Chapter 15 Suuplement

Static rope anchor systems

These systems have several aspects in common.

The left and right anchor points are both component anchor points. Each side should be comprised of at least two pieces (unless it is a monolith anchor such as a tree or boulder). Any of the techniques for equalizing two or more points are options for these anchor points. If you use a figure-8 two-loop knot, you can eliminate the need for an additional sling and biner.

The low master point is usually a BHK (Big Honking Knot), and should preferably hang over the edge such that both the BHK and master point biners are not rubbing against a cliff edge or any other edges.

The basic steps in setting up a static rope anchor system are as follows:

- 1. When arriving at the top of the climb, identify a safe zone. This is a zone where you would feel comfortable bringing any other climber without a personal anchor. Normally, a safe zone would be at least a body length away from the edge of the cliff, but may be greater if the rock below the safe zone slopes significantly downhill toward the edge. The space between the safe zone and the cliff edge is the danger zone.
- 2. Stand in the safe zone with your back to the danger zone and look uphill for possible anchor points. The anchor points should be within a 90 degree (even better, a 60 degree) angle from your position. Keep in mind that a component anchor failure on one side of a 90 degree anchor can result in quite a pendulum of the remaining anchor leg.
- 3. You can flake the static rope while you are doing your initial assessment.
- 4. Set the farthest anchor point and connect it to the static rope. This sequence uses less rope than starting at the nearest point.
- 5. Play out enough rope to allow the appropriate anchor, including a BHK.
- 6. Take the rope on the second side of the anchor to the second anchor point and set the pro and connection to the rope.
- 7. Tie any BHK's and tether knots depending on the particular system you choose. Always clip in to the tether when entering the danger zone.

Note: in the pictures of each of these anchors, the yellow line indicates the end of the safe zone, and the red line indicates the edge of the cliff. The space between the two is the danger zone. Also, these pictures show a very compressed danger zone and safe zone in order to fit the whole setup into one picture.

Joshua Tree anchor system (AKA the Big Vee)

Safety tether: use a 48" sewn sling tied into a klemheist hitch around one of the legs. Take care to not let the klemheist change the line of action of the anchor.

Comments:

This is similar to the traditional two-leg anchor made of tied webbing that is equalized at the master point, except that it is faster to set up and is more secure (no water knots).



Lifeline anchor system

Safety tether: make a tether from the free end of the static rope. Tie a stopper knot in the end of the tether and toss it over the edge. The stopper knot should fall at least two feet below the low master point. The safety tether must be connected to a full-strength anchor (at least three pieces).

Comments:

This is simply a Joshua Tree anchor with a tether added (and an additional piece to make a full-strength tether anchor, if necessary). This can be valuable when one of the component anchor locations is dangerous to access.



Backside anchor system

High master point: tie a BHK about two feet above the danger zone. This high master point can be used to add a rappel station with easy, comfortable access; a top-belay anchor; a safety tether; or any other climbing system.

Safety tether: use either a 48" sewn sling tied in a klemheist, or connect a safety tether to the high master point. To make the tether, use the free end of the static. Tie a stopper knot in the end of the tether and toss it over the edge. The stopper knot should fall at least two feet below the low master point.

Comments:

Make this anchor in one of two ways:

First, make a standard Joshua Tree anchor. When desired, pull the low master point up and out of the way, and tie a BHK above the danger zone (this is the backside knot). Use this for a rappel anchor in the safe zone, or connect a static rope safety tether. When resuming use of the low master point, remove the backside knot and lower the master point over the edge.

Alternatively, make a standard Joshua Tree anchor, except add enough rope to lower the master point an extra two feet (four feet of rope). Then tie a BHK above the danger zone (this is the backside knot). Leave the backside knot in place for the duration of the use of the climb. When using the backside knot for rappelling, etc., pull the low master point up and out of the way. When resuming use of the low master point, just lower it over the edge.



Three-in-one anchor system

High master point: make a standard Joshua Tree anchor that ends above the danger zone instead of over the edge. This high master point can be used to add an extended low master point for climbing; a rappel station with easy, comfortable access; a top-belay anchor; or any other climbing system. It is also the point that connects a safety tether for the system.

Safety tether: make the tether from the free end of the static. Tie a stopper knot in the end of the tether and toss it over the edge. The stopper knot should fall at least two feet below the low master point. Connect the tether to the high master point using a figure-8 on a bight.

Low master point: make another standard Joshua Tree anchor using the high master point as both component anchor points. The safety tether is connected to the high master point with a figure-8. Use the other rope coming from the safety tether figure-8 knot as the first leg of the second Joshua Tree anchor.

Comments:

This anchor is perhaps the most versatile but also takes the most rope.







