

Knots

Loops

Alpine Butterfly (or Lineman's loop)

It can be tied quickly in the middle of a rope. It is a useful knot for securing one climber between two others, since strain can be applied on either side of the knot. It's secure, strong, approximately symmetrical, easy to tie, and resists jamming.

Bowline (pronounced "boh-linn")

The bowline forms a secure loop that will not jam and is easy to tie and untie. It can be tied around objects, can be tied into any size loop and even after being under load can be untied - truly a versatile trusty knot!

Note though the Bowline isn't generally bad, it isn't secure enough for critical applications, especially where the line will see a lot of jerking and/or where stiff or slippery rope is used. If you tie a Bowline in polypropylene rope, and give it a few jerks, you'll quickly discover its lack of security.

Double Figure-of-Eight

It is tied in the bight. A useful characteristic of this particular variation is the absence of any ends that might work loose, which helps to make it relatively secure. Favoured by climbers because its distinctive shape makes it easy to check. While it is not as easy to untie as the Bowline it is less likely to be tied incorrectly.

Bends

Zeppelin Bend(or Rosendahl Bend)

It is both strong and secure. Use it in anything from heavyweight cables and hawsers to the smallest of cords. It is perhaps the best way to connect two ropes that there is. It's absolutely secure and jerk-resistant in all materials and is perfectly symmetric. It's also remarkably easy to untie after use, even when wet.

Sheet Bend

Quick and easy to tie it is one of the most commonly used knots for joining two ropes. If the ropes are of unequal diameter it is preferable to tie a Double Sheet Bend

However the knot is neither strong nor secure. It reduces the strength of lines by 55% and can spill if subject to spasmodic jerking.

Carrick Bend

This is the knot to use to join heavy cable. It also works well for rope and line and can be allowed to tighten and collapse on itself when strain is taken on the standing parts. It does not easily slip, not even if the rope is wet. And it is always easy to untie, also after a heavy load.

Hitches

Trucker's Hitch (or Waggoner's Hitch)

Use this knot to tie down a load on your car top, boat, horseback, you name it. This combination of knots allows a line to be pulled tight as a guitar string!

Tautline Hitch (or Midshipman's Hitch)

This knot is useful for adjusting the tension of tent guylines. The knot can be slipped to tighten or loosen a line, then holds fast under load.

After you tie it, grab the bulk of the knot and slide it where you'd like. Once you release it, the loop will hold how you've sized it.

The knot must be drawn up very snugly to work, and may not work at all on especially stiff or slippery rope. Don't expect too much from it. It's not a very secure loop.

Timber Hitch

The more strain that is put on the Timber Hitch the tighter it grips yet it is easy to untie. Traditionally used for tying a length of rope around a pole or a bundle of logs.

Other

Reef Knot

A very simple binding knot but often tied and used incorrectly. It is strictly a binding knot, reliable only when pressed against something else and tied in both ends of the same material so restrict its use to bandages and all sorts of parcels.

It should not be trusted to join two ropes together or to hold down something that absolutely has to stay put. This knot will "capsize" or jam under load and will also untie itself under movement.

Fisherman's Knot

A simple yet effective knot for tying together two ropes or lines of small and equal diameter.

Fireman's Chair Knot

One loop, adjusted for size, fits beneath the subjects armpits, with the other loop around behind the knees. A rescuer then lowers the person by means of one long end, while a second rescuer pulls them away from the wall, cliff or other hazard with the lower rope.