

SRT primarily uses 16 knots. The following shows knotting methods along with usage locations, purposes, and prohibited actions. Note that creating knots causes loss of approximately 30% of rope strength. No problem for single rope users loading vertically, but simple strength calculations are necessary when creating tensioned lines like Tyrolean bridges with multiple users loading.

① Figure Eight Knot

Basic knot in SRT. This knot itself is not frequently used, but various modified figure eight knots are commonly used.



② Double Figure Eight Knot

Mainly used when connecting to anchor carabiners. Relatively high strength.



③ Rabbit Knot

Variation of double figure eight knot that can create two connectable loops. Knot for Y-shaped connection of two adjacent anchor carabiners. Relatively high strength but consumes much rope.



④ Bowline

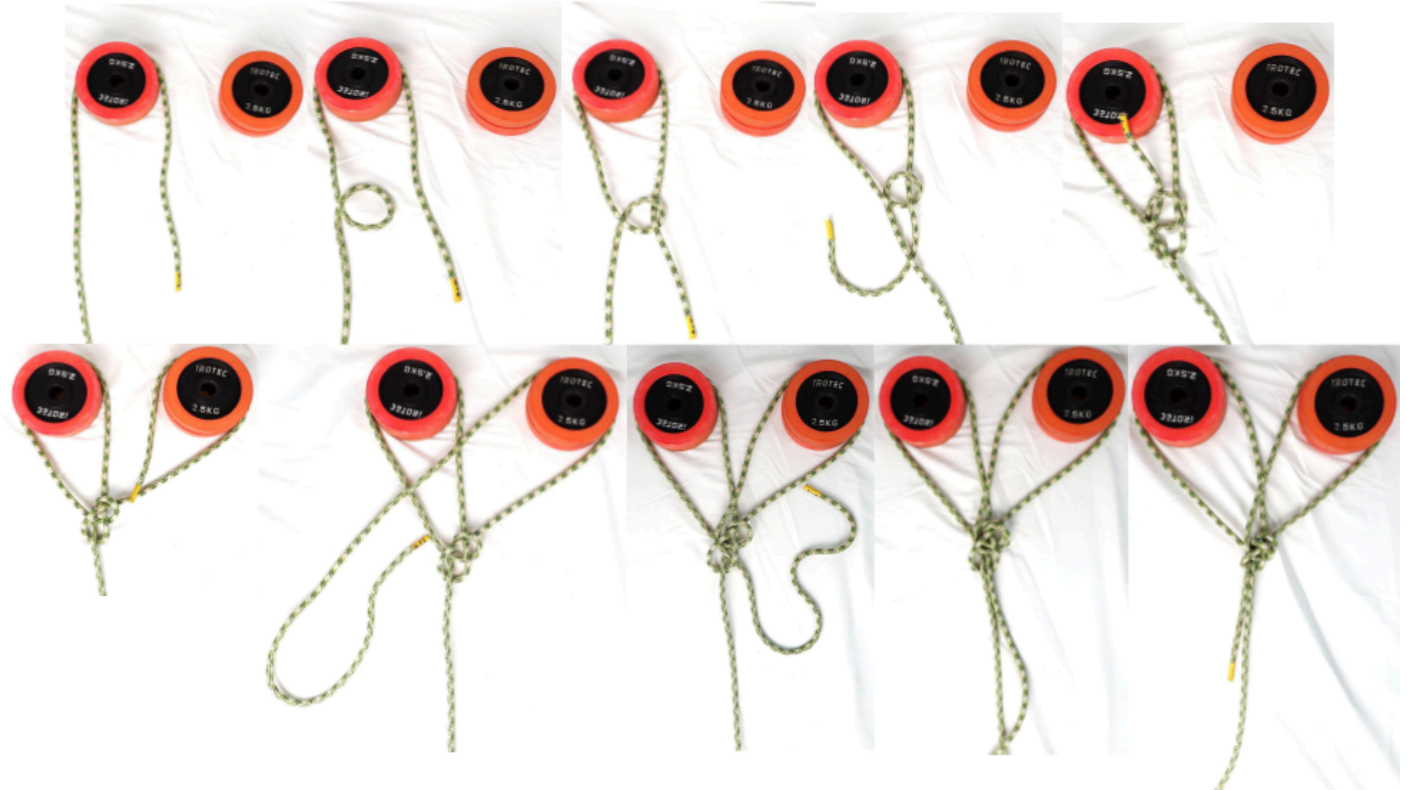
Frequently used for connecting to natural anchors at rope ends in combination with clove hitch described later. Consumes little rope and is easy to untie after loading. Will untie under ring loading (load in direction expanding the loop formed by knot), so never apply tension such as self-belay inside the bowline loop. Always use a modified bowline with end treatment.



⑤ Bowline on a Bight

1 When tying at the rope end

When connecting at rope end, it can directly Y-connect two adjacent natural anchors with rope, eliminating auxiliary equipment like carabiners and slings. May shift to the equilibrium side under excessive unequal distribution.



2 When tying in the middle of the rope

When connecting at rope middle Used for Y-connecting two adjacent anchor carabiners when wanting to reduce rope consumption compared to rabbit knot, or when directly connecting rope to ring hangers for re-belays.



⑥ Alpine Butterfly

Knot for creating Y-shaped load distribution rigging (classical Y-belay) at rope middle.



⑦ Clove Hitch

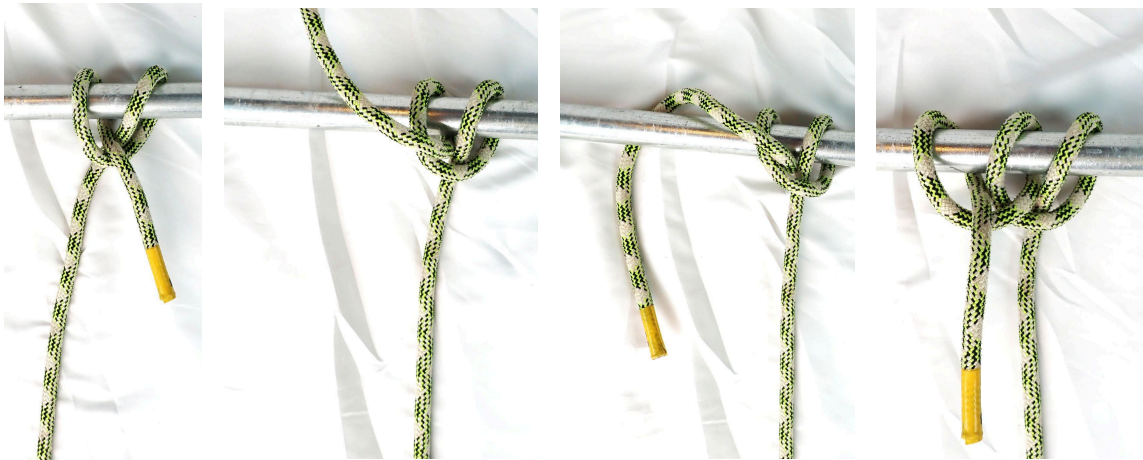
Used for connecting to natural anchors combined with bowline at rope start, or frequently used as temporary fixing knot through carabiners at rope middle.

1 When connecting at rope end

Created by wrapping around a natural anchor and weaving.



When the anchor surface has low friction, increase wraps to obtain sufficient friction.



2 When connecting at rope middle

Created by overlapping rope twisted twice, through carabiner.
Effective for temporarily fixing rope bags to rope ends.
Resembles Italian hitch, so be careful not to confuse.



⑧ Italian Hitch (Half Clove Hitch)

A Knot capable of braking rope. Used for emergency escape when descender is lost mid-pitch, or when rescue occurs requiring many fixed brakeable anchor points and descenders are insufficient. It resembles the clove hitch, so be careful not to confuse.



⑨ Triple Figure Eight Knot

Used for rope joints on-rope. Create a double figure eight knot at the bottom end of the upper rope, then create by follow-through (weaving alongside) with new rope from below.

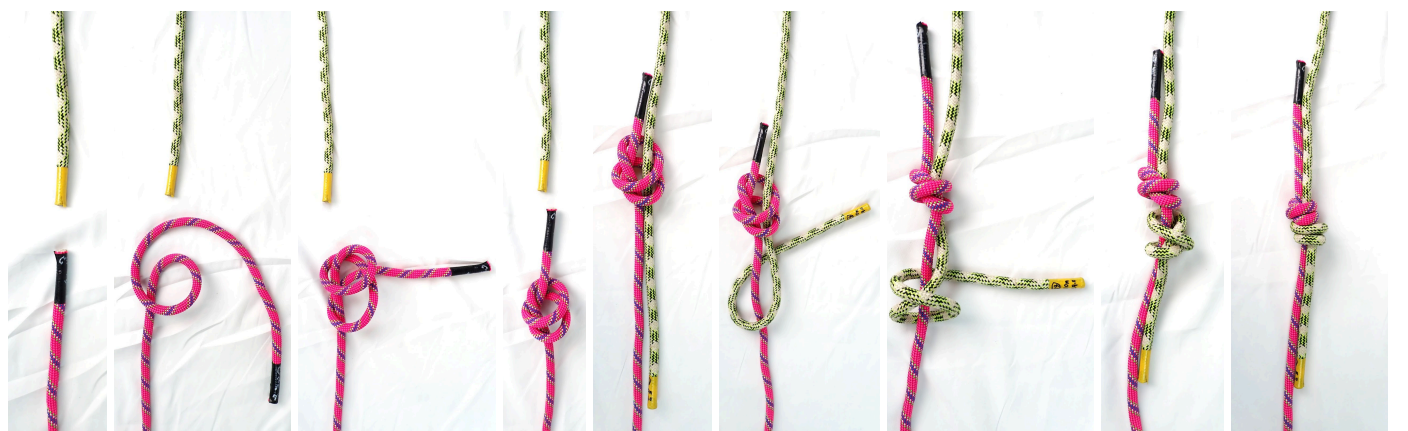


Following the rigging two-point rule, add knots. Connect triple figure eight knot ends with double fisherman's knot as backup.



⑩ Double Fisherman's Knot

Used for linear connection of ropes, cords, and other circular cross-section materials. Mainly used for creating rope slings or as backup knots during rope joints. Very difficult to untie once the knot tightens under tension.



⑪ Double Fisherman's Loop

Rope folded back with a connector and connected with one side of a double fisherman's knot (barrel knot). Used when self-making cow's tails from dynamic rope or creating variable cow's tails.



⑫ Prusik

Representative friction hitch capable of gripping rope. Basically made with a rope loop of smaller diameter than the main rope. Appropriately increase/decrease friction by number of wraps. Used for emergency escape when ascender is lost mid-pitch, fixing protectors on rope, tensioning Tyrolean bridges. A 8mm diameter prusik cord can withstand approximately 1200kg load.



⑬ Blake's Hitch

Like the prusik, this is a type of friction hitch. Unlike the prusik, it can be slid by pulling the knot section while under tension. Used for creating a foot loop with spare rope or for adding a braking function during emergency escape descent.



⑭ Tape Bend (Water Knot)

Knot for joining tapes together. Created by follow-through (weaving alongside). Danger of untying if a specific part within the knot catches and is loaded. Position so the knot section is completely in catch-free location, or create another tape bend with the remaining connected portion as backup.



⑮ Girth Hitch

Frequently used for connecting loop slings like tape slings or daisy chains to natural anchors. Note that strength is significantly lost (60% or more) when the loaded sling is folded back. When connecting slings together, do not connect different materials and use square knots instead of girth hitch.



16 Tensionless Hitch

Used when connecting to natural anchors at rope ends, especially when rope strength is required. Can extract rope strength with almost no loss. Used for anchors of tensioned lines like Tyrolean bridges.

