

Ice climbing tech tips

Basics

1 Be very aware of the conditions of the ice and the surrounding environment

How have the conditions been over the past few weeks? What is the forecasted temperature? Double-check the ice quality. Is there an avalanche risk from above?

2 Don't forget your helmet and headlamp

You must wear a helmet at the base of the climb, as you would when climbing. Remember to take a headlamp for late finishes.

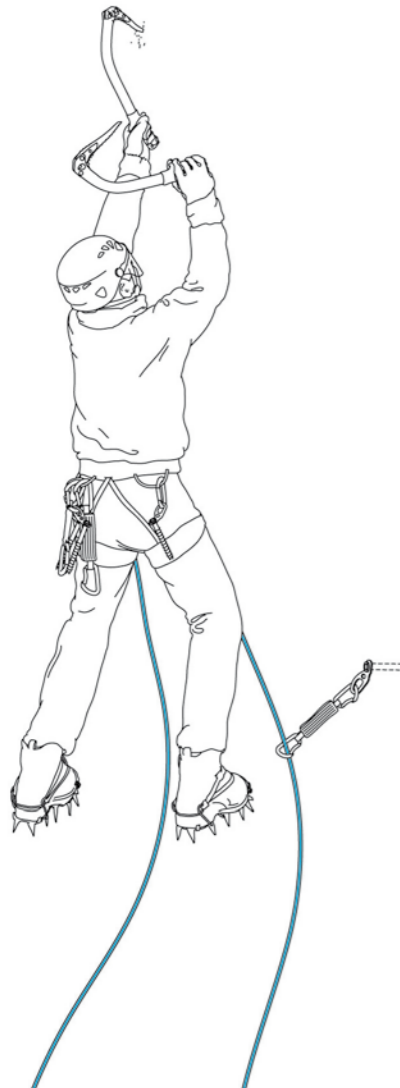
3 Use double ropes

To limit the force of impact of a fall on the ice screws:
 - clip the ropes alternately all the way up
 - use an energy absorber (example: NITRO 3).

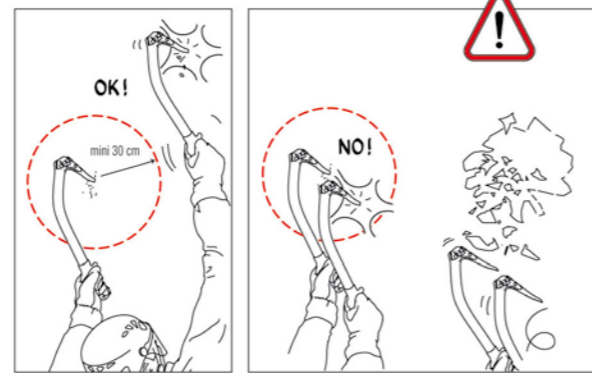
4 Think about protecting the second climber

Set up your stations to the side, not directly in line with the next pitch. Place enough gear on a traverse so that the second climber doesn't pendulum in a fall.

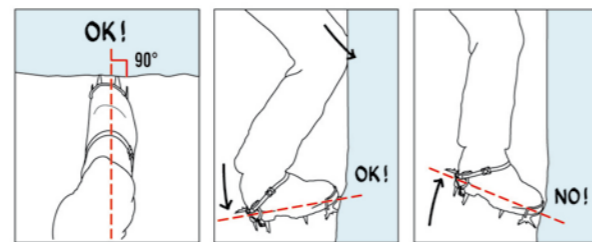
A. Tips for striking



Ice axe

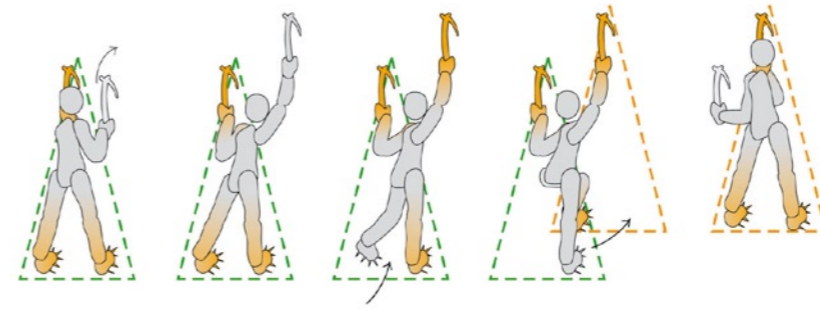


Crampons



B. Progression

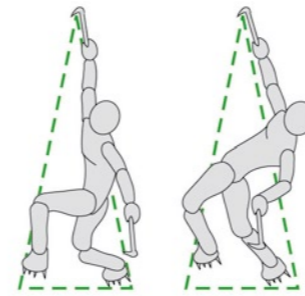
Triangular progression (balanced positioning in triangle form) using three contact points: feet apart, ice axe aligned with center of pelvis



Rotation for remote striking.



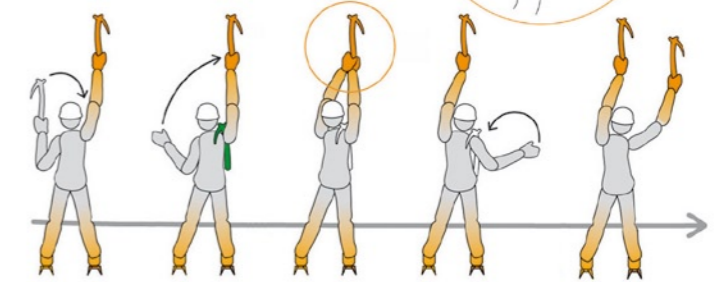
Resting positions.



Mantling.



Switching hands when traversing.



Clipping the quickdraw while dry tooling.

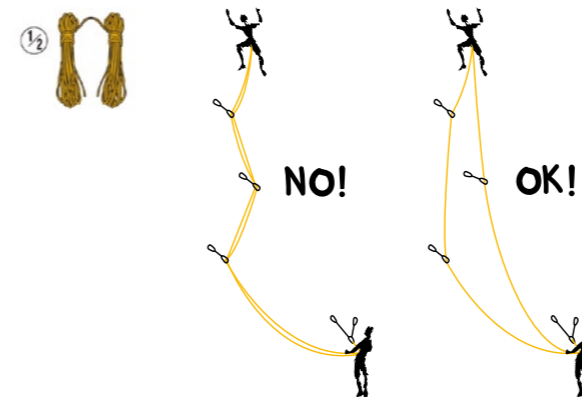
Ice axe in hand.



Ice axe on shoulder.

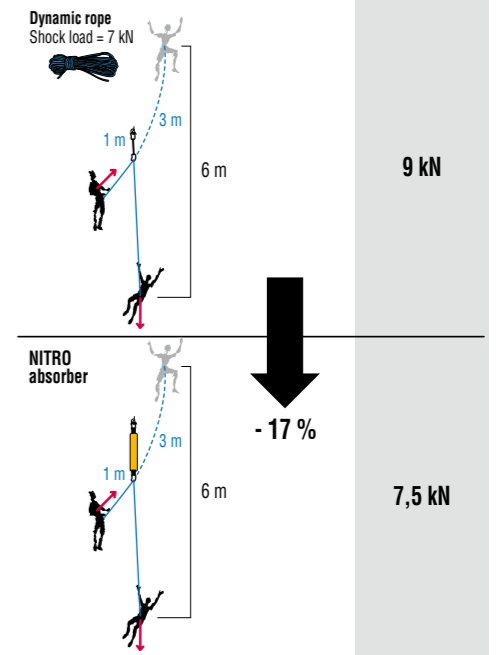


To reduce the shock force on the ice screws in case of a fall, clip the ropes in alternately along the route.



Shock force reduction with energy absorbing quickdraw.

Fall factor: $6/4 = 1,5$



Falls with and without an energy absorber.

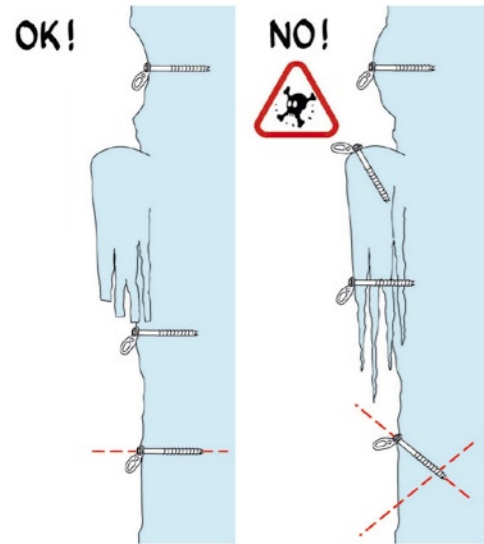




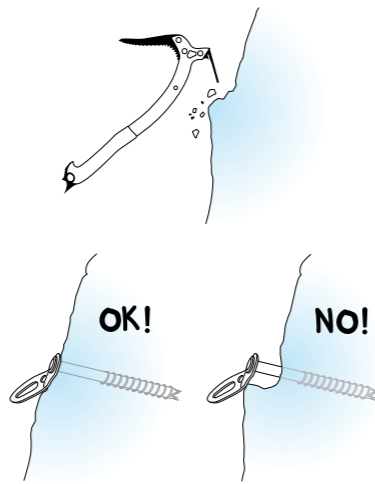
© Klaus Fengler

C. Ice screws

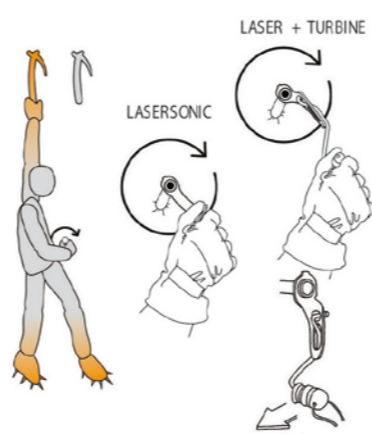
Ice screw placements.



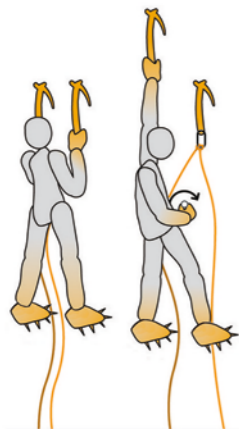
Clean the placement area.



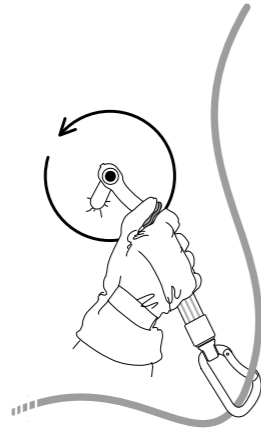
Place the ice screw at hip height.



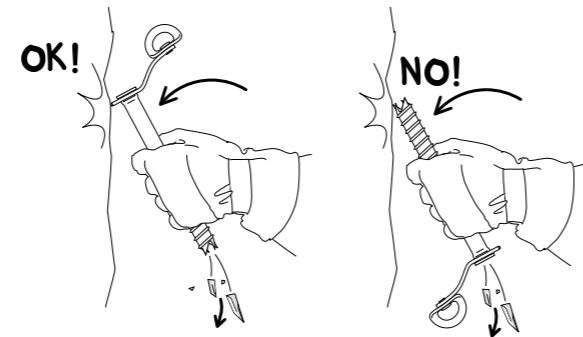
Temporary protection while placing a screw.



Unscrew the LASER SONIC ice screw without unclipping the rope.



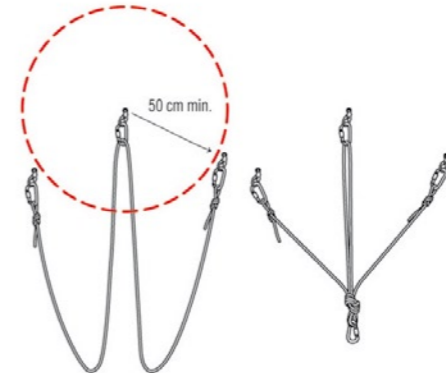
Empty the ice screws, protect the teeth and threads.



Two-screw belay.



Three-screw belay.

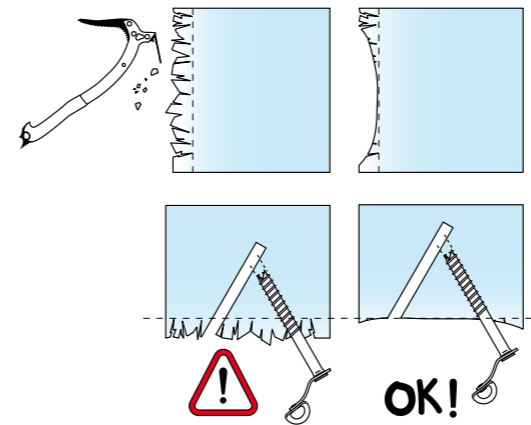


Make sure the belay is in the right spot.

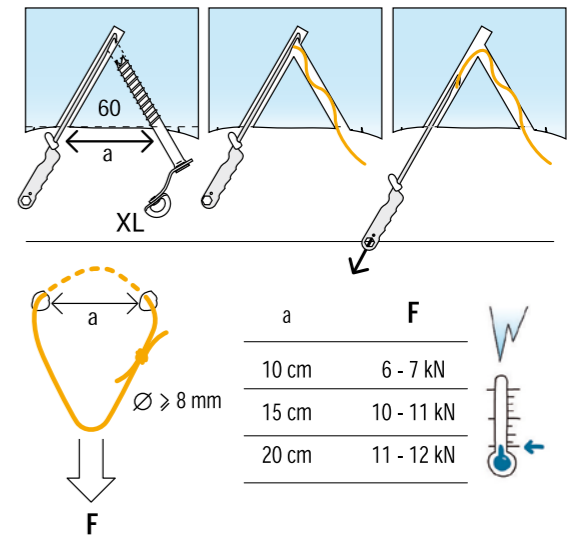


D. Ice threads: preparing the anchor for the rappel

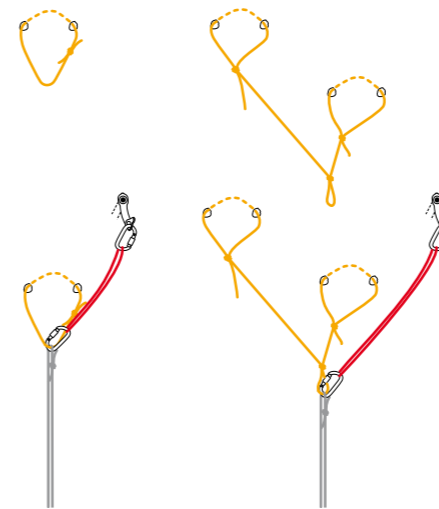
Clean off any fragile surface ice to create an ice thread in more compact ice.



Building an ice thread anchor



Depending on the ice quality and temperature, make one or several connected threads. Connecting the ice thread with one or more ice screws for rappels.



Rappel on ice thread.

The leader descends on ice thread and ice screws. Once the thread has been tested, the second pulls the screw(s) and descends.

