

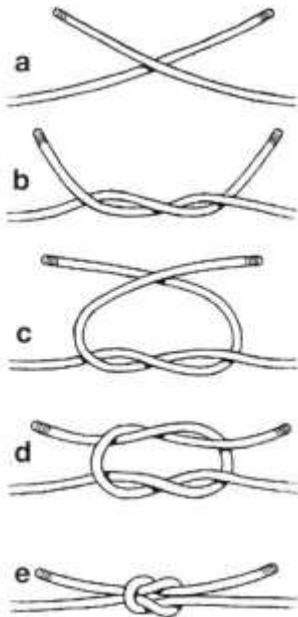
Rope Work introduces the basic knots that all Scouts and Guides should know. Most of the knots featured here are very useful in Pioneering and should be learnt. This Section does not fully teach the exact way of tying but serves as a simple guide for all.

Scout It Out would like to extend its gratitude to all the sites where the following information had been gathered.

Last of all, If you think you have a particular knot in mind and wish to have it featured in Rope Work, simply send a soft copy of the Knot, together with its explanation, to the [Webmaster](#).

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## Basic Knots



### Reef Knot:

Use to tie knots of same thickness. Holds firm under strain, yet is easily untied. It is not reliable for ropes of different sizes or for nylon. It can be also be used in first aid as it will lie flat against the patient.

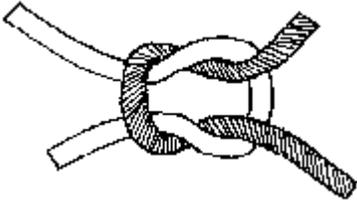
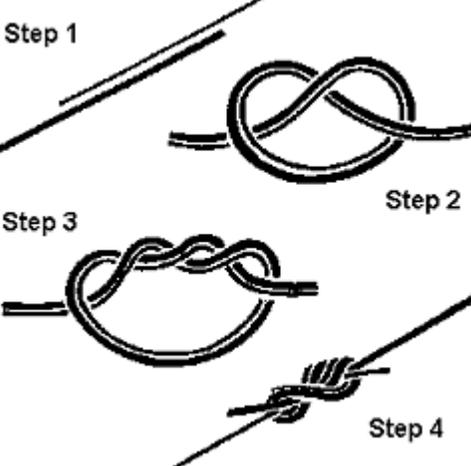
Pass right end over left (a) and then under it (b). Take left over right (c) and under it (d).

To check it is done properly the 2 loops should slide on each other. Tighten by pulling both stands on each side (e).

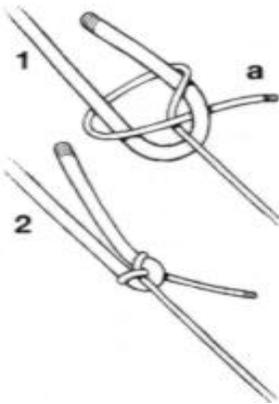
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# Bends

Bends are used to join the ends of 2 lengths of rope to form one longer piece. Ideally, to ensure that the knot is secure, the 2 ropes that are joined should be of the same kind and have the same diameter. However, sheet bend is secure even when it is used to join ropes of different diameters.

	<p>Reef Knot</p>	<p>Used to join the two ends of the same rope.</p>
	<p>Sheet Bend</p>	<p>The Sheet Bend is a knot that you use to tie two ropes together. Good both for thick and thin ropes.</p>
	<p>Fisherman's Knot</p>	<p>For stiff ropes and cords use the Fisherman's Knot. Easy to make, difficult to untie, so don't use it on a good rope, especially if there is a lot of strain on it.</p>
 <p>Step 1</p> <p>Step 2</p> <p>Step 3</p> <p>Step 4</p>	<p>Surgeon's Knot</p>	<p>This knot has a good grip, twisting as it is drawn up and the diagonal is wrapped around it. It is less bulky and flatter than some of the other knots used by surgeons.</p>
	<p>Carrick Bend</p>	<p>An excellent knot, probably the nearest to the perfect bend. It is symmetrical, easy to tie, will not slip nor ham, is very strong and is easily untied. Its particular use is as a bend for hawsers and cables. It can be used in two forms, drawn up or open and seized and it should always be tied so that the two ends are diagonally opposite.</p>

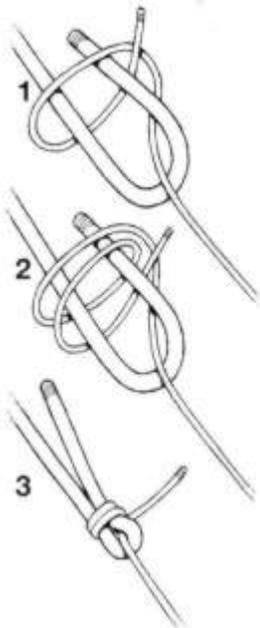
# Joining Ropes



## Sheet Bend:

The knot is used to join two ropes of different sizes and if correctly made and the strain is not erratic won't slip.

Make a loop in one rope. Take the live end of the other (a) right round behind loop to the front, carry it over itself and then tuck down through the loop (1). Draw it tight and ease into shape as strain is increased. (2)



## Double Sheet Bend:

More Secure variation of sheet bend - use on wet ropes and where strain is not constant.

1. Make loop in the thicker rope. Take live end of thinner rope through loop, beneath thicker live end and then forward on outside of loop and right round it. Bring thin live end back between itself and outside of thick loop.

2. Take thin live end completely round the loop again and back through same place on outside of thick loop.

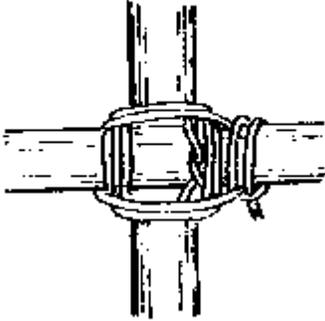
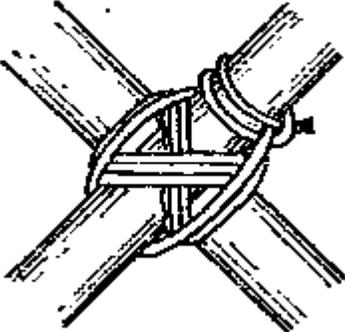
3. Draw tight and ease into shape.

**If not tightened these knots tend to work loose. Do not use with smooth lines. e.g. nylon fishing line.**

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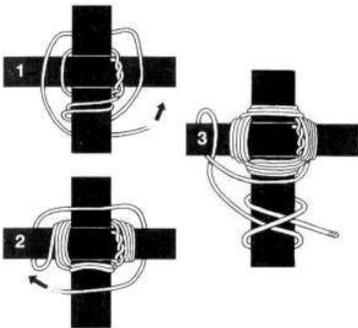
# Lashings

Lashings binds timbers together with ropes. it is important to use ropes of correct thickness and length.

 A diagram showing two vertical timbers intersected by two horizontal timbers. A rope is wrapped around the intersection in a square pattern, with the rope crossing itself to form a secure knot.	Square Lashing	The standard lashing used to fasten two spars or poles together, not necessarily at right angles, where there is no tendency for them to spring apart.
 A diagram showing two timbers crossing at a diagonal angle. A rope is wrapped around the intersection in a diagonal pattern, with the rope crossing itself to form a secure knot.	Diagonal Lashing	Used when two crossing spars tend to spring apart. Commonly used for the centre lashing on the diagonal braces of a trestle.
 Two diagrams showing Shear Lashing. The left diagram shows a rope wrapped around the ends of two timbers, with the rope crossing itself to form a secure knot. The right diagram shows a rope wrapped around the ends of two timbers, with the rope crossing itself to form a secure knot.	Shear Lashing	A lashing used to produce Shear Legs or, alternatively a lashing to secure poles or spars end to end.

	<p>Figure of 8 Lashing or Tripod Lashing</p>	<p>This is used to create a tripod with three spars. We start by first placing the three spars side up side ends to ends butts to butts. Start with a clove hitch on one of the outside spars and weave the rope around the spars in a figure of eight motion. There should be eight bindings side by side before you should apply 3 rounds of frappings between each spar. Finish the lashing with a clove hitch on the opposite outside spar. The three spars should then be lifted upright before the legs are spread. This lashing unlike other must not be too tight or else it will not be possible to spread the legs correctly.</p>
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Methods of lashing differ according to the position of the components. These techniques are invaluable in making rafts, shelters, etc.



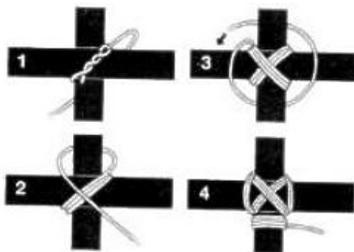
**Square Lashing: For lashing spars which cross at right angles**

1. Make a timber hitch carrying line alternately above and below both spars in a complete circuit before securing it. Then carry rope anti-clockwise over and under both spars.
2. After three or four circuits make a full turn round a spar and circuit in the opposite direction.
3. Complete circuits with a half-hitch round one spar and secure with a clove hitch on a spar at right angles



**Round Lashing: Use to lash spars alongside each other or to extend length of a spar.**

Begin with a clove hitch round both spars (a), then bind rope round them. Finish knot with a clove hitch at other end (b). Force a wedge under lashings to make them really tight. If spars are vertical bang wedge in downwards.

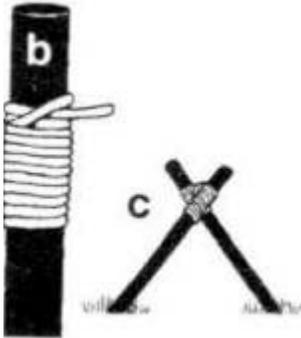


**Diagonal Lashing: Use when spars do not cross at right angles or when spars need to be pulled towards one another for tying.**

1. Begin with a timber hitch round both spars, placed diagonally.
2. Frap (lash) both spars with a few turns of rope over a timber hitch, then make a full turn under the bottom spar.
3. Frap across other diagonal, then bring rope back over one spar and make two or

three circuits above upper spar and below lower.

4. Finish with a clove hitch on a convenient spar.



**Shear lashing: To tie ends of two spars at an angle, e.g. for an A-frame.**

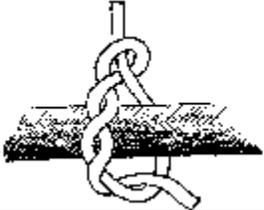
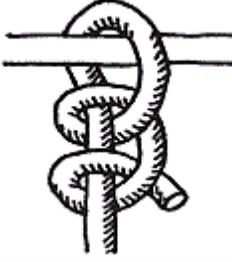
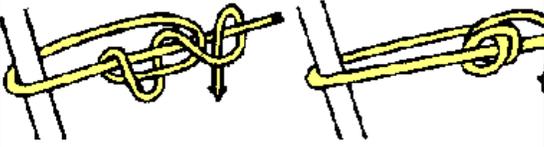
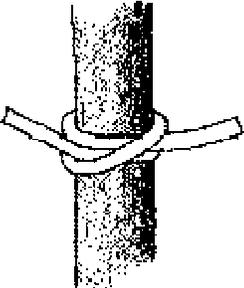
Begin with a clove hitch (a) round one spar. Bind, not very tightly, round both. Bring rope between spars and frap a few times round binding. Finish with a clove hitch round other spar (b). Tighten by opening up shears (c).

A similar method can be used round three poles to make a tripod. Make turns round all three legs and frappings in the two gaps. The feet of A-frames and tripods should be anchored to stop them spreading.

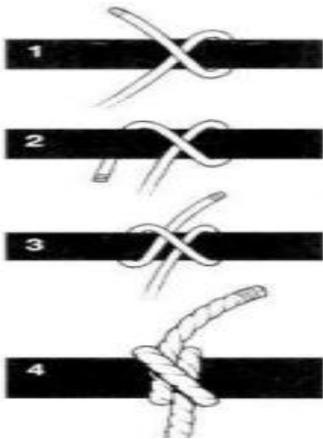
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# Hitches

Hitches are knots that are used to secure a rope to a post, hook, ring spar or rail or to another rope that plays no part in the actual tying. Hitches do not keep their shape on their own. they are able to withstand parallel strains as they are often used by sailors for mooring, lashing and fastening.

	<p>Timber Hitch</p>	<p>One of the simplest yet most effective of hitches. Used on spars, bales, etc., for commencing a diagonal lashing, and with extra half hitches added, for towing or dragging, etc.</p>
	<p>Round Turn and 2 Half Hitches</p>	<p>This knot is used to make fast a rope to an anchorage. It can be tied while the standing part is under strain. This is a good knot to attach your rope to an anchor for a flying fox or a bridge.</p>
	<p>Rolling Hitch</p>	<p>This useful knot is basically a clove hitch with the first round repeated. It is used by both mariners and mountaineers and is the most effective way of securing a small rope to a large line that is under strain. As long as the smaller rope is perpendicular to the larger, the knot will slide easily along; once tension is exerted on the standing part and working end of the smaller rope, the knot locks in position.</p>
	<p>Clove Hitch</p>	<p>A knot that is easy to make. Usable when you want to moor a boat. Do not use to tie something to a square post as it can easily come off.</p>

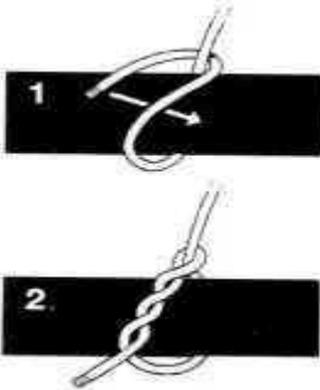
**Hitches** - Use to attach ropes to posts, bars and poles.



### Clove Hitch:

This is only effective when the strain is perpendicular to the horizon. It is not so good then the strain comes at an angle or is erratic.

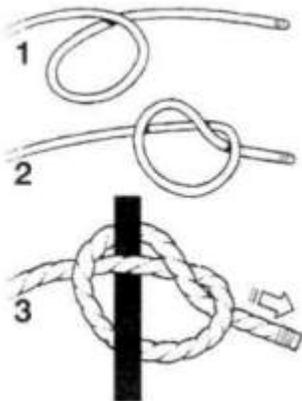
Pass the live end over and round the bar (1). Bring it across itself and round the bar again (2). Carry the live end up and under itself, moving in the opposite direction to the standing end (3). Close up and pull tight (4).



### Timber Hitch:

Use this as a start knot for lashings and for hoisting and for dragging or towing heavy logs.

Bring the live end round the bar and loosely round the starting end (1). Carry forward and tuck beneath rope encircling bar. Twist round as many times as a comfortable fit will allow. Tighten knot by gently pulling on the standing end until a firm grip is achieved.



### Marlin Spike Hitch:

A temporary knot for securing a mooring line to a post, or for dragging over the top of an upright peg. By attaching a short, stout stick to the line it is possible to gain extra purchase for a firmer pull.

1. Form a loop in the rope - study drawing carefully.

2. Bring one side of loop back up over standing end.

3. Drop this over the pole - the pole coming between extended loop and standing part. Pull live end to tighten.



**Killick Hitch:**

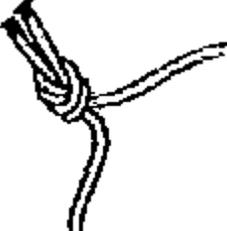
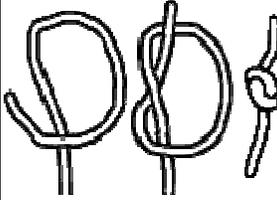
To secure a line to an anchoring weight.

Make a timber hitch round one end of weight and tighten. Carry line along weight and make a half-hitch.

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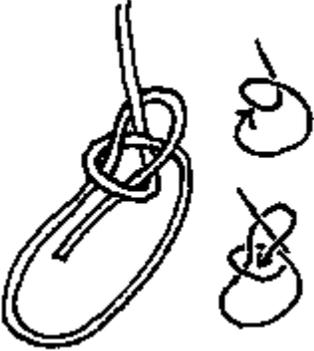
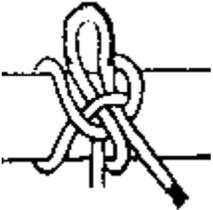
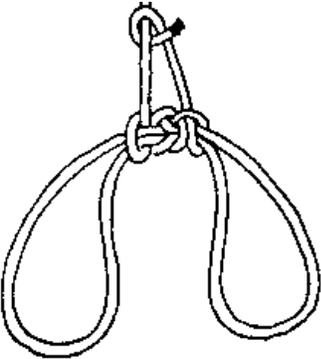
# Stopper Knots

This group of knots is most often used to prevent the end of a rope from slipping through an eye or a hole. Stopper knots can also be used to bind the end of a line so that it will not unravel and they serve decorative purposes as well.

	Figure of 8 Knot	Sometimes called the Flemish Knot. A single strand Stopper Knot, usually when only a temporary stopper is required or when using small stuff.
		Overhand Knot or Thumb Knot Also called the Simple Knot, Common Knot, Thumb Knot, etc. It is the simplest knot form, secure but weakening the rope considerably and should only be used in small stuff. The Figure-of-Eight Knot is to be preferred.

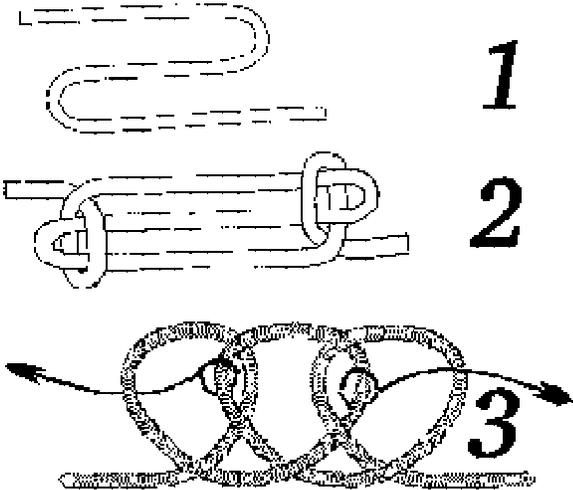


# Rescue Knots

 A line drawing of a Bowline knot. On the left, a large loop is formed with a rope. On the right, two smaller diagrams show the steps of how to tie the knot: the first shows the rope being crossed to form a loop, and the second shows the rope being threaded through to complete the knot.	Bowline	<p>The most useful and one of the simplest ways of putting a fixed loop in the end of a rope. It is easy to tie and untie, it never slips nor jams and has a high breaking strength.</p>
 A line drawing of a Highwayman's Hitch knot. The rope is shown passing over a horizontal bar. The knot is formed by looping the rope back under the bar and then through itself to create a secure hitch.	Highwayman's Hitch	<p>A most useful Draw Hitch for securing a horse, a boat, etc. or in self rescue work. The knot will take any amount of strain on the standing part but spills the moment the end is pulled. Legend has it that Dick Turpin used this knot on his nefarious errands: if in a hurry to escape, he just had to leap on his horse, Black Bess, at the same time snatching the end, when he was away.</p>
 A line drawing of a Fireman's Chair knot. It is a double-loop knot where the rope is folded back on itself to create two large, symmetrical loops hanging from a central point where the rope is secured.	Fireman's Chair	<p>A double loop knot used for lowering an injured person from a height. It is tied in the bight, one end secured aloft and the other end used to control the direction of lowering.</p>

# Shortenings

These Knots are used to shorten long lines. A shortened rope is always more secure than 2 cut lengths joined together with another knot. In any case, a longer rope may be needed at a later date, and a rope shortened by means of a knot can always be lengthened again, Shortenings can also be used to take up weakened or damaged lengths of line so that they are not subjected to any strain.

 <p>1</p> <p>2</p> <p>3</p>	Sheep Shank	<p>A knot tied in the bight for shortening a rope or taking up the slack, without cutting it. It can also be used to protect a weak, damaged or frayed section of the rope.</p>
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## Shortening Rope



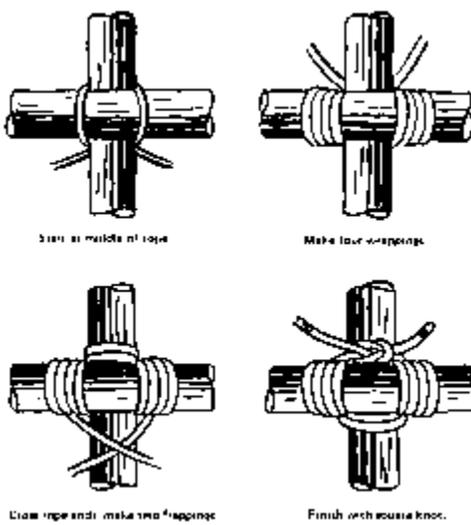
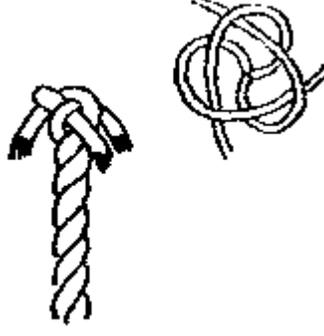
### Sheepshank:

Treble the line. Form half-hitches in outer lengths and slip over adjoining bends.

**NOTE:** This is used to shorten a rope or to exclude a damaged section. Never cut a rope unnecessarily; a joined rope has only half the strength of a continuous one.

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# Special Knots

 <p>Start at middle of rope</p> <p>Make four crossings</p> <p>Draw rope ends, make two crossings</p> <p>Finish with square knot.</p>	<p>Japanese Knot</p>	<p>This is an alternative to the square lashing that is suitable for use in light constructions.</p>
	<p>Simple whipping</p>	<p>When a rope 'whips' in the wind the end will quickly unravel and fray. Protection can be given by a knot or a Back Splice but the best and most used method is to use a Whipping.</p>
	<p>Crown</p>	<p>This is knot that is tied in the end of a rope with the unlaid strands. It is seldom, if ever, used on its own but as a constituent part of a multiple knot. It is also used to commence a Back Splice. The Crown Knot is the exact opposite of the Wall Knot.</p>



Back  
Splice

A simple and effective method of finishing the end of a rope in which a Crown Knot is made with the strands at the end which are then spliced back into the rope. It is clumsy compared with Whipping but useful in an emergency or if it is desirable to know by feel when the end of the rope has been reached.