trill**, as you blow into the gun.

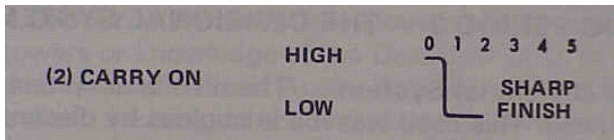
At one time these notes and tones were used to make a great variety of pipes. Many evolutions at sea could be carried out with hardly a spoken word being passed to the crew, all the orders being relayed by sounding the appropriate pipe on the boatswains call. Nowadays, only very few special pipes are used.

THE FOUR MAIN CALLS

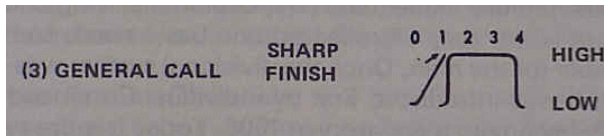
The "**STILL**" is piped to call personnel to attention for rounds, colors and sunset and saluting another warship or senior officer's barge passing your ship.



The "**CARRY ON**" is piped after the reason for the "still" is completed.

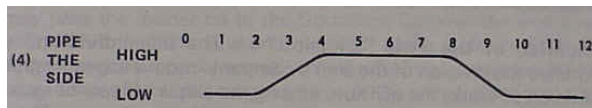


The "**GENERAL CALL**" is used to gain the attention of the Ships Company before passing an order.



The "**SIDE**" is piped when the commanding officer of a ship, an officer of the naval environment of the rank of Commodore and above, a foreign naval officer in uniform, or, a member of the Royal family is coming alongside in a boat and when coming on board or going ashore.

The side is also piped when a corpse is taken aboard or ashore and when the body is committed to the sea in a funeral at sea.



GLOSSARY OF NAUTICAL TERMINOLOGY

You must have an understanding of each of the following. You will be tested on this material.

- Aft** In the direction of the stern.
- Aloft** Above.
- Athwart** Running from side to side.
- Batten Down** To secure closed or shut.
- Beam** The width of the ship.
- Belay** To cancel an order, or to make fast a rope.
- Berth** A place to sleep or to secure a ship.
- Brow** A gangway between two ships or from ship to shore.
- Bulkheads** The walls of a ship.
- Deckhead** Ceiling
- Draught** The amount of the ship under the waterline
- Duff** Dessert.

Forward	Towards the bow.
Freeboard	The amount of the ship above the waterline
Hatch	A door on the deck used to go below decks
Hatch Coaming	The raised area upon which the hatch attaches
Haul Taut	To pull tight.
Lee	Opposite side to that which the wind is blowing.
Midships	The center portion of the ship
Port	The left side of the ship when facing forward or a sweet wine.
Rig of the day	The uniform to be worn
Secure	To make fast, to stop work.
Starboard	The right side of the ship when facing forward.
Stow	To put away.
Aye,Aye.	Yes
CO	Commanding Officer
Cleat	A piece of metal or wood with two horns around which ropes are made fast.
Deck	Floor
Galley	Kitchen
Gash	Garbage
Heads	Washroom
Hoisting .	Raising (Flags Etc.)
Kye	Bedtime Snack or Hot Chocolate

Make and Mend	Half day during working week that was originally set aside to repair and replace kit. It's now an opportunity for recreation.
Mess Dining Room Or Recreation Area
Number One Executive Officer
Pipe Down	An order meaning keep silent. Pipe down at sea means a free afternoon to catch up on lost sleep.
Pusser	Anything that is service issue or also personal discipline-sharp, crisp, clean.
Quarter Deck	... Where The Flags Are Raised
Scran Locker	... Stowage For Kit Left Lying About.
Sick Bay	... Ships Hospital
Silent Hours	Hours between pipe down and calling the hands; only emergency pipes are made.
Stand Easy	... A Short Break Or A Drill Movement
Wakey-Wakey	Wake up.
Wardroom	Officers Mess
XO	Executive Officer

ROPEWORK

ROPE TERMINOLOGY

BIGHT



A bight is simply an open loop in a rope. By itself, a bight really isn't much, but it's an important part of many knots.

TWIST

A twist, as you can see, is a twist in a rope.



TURN

A turn is simply a closed loop in a rope made by making a circle in the rope. A turn is also an important part in many knots.



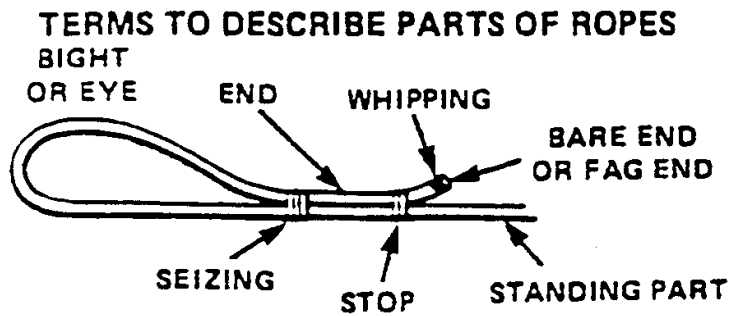
ROUNDTURN

A round turn is another closed loop in a rope. It is made like a regular turn but with the ends of the rope drawn together along the turn. Many knots are also made with a round turn in it. The round turn is generally used to circle another object, like a spar.



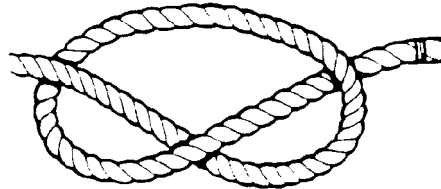
EYE

An eye is a closed bight.



OVERHAND KNOT (MUST BE TIED IN UNDER 10 SECONDS)

The overhand knot is the simplest of knots to tie. It is used primarily in tying other knots and is seldom used alone. But, when used alone it is generally used to prevent rope from pulling through a hole, pulley or the loop of another knot. For this reason the overhand knot is known as a "stopper knot". If the overhand knot is pulled too tight it becomes very difficult to undo.



REEF KNOT (MUST BE TIED IN UNDER 10 SECONDS)

The reef knot, though very simple, is one of the more useful knots. Because it won't slip, it can be used to join two roses of equal size. It is used in package tying and in First Aid. The reason the reef knot is used in first aid is because the knot lies flat it is more comfortable for the patient.

TYING A REEF KNOT

To tie a reef knot, take one end of each rope, or the opposite ends of the same rope, in each hand. Lay the end from the right hand over the one from the left hand and pass it under to form a half-knot. This will transfer the ends from one hand to the other. The end now in the left hand should be laid over the one from the right and passed under to form another half-knot. This will give the effect of two intertwined loops that can be tightened by pulling one loop against the other or by pulling on the ends only.

To remember the sequence for tying a reef knot, memorize the following mnemonic:

RIGHT OVER LEFT AND UNDER, LEFT OVER RIGHT AND UNDER.

If the end and the shank on one side of the knot are pulled away from each other, the knot will be loosened and the other end can be slipped off.

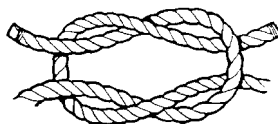
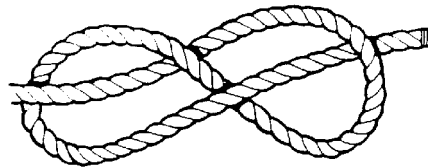


FIGURE EIGHT KNOT (MUST BE TIED IN UNDER 10 SECONDS)

The figure eight knot is primarily used as a "stopper knot" and is better than an overhand knot because it is easier to un-tie if pulled tight. The figure eight knot can also be used to temporarily prevent the strands of a rope from unraveling at the end. It is also used in first aid to provide traction to the feet of an injured person.

TYING A FIGURE EIGHT KNOT

To tie a figure eight knot, make a bight near the end of the rope. Then, taking the short end lay it over the top of the long side forming an eye. Bring the short end behind the long side and then down through the eye. Pull the ends tight.



SHEET BEND (MUST BE TIED IN UNDER 10 SECONDS)

The sheet bend is a very useful knot that can be used to **join two ropes of unequal size**. It can also be used to join a rope to any eye or ring. It is a very strong bend and will not slip. In fact the harder you pull on it the tighter it gets!

TYING A SHEET BEND

To tie a sheet bend, make a bight at the end of one rope. Take the end of your second rope and go under the bottom of the bight. Then going over the top of one side of your bight, circle around the back and out the other side. Bring the end on top of your bight again and then under the trailing end and over the bottom of the bight. Pull tight.

To tie a sheet bend to a ring or eye, just use the ring or eye as the bight.



HITCHES

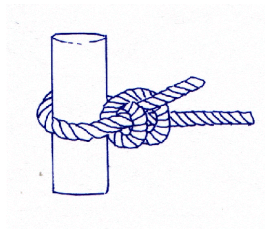
Hitches are used to secure a rope to a spar, ring, hook or other item.

HALF HITCH

The half hitch is the simplest of hitches and usually forms part of the other hitches. This hitch may be used in series to secure a sail to a boom or to secure a long bundle such as spars or oars. It is very easy to apply, but may come loose if subjected to vibration or if the two ends are not firmly secured.

TYING A HALF HITCH

It is very easy to tie a half hitch. Simply, with one end of the rope circle the object you want to secure to once. Drape the end of the rope over the stationary part of the rope. Ensure that there is tension on both ends or the hitch will simply fall apart.



.....
BOWLINE

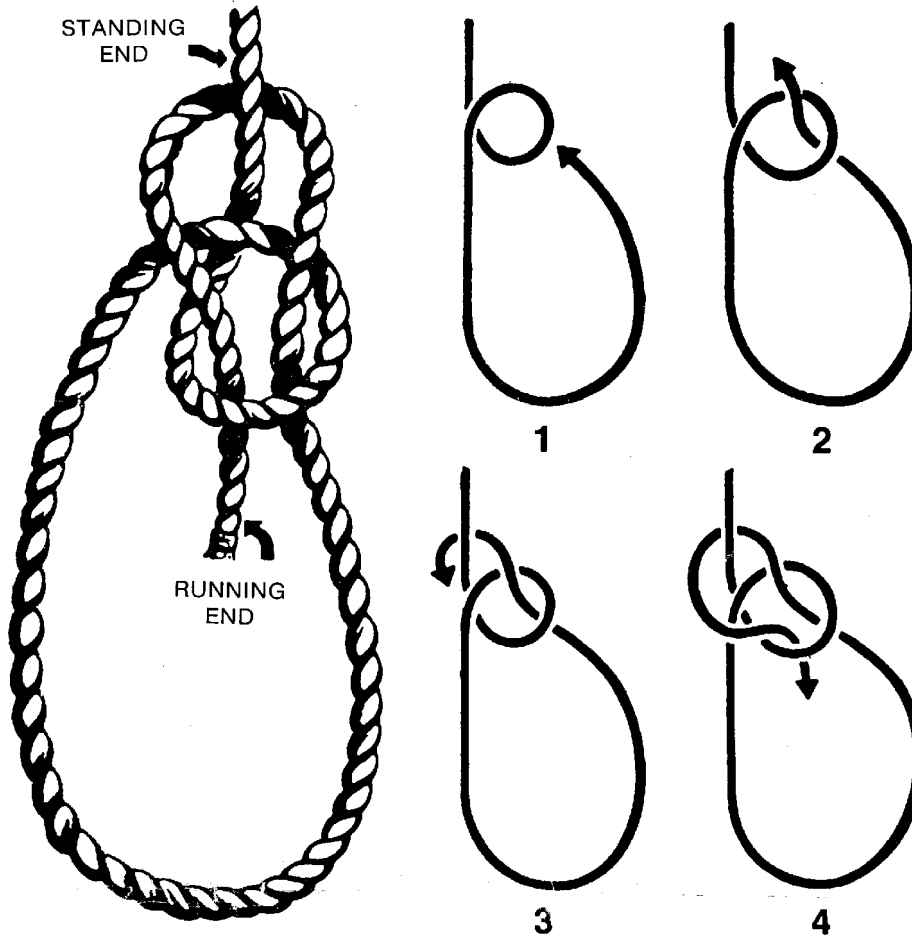
(MUST BE TIED IN UNDER 15 SECONDS)

The bowline is used anywhere a temporary eye is needed in a rope that will not slip, as in mooring a boat. The bowline is a very strong hitch that will not slip or come untied no matter how hard it is pulled on. It will in fact not lose its shape at all. For this reason it is the most effective temporary eye in a rope of all. The eye can be any size you desire, for whatever job it's needed for.

TYING A BOWLINE

updated June 2004

To tie a bowline, follow the steps in the following illustrations. (It's much easier than me trying to explain it with words.)



ROUND TURN TWO HALF HITCHES (MUST BE TIED IN UNDER 15 SECONDS)

This hitch is exactly as it's name states. It is simply a round turn and two half hitches. It is used to secure a rope to the ring of a buoy or an anchor, or to a spar. In order to make this hitch more secure or permanent you must use a stop as in the illustration underneath. This is a very strong hitch that will not

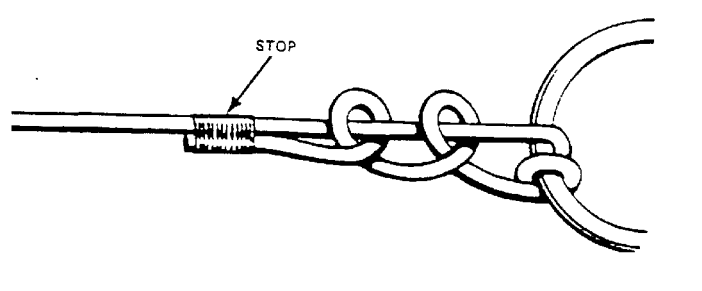
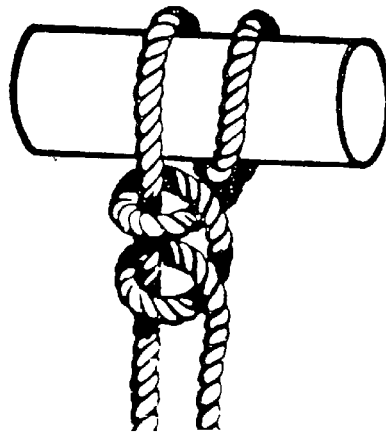
updated June 2004

slip even under tremendous pressure which makes it ideal for securing to an anchor. You don't want your anchor rope to slip and leave you drifting!

TYING A ROUND TURN AND TWO HALF HITCHES

To tie this hitch simply make a round turn through the ring or around the spar that you want to secure to. Then with the running end make two half hitches around the standing end of your rope and pull tight. You can then secure the running end to the standing end with a stop.

There are many types of stops. You can use twine, wire or a prefabricated metal stop that is clamped into place. The metal stop should only be used for a permanent hitch.



ROLLING HITCH

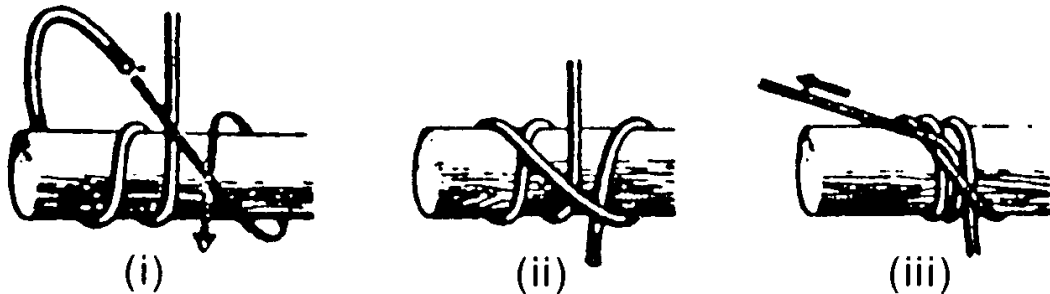
(MUST BE TIED IN UNDER 15 SECONDS)

The rolling hitch is used to either secure a smaller rope to a larger rope or to a spar. Note that this hitch is nothing more than a clove hitch that is started off with a round turn instead of a half hitch. To ensure that this hitch is secure, the pull must be in the direction of the round turn (the ends, not the

round part). This hitch can also be used to hang an object from a vertical rope or spar. In hanging an object the round turn should be on the bottom with the hitch at the top.

TYING A ROLLING HITCH

To tie a rolling hitch, first make a round turn around the rope or spar that your rope is to be secured to making sure that the open ends of your round turn are in the direction that the rope will be pulled from. Then bring the running end of the rope to the other side of the standing part and going underneath the spar, circle it and put the running end through the loop you have just made. To tighten this hitch pull the standing part taut in a sideways direction.



What is a cleat?

A cleat is used to secure a boat to a dock, jetty, or another boat.

One cleat will be attached to your boat, and the other will be attached to the object that you are securing to.

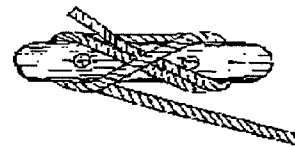
A line from your boat is secured to each cleat.



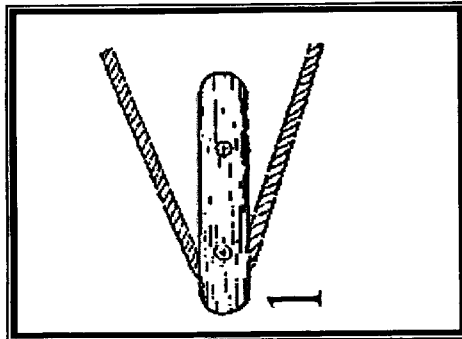
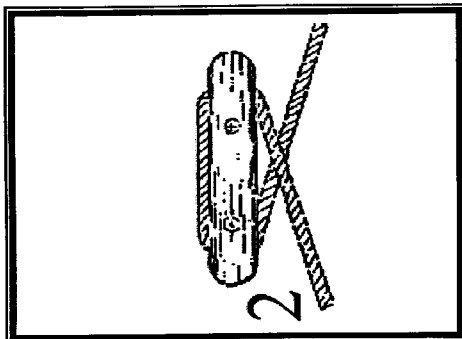
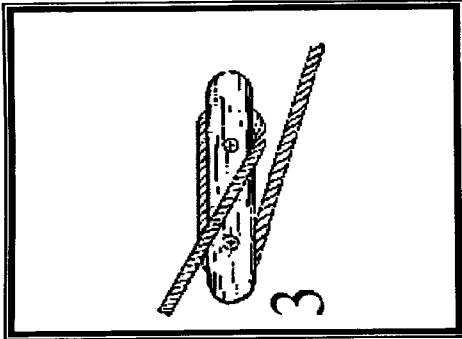
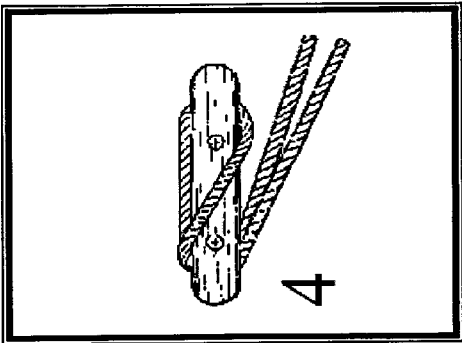
How to Secure a Line to a Cleat

Cleat Hitch - In order to secure the boat to a dock or secure a line to the boat you will probably use the cleat hitch.

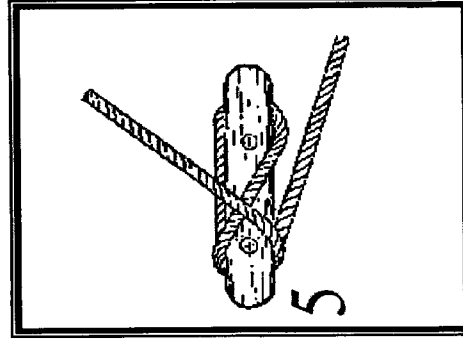
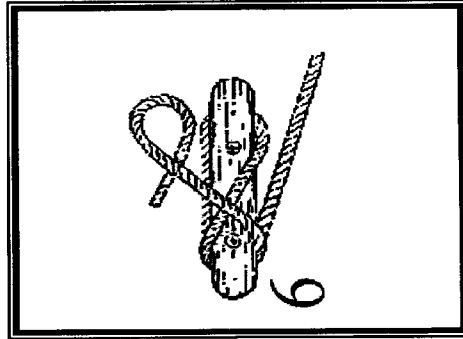
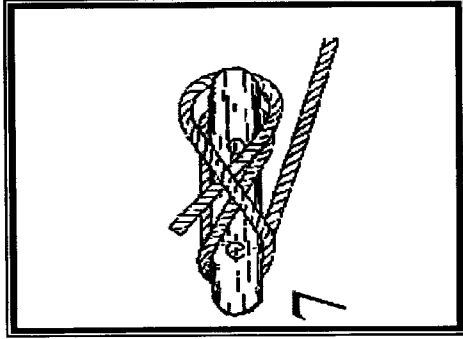
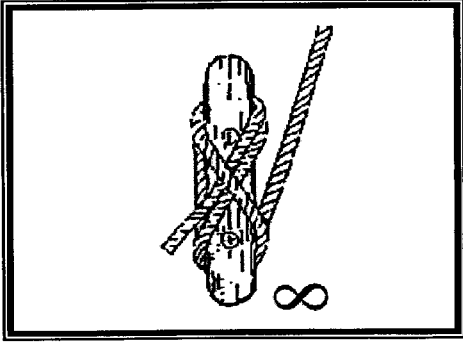
- Take the line to the ear of the cleat furthest from where the line comes from (the boat).
- Take one wrap around the base of the cleat and then start a figure eight across the top of the opposite ear.
- Finish with a half hitch turned under so that the line is coming away from the cleat in the opposite direction from which it came in.



updated June 2004



The Cleat Hitch



TIMBER HITCH

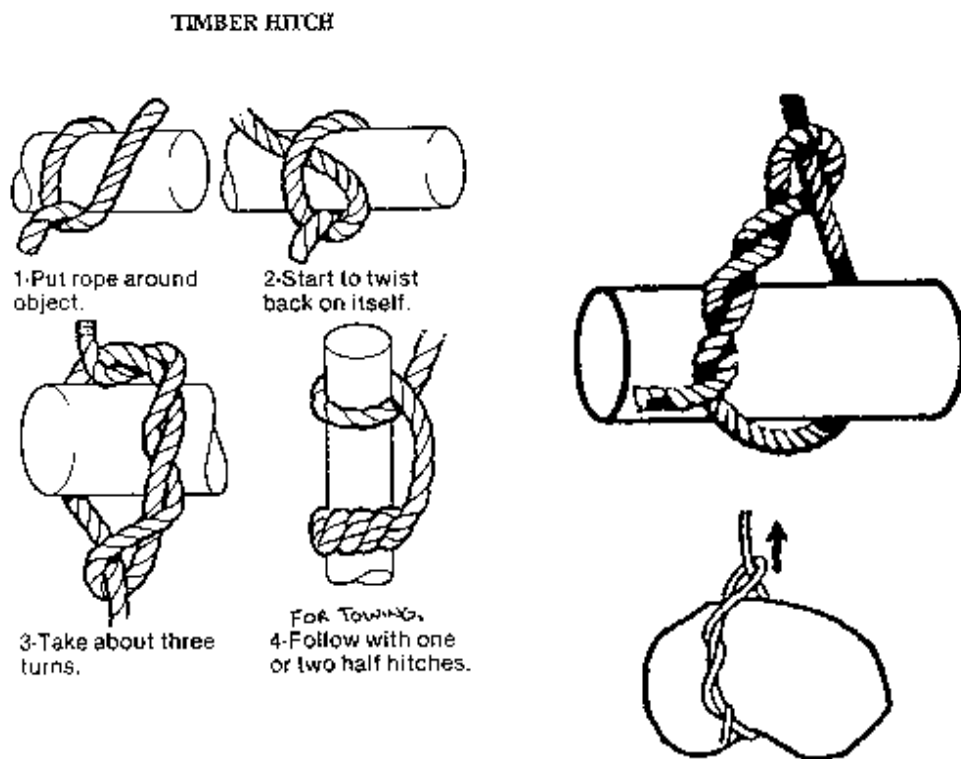
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The timber hitch is used to secure a rope to a spar or to secure a rope to a cylindrical object, like a timber or bale, for hoisting (lifting) or to tow a cylindrical object. It is a very strong hitch that will not slip or loosen.

TYING A TIMBER HITCH

To tie a timber hitch, make a turn around the object to be hoisted. Then start to twist the rope back on itself. With the end of the rope, make about three tight turns around the rope used in the turn around the object to be hoisted.

To tow an object, follow the timber hitch with one or two half hitches along the object to be towed. The half hitches are to ensure that the timber hitch does not get pulled off the end of the object being towed.



5 • MORE GENERAL KNOTS

Sheepshank (Fig. 21)

In 1627 the Sheepshank Knot was considered vital for all seamen. Strangely, it has become discredited. Some knot books now omit it. I see uses for it still.

It shortens a rope without cutting it (Fig. 21A), which saves money. It suspends slack lines out of harm's way (as you need to do with bell ropes). Modified, it is a Makeshift Purchase, the Waggoner's Hitch (Fig. 21B) used widely to tighten loads on trucks. *Note:* The twist in the long bight is a safeguard which prevents the knot spilling while it's being set up. A Sheepshank will also bridge a weak or damaged portion of a rope (Fig. 21C) that must be used regardless. This is perhaps its most useful—and least mentioned—function. Make sure that the damaged portion passes through both Half Hitches.

The Sheepshank has many advantages. It is tied in the bight of the rope—needing no ends—and is easy to learn. A quick alternative tying method is to make three loops (Fig. 21D), pulling the center one out through the other two. The knot holds under tension but falls apart when it goes slack. In fact, it is only secure under tension. You may also tie it by forming a loop in the bight (Fig. 21E) and transferring it with a tug to the single part of the line (Fig. 21F).

Transom Knot (Fig. 22)

The Transom Knot (Fig. 22A-B) is an excellent way to tie together cross-pieces of wood, bamboo and other materials (such as bean sticks and trellises in the garden). I also fix canoe paddles to my car luggage rack with Transom Knots. It's related to the Constrictor Knot, and—as with that knot—you can cut the ends short for neatness. Also, you can either cut the knot off by severing it on the diagonal so it falls away in two halves, or pry it apart with a pricker.

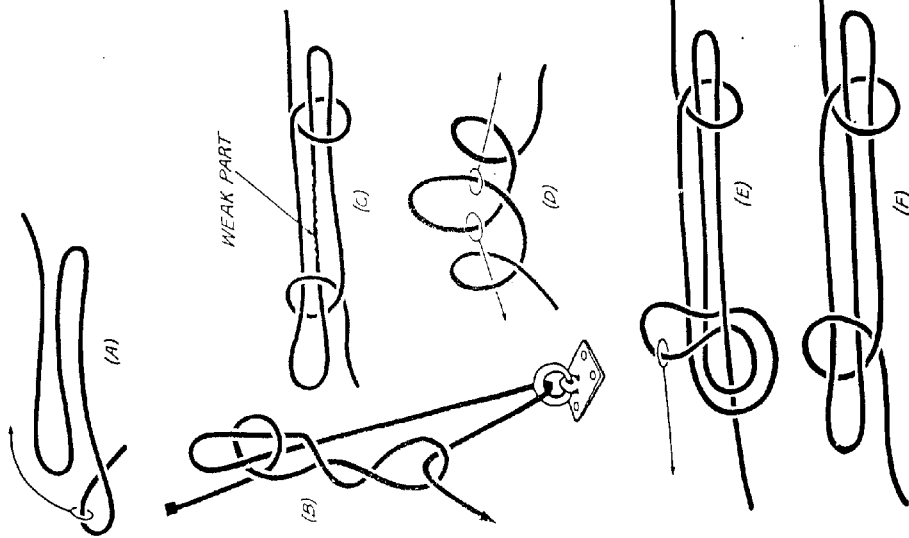
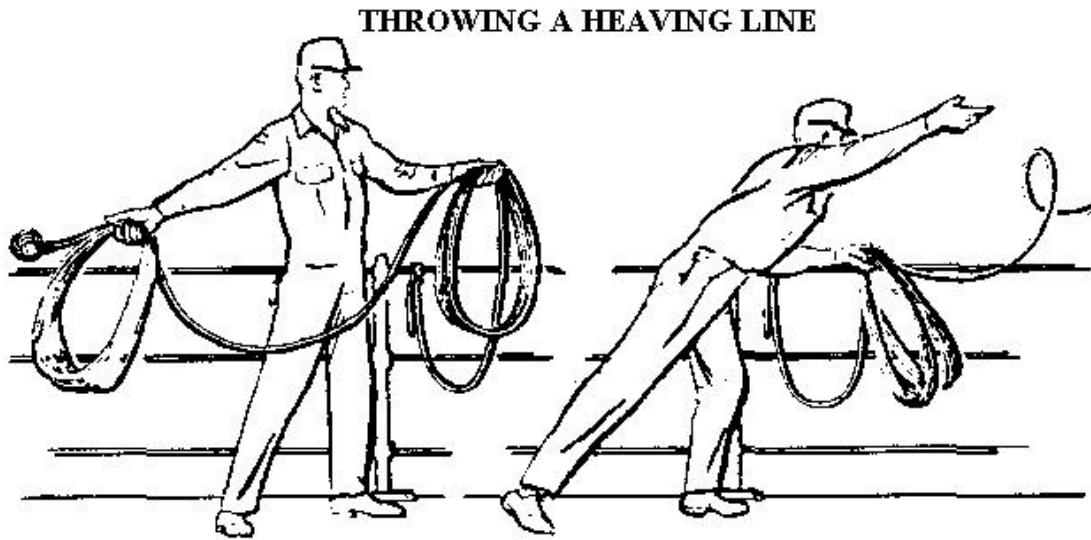


Fig. 21 Sheepshank

HEAVING LINES

In order to pass a hawser or similar type line ashore or to another ship, a smaller line must first be passed and used to haul the larger one over. For replenishment at sea and for long distance passing, a 'bolo' or 'gun line' is passed. The everyday way for short distances though is by 'heaving lines'. Most heaving lines are made using sash cords of about 1" circumference. These lines vary in length but are normally not longer than 150 feet. One end of the heaving line is made into a monkey's fist; some monkey's fists are weighted in order to throw them farther.

To throw a heaving line, the line is first coiled into the hand in bights about 3 to 4 feet in circumference. You then separate this coil in half keeping the half with the monkey's fist in your heaving hand, allow about 5 feet of line to hang between the coils, turn the body sideways to the target, heaving arm extended and holding the other half palm open facing the target. Heave the weighted end, coil and all towards the target and allow as much of the unweighted end to go out as necessary. You should normally retain the inner end in your hand, or you may secure it to the guardrail.



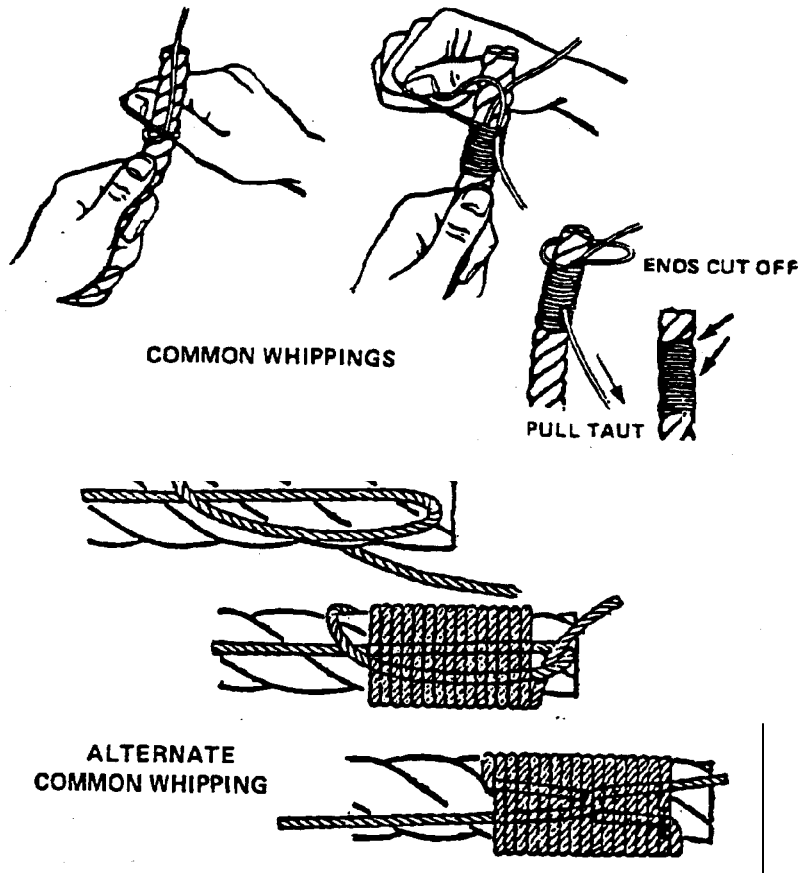
WHIPPINGS

COMMON WHIPPING (Must tie in 15 minutes, neatness will be assessed)

The general purpose of whipping is to prevent the end of a rope from fraying. The lazy man's way of achieving this is to either tie an overhand knot in the end of the rope or to melt the end of polypropylene rope. The practice of melting is dangerous as very hot melted rope tends to drip and if it drips onto the skin it could cause a very serious burn. A good seaman detests a line which has not been whipped.

Most people tend to place too much whipping on a line. The amount required is equal to the diameter of the rope and no more. If more is used the whipping has a greater chance of becoming loose.

When whipping always remember to keep the turns very tight and very close together. Remember whipping is meant to be permanent so make it tight enough to stay in place.



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