

Sport Anchors and Rappelling Review Handout

*** All Climbing is inherently dangerous. This handout is for informational purposes only. It is not a substitute for instruction from a qualified instructor. Parts of this handout are specific to those who have taken the Sport Anchors and Rappelling course through Stone Gardens, Inc.**

Equipment used in class:

- 1 Tube style belay device (with two rope entries) and 1 locking carabiner
- 1 Double length sewn runner
- 1 Cordelette (7-8mm, 18-21ft cordelette tied in a loop) with 4 locking carabiners
- 1 Third hand (5-6mm, 4ft cordelette tied in a loop) with 1 locking carabiner
- 1 Personal anchor system with 2 locking carabiners
- 2 Quickdraws

Simple Definitions

Anchor: A point of attachment for a climbing rope that is meant to arrest a climber's fall.

Anchor for Top-Rope belay: An anchor used to set up a top rope. Must be made with your gear. Must pass full E.A.R.N.E.S.T check.

Personal Anchor: An anchor that is attached directly to the climber's harness. It is designed specifically to hold the body weight of one person.

Rappel: To descend by lowering oneself on a fixed line

Cleaning a Route: Retrieving gear from a route after a lead climb. Can be done by the leader on a lower or rappel or by a follower

E.A.R.N.E.S.T Anchor Check

One of the most important takeaways from this class is a method for checking anchors. Any anchor that you are going to set up a belay on should pass an E.A.R.N.E.S.T Check.

Equalized

Angle

Redundant

No

Extension

Solid

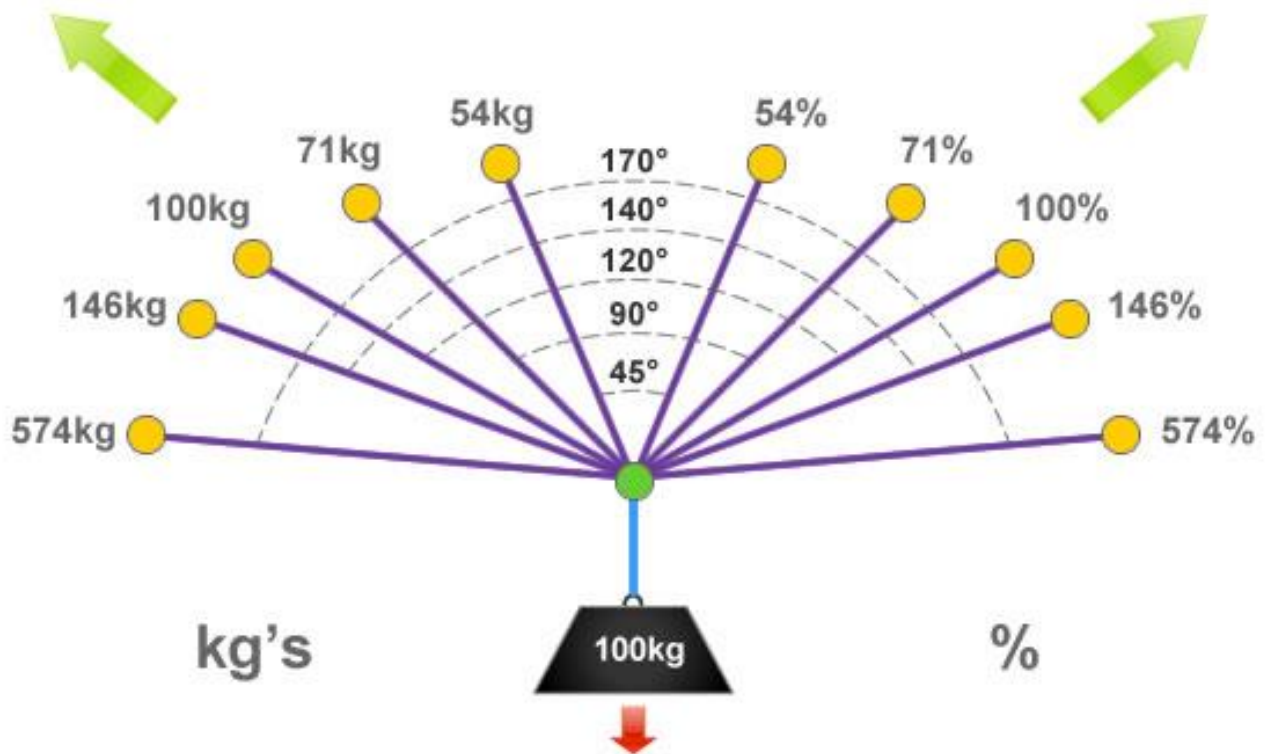
Timely

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Equalized: Each piece in the anchor should share the load of the anchor force equally. If there is slack to any single piece, that means that that piece is not loaded, and the anchor is not equalized.

Angle: The angle that the anchor makes at the master point should always be 60 degrees or less. The wider the angle, the more force is applied to each anchor component in the event of a fall. All angles greater than 120 degrees actually put more force on each point than the actual force on the fall.



Redundant: There should be more than one piece for the anchor. Common anchor examples are two bolts, three pieces of rock gear, etc.

Efficient: It is important to make your anchors in a timely manner. Take the time you need to make a good anchor. Slow is smooth and smooth is fast. Don't rush through making an anchor, it's much easier to make a mistake when rushed.

No Extension: This means that if one piece of the anchor should fail, there will be a minimal shock-loading effect on the rest of the anchor. If there is slack to one piece and the others blow out, there will be a severe load directed onto that piece - a shock loading. Prevent against this. Note that the "Magic X," also known as a "self-equalizing anchor" must have load limiting knots to prevent shock loading.

Solid: This means that each individual piece that makes the anchor (i.e. Bolts, nuts, cams, etc.) are solid enough on their own. Ideally, you want multiple pieces that are all capable of holding a significant fall.

Timely: Slow is smooth and smooth is fast. Pay attention and take enough time to create a good anchor, but don't spend time overbuilding a more complex anchor than necessary.

(Definitions adapted from the American Alpine Institute)

Examples of EARNEST anchors

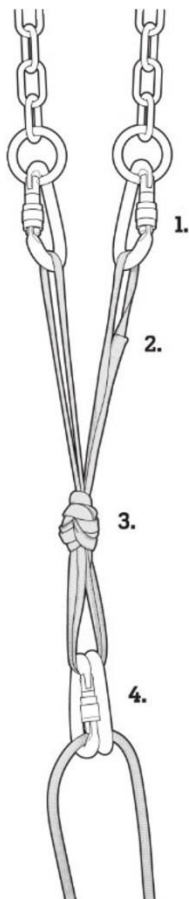
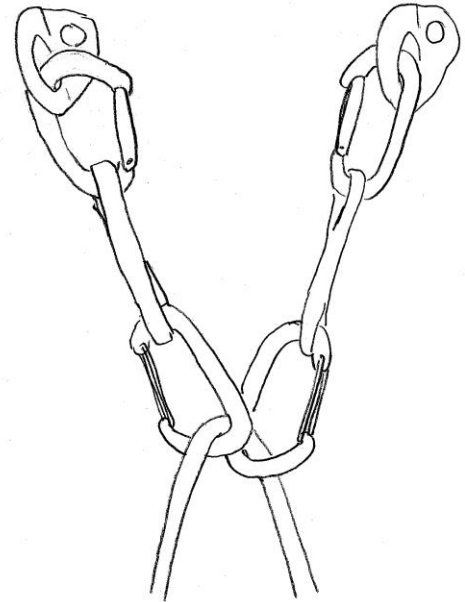
Quickdraw Anchor

The Good:

- Efficient
- Least additional gear required

The Bad

- Limited applications: cannot be used on bolts that are far apart or offset
- Would be more secure with locking carabiners



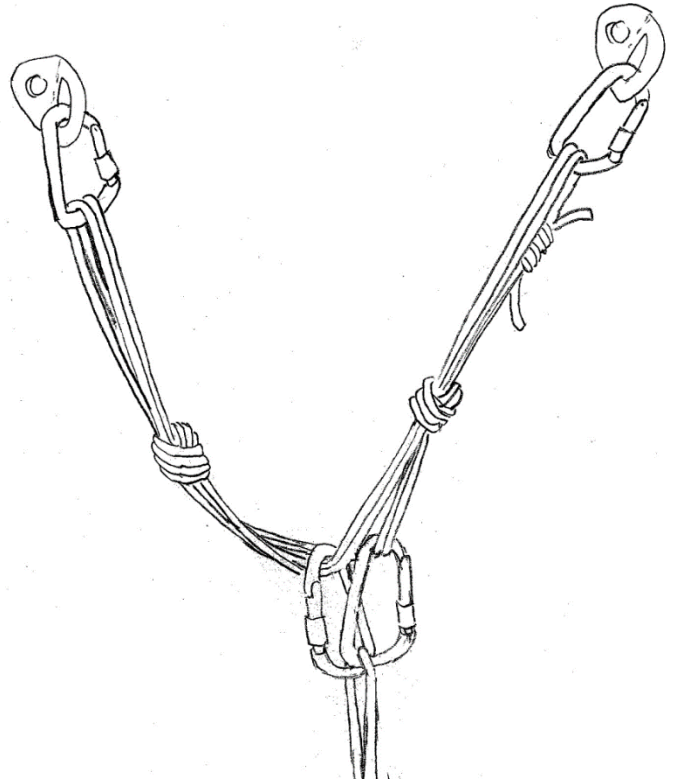
Cordelette with Master Point

The Good:

- Versatile: can be used with offset bolts and wider bolt spacing
- Gear can be used for other applications
- Can be pre-rigged for efficient setup

The Bad:

- More equipment needed
- More complex than anchor with quickdraws
- Does not self-equalize



Quad

The Good:

- Most Versatile
- Most Redundant
- Can be pre-rigged

The Bad:

- Most complex of the three anchors learned

Checklists for Changeovers

REMEMBER: Before switching your life support, ALWAYS DO A SAFETY CHECK!!!!

Changeover to Rappel

- Set up personal anchor
- CHECK your system
- Command: "Slack"
- CHECK your system
- Command: "Take me Off Belay"
- Keep the rope (Pull up ample slack and tie overhand on a bight. Clip to gear loop.)
- Untie your tie in point (figure eight follow through)
- Thread rope through the rappel rings or bottom chain links
- Keep the rope (Tie another overhand on a bight on the rope through the anchors. Clip to gear loop.)
- Unclip and untie the first bight
- Pull half of the rope through the anchor
- Unclip and untie the second bight
- Tie a backup knot and toss the rope
- Make sure both rope ends are on the ground
- Set up rappel device

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- Set up 'third hand' backup (autoblock on a leg loop)
- Weight rappel device
- CHECK your system
- Keep break hand on break strand and retrieve personal anchor and any other gear
- Loosen third hand and begin descent

When rappelling use the acronym B.R.A.K.E.S.

B- Buckles: Check the buckles on your harness.

R- Rappel Device/ Rope: Check that your carabiner is locked, both rope strands have been loaded, and that the rope is properly threaded through the anchor.

A- Anchor: Make sure your anchor is sufficient for the rappel.

K- Knots: Make sure that you have knots in the end of your rope.

E- Ends: Do your rope ends make it to the ground?

S- Safety Backup/ Sharp Edges: Make sure your autoblock is set up correctly. Make sure that your rope is not being weighted over any sharp edges.