

Basic Rock Climbing

Southwest Outdoor

Tempe, Arizona

Knots

Knots are what keep the rope tied to the climber, keeps slings tied together, keeps the rope tied to a tree and etc. You need to learn how to tie these knots so you can tie them even when your fingers are clod, you are scared, and you can't see what you are doing. And you need to know how to tie them right.

Some knots are more common in climbing than others. Those that are critical to the beginning climbing student are:

- Overhand Knot / Overhand Loop
- Slip Knot
- Figure Eight Knot / Figure Eight Loop
- Water Knot (a.k.a. Ring Bend)
- Rewoven Figure Eight Knot
- Prusik Knot
- Grapevine Knot (a.k.a. Double Fisherman Knot)

Other knots which I have found useful in my climbing career are:

- Clove Hitch
- Girth Hitch
- Bowline Knot
- Bowline on a Coil Knot
- Double Bowline Knot
- Bowline on a Bight
- Butterfly Knot (a.k.a. Middle Man Knot)
- Square Knot
- Half Hitch

Overhand Knot

The overhand knot is very useful and simple. It is used to tie off the ends of other knots (figure eight knot, square knot, bowline). It is also the basis for the water knot and the grapevine knot as well as the slip knot.

Seat Harness (diagram)

Construction: The harness requires about 22 feet of 1-inch tubular nylon webbing for an average sized climber. First leg loop – Fold webbing in half, this spot is the location of the knot. From this spot, make a loop by grasping the webbing about 24 to 36 inches away and tie an overhand knot. This loop should fit comfortably around the upper thigh. Second loop – On the long end of the webbing, move over 6 to 8 inches and tie a second loop. One end of the webbing will be longer than the other.

Figure Eight Loop (diagram)

The figure eight is a simple way of making a loop anywhere on a rope. It is very strong and does not jam under load (which the overhand loop does). It has a distinctive “8” appearance when tied with a loop. This is one of the fastest and easiest knots to tie.

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Figure Eight Rewoven (diagram)

This knot is used to fasten the rope to trees, metal rings, slings and to attach the end of the climbing rope to the climber's seat harness.

Water Knot (diagram)

This knot is used to attach the two ends of a sling (or rope) together. This knot has a tendency to creep, so it is best to subject it to a heavy pull (e.g. full body weight) before trusting it. Then check it from time to time to make sure the ends of the knot haven't disappeared into the knot.

Grapevine Knot (diagram)

Also called the Double Fisherman's knot. Used for tying runners from webbing or kernmantle rope (chocks) or for joining 2 ropes for a rappel. It has superior strength and security.

Prusik Knot (diagram)

The Prusik knot provides the climber with a practical means of ascending the climbing rope. Under tension the Prusik knot grips the climbing rope. With the tension removed, the knot can be easily moved along the rope. In order to work properly, this knot must be tied neatly. A straight pull out will tighten the knot. It can be loosened by pushing towards itself along the sling rope. (see diagram)

Square Knot (diagram)

The Square knot is fast to tie, but will loosen very easily. Loose ends should be tied off with overhand knots. The square knot is used to tie off a mountaineer coil.

Bowline Knot (diagram)

The single bowline is used to form a loop at the end of a rope. This knot is quite strong and is used when setting up a belay anchor (i.e. loop around a tree). It can be adjusted easily. The loose end should be tied off with an overhand knot. The bowline is fast to tie and untie (once learned).

Clove Hitch

The clove hitch is used to tie an adjustable length of climbing rope to an anchor. It is easily adjusted. Caution – it can cause a carabiner to come open and therefore must be tied to a double carabiner, preferably with one locking.

SEAT HARNESS

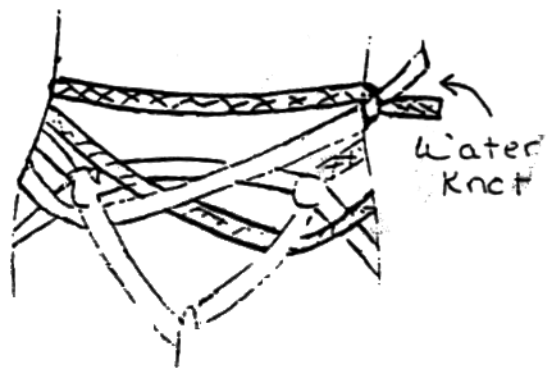
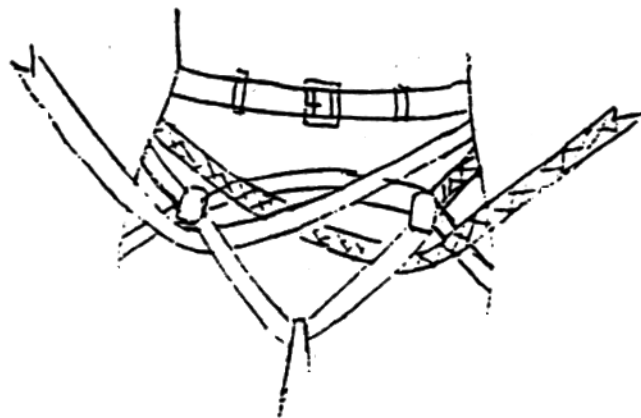
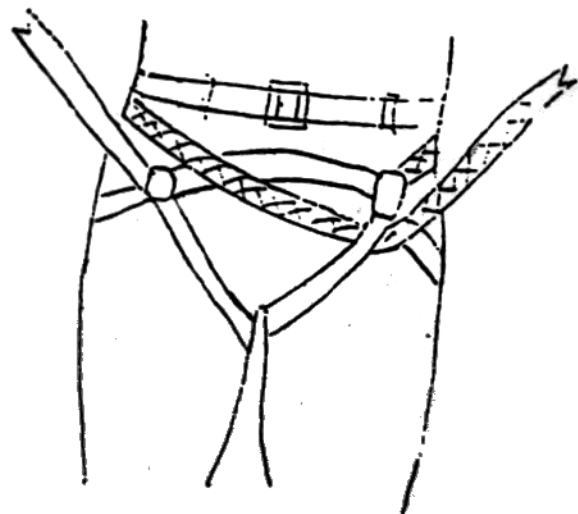
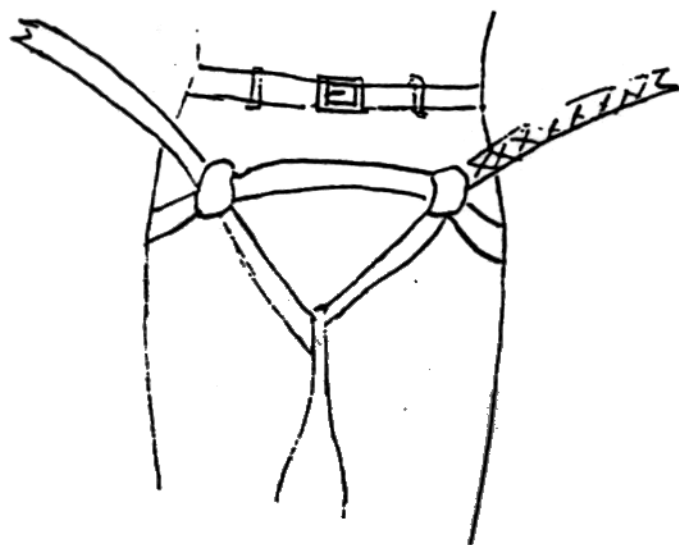
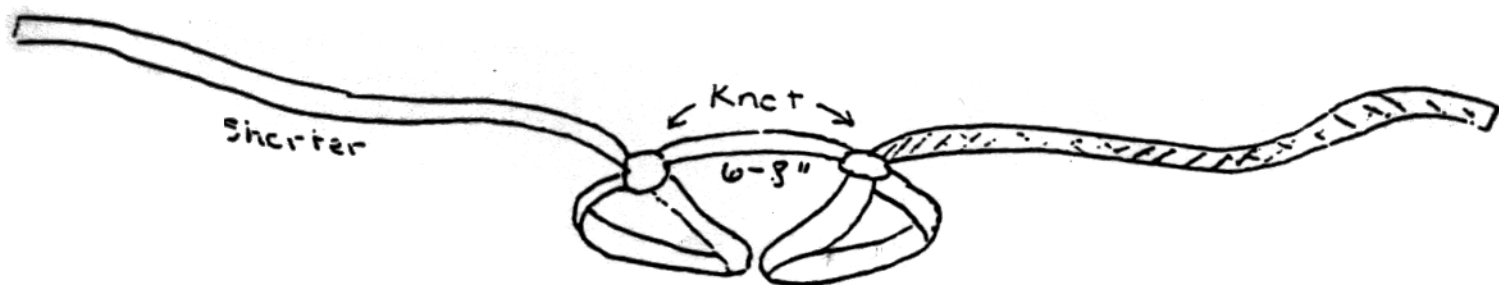


FIGURE 8, LOOP

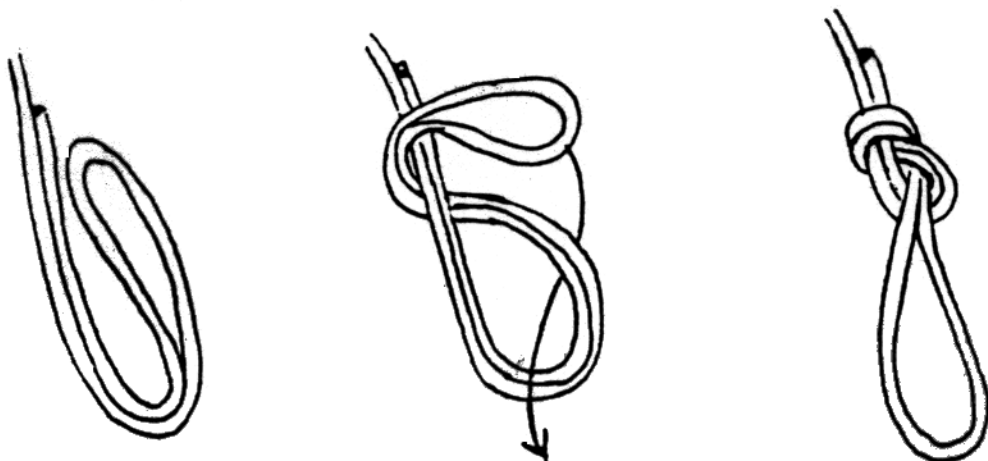
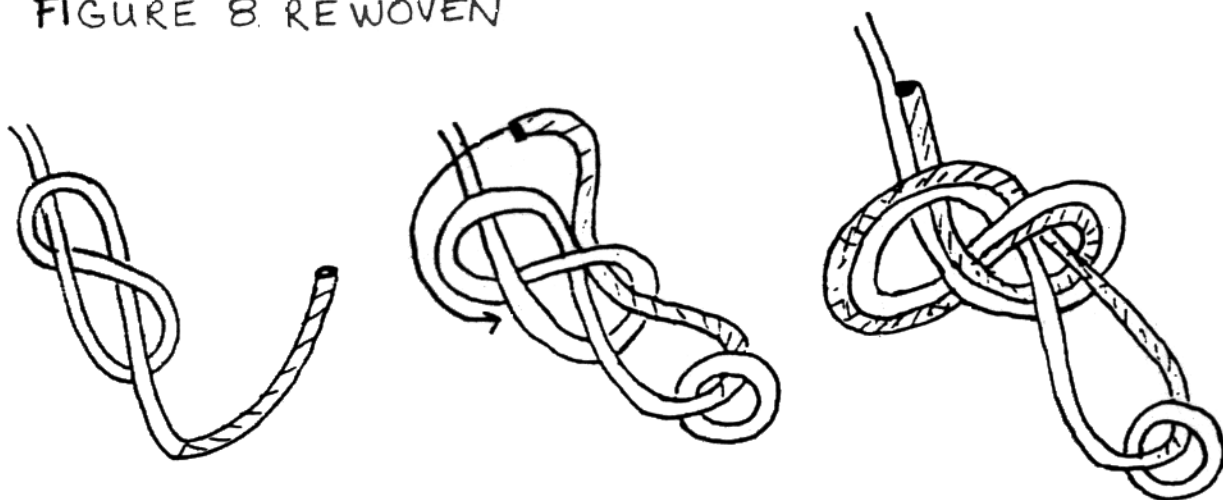


FIGURE 8 REWOVEN



PRUS K

