TECHNICAL BOOKLET
SPORT CLIMBING

climbing technology
GENUINE ITALIAN HARDWARE

EN

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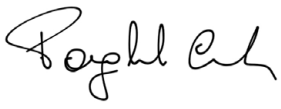
CLIMBING PASSION:
TRUE PASSION CAN ONLY GROW.

The brand Climbing Technology embraces and enhances over 30 years of passionate life and experience in the design and production of personal protective equipment. An accomplice has definitely been the territory, at the foot of the mountains between Bergamo and Lecco, where the mountaineering tradition is very strong, we settled here and set about developing our skills in metalwork and mechanics.
In these years we have breathed and developed an extensive know how and combined with the latest generation of manufacturing technology it has enabled us to design and produce devices in order to excel in the vertical disciplines: in the mountains (mountaineering and sport climbing), in a professional environment (working at height, working on a rope, rescue) and in a recreational environment (via ferrata and adventure parks). The specialised diversification and constant research of new materials and new processing techniques are essential for reaching the new goals: they allow us to create devices that meet the most advanced technical and sporting requirements.
Every day we pursue three objectives: safety, functionality and simplicity. These are objectives that cannot disregard European regulations and technical standards, products certifications and quality management systems. We know that in order to excel, we must go further, stimulating and directing the whole team, inside and outside of the company, to collaborate in the realisation and the distribution of our devices.

We have learnt that in the mountains, as well as in some work situations, we are exposed to serious dangers: in the context in which we operate there are hidden pitfalls that must be carefully examined. However that on its own is not enough: those who climb must be aware of their capabilities and their limitations. And ultimately they must equip themselves with the appropriate equipment. Our devices are born with the objective to protect and reduce the risk in case of an accident or a fall. All of us at Climbing Technology are aware and every day we feel proudly committed to give confidence and security to the users of our equipment. Always underlining the importance of the “head” of the user.

Climb safely and… have fun!
Carlo Paglioli



S. Leoni, Euskal, Albenga (Italy) 📷 K. Dell'Orto - Climbing Technology

PRACTICAL EXPLANATIONS

Objective: training
These pages are devoted to a topic that has always been close to our heart: creating a training module, illustrative and centred on the use of our products. This is not intended to be a manual nor to substitute a formal climbing course, but simply to give our customers, and friends, a summary of the main activities involved in climbing and mountaineering.

For us, safety is a constant, absolute "must". This attitude drives us to invent, produce and sell products which are safe. A safe product isn't just one which functions correctly and which meets the legal standards: a safe product is functional, logical, ergonomic, long-lasting, easy to use, error-proof, well-designed and attractive to look at. A product is safe only if all its applications and advantages are explained in details and made readily available to the user. As well as our articles, our products are sold with clear instructions which can be easily downloaded from our website. For the same reason, we have committed to providing all users of our products with some supplementary technical content, and a section of it lays now in your hands.

Focus: crag
The topic of this booklet is sport climbing in crags: a type of climbing that is normally carried out on equipped routes, easily identified and accessible to climbers. This section describes the main scenarios that you may be facing during a day at the crag, with our recommendations for the safe and best use of your equipment.
All manoeuvres show the use of Climbing Technology most suitable equipment for the specific context. In particular, you will appreciate the focus on some particular products that stand out for their innovative nature:

- **Click Up+ -** belay device for crag and indoor climbing;
- **Nimble Fixbar Set -** quickdraws with anti-rotating holder;
- **Tricky -** auxiliary system to clip the carabiner into far hard-to-reach anchors.



Note.
The diagrams and explanations that follow are not exhaustive and are not intended to substitute appropriate theoretical and practical training.

For this reason, before use, it is necessary:
• to have received appropriate theoretical and practical training through a recognised specialist course;
• to have read thoroughly the instructions for the device you are using;
• be aware of the risks inherent in climbing and employ techniques to reduce them to a minimum.

L. Bono, Gumbi, Toirano (Italy) © K. Dell'Orto - Climbing Technology

Not exhaustive information: always consult the user's instructions of each device and the technical manuals.
Attention! It is essential to possess a proper technical education.

SINGLE-PITCH SPORT CLIMBING

"Sport climbing" means climbing with already-existing fixed protection points, so as to guarantee the maximum safety in case of a fall. Most (but not all) sport climbing is on single-pitch routes whose length is up 35/40 m. The routes are bolted by enthusiasts or in some cases by people whose job it is to bolt the routes.

Each route consists of:

- a series of fixed intermediate anchors, expansion or glue-in bolts;
- the end of the route and the point you lower-off from, the "belay" or "lower-off".

To climb a route, someone must "lead" it, that means they must climb up the rock face, clipping the rope into the quickdraws which are placed from each successive fixed protection bolt. As s/he leads, the other person belays them, using a belay device, paying out the rope gradually to enable them to climb and holding the rope to stop a fall, should it occur. The leader climbs up to the top of the route, to the belay/lower-off, which has a screw-gate karabiner or a ring specially for lowering-off from, through which s/he passes the rope. The belayer then lowers the leader to the ground using the belay device to gradually pay out the rope. The route can now be climbed top rope: with the rope already passed through the lower-off, people can climb without risk of leading the route.

In the following pages you will find:

1 - NECESSARY EQUIPMENT

GALAXY

Helmet.
Protects your head against falling rocks and/or possible impact with the rock if you fall.

QUARZO

DEDALO

MUSA

Harness.
Used to connect the climber to the rope and supports her in case of a fall or when being lowered-off.

CLICK UP+

Belay device.
Connected to the harness and to the rope, allows the second to belay the leader, paying out the rope as he climbs, holding the cord in the case of a fall and gradually paying it out for lowering-off.

BERRY NY

LIME NY PRO

NIMBLE FIXBAR DY

Quickdraws.
Used to connect the rope to the fixed anchors in the rock, to arrest a fall.

TRICKY

Tricky.
Auxiliary system that makes it easier to clip the carabiner into a far anchor, otherwise out of reach. It is not a quickdraw for progression.

AERIAL PRO SG

WARLOCK HMS

ALP LOOP 60

SPORT CHAIN

Screwgate carabiners and rope slings or daisy chain.
They are useful for belaying yourself when you are threading the belay.

VIBE FLASH

Single rope.
Connects the climbers and absorbs the impact of and arrests a fall. The rope used for crag climbing is a EN 892 single rope.

TRAPEZE

Chalk bag.
Chalk absorbs sweat on the fingers and improves the grip on the holds.

FALESIA

TANK EVO

CITY BAG

Rope bag.
For carrying the rope to the base of the crag and contains a sheet of cloth on which the rope can be placed on the ground to avoid it getting dirty.

Not exhaustive information: always consult the user's instructions of each device and the technical manuals.
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2 - CLIMBING SEQUENCE

LEADING.

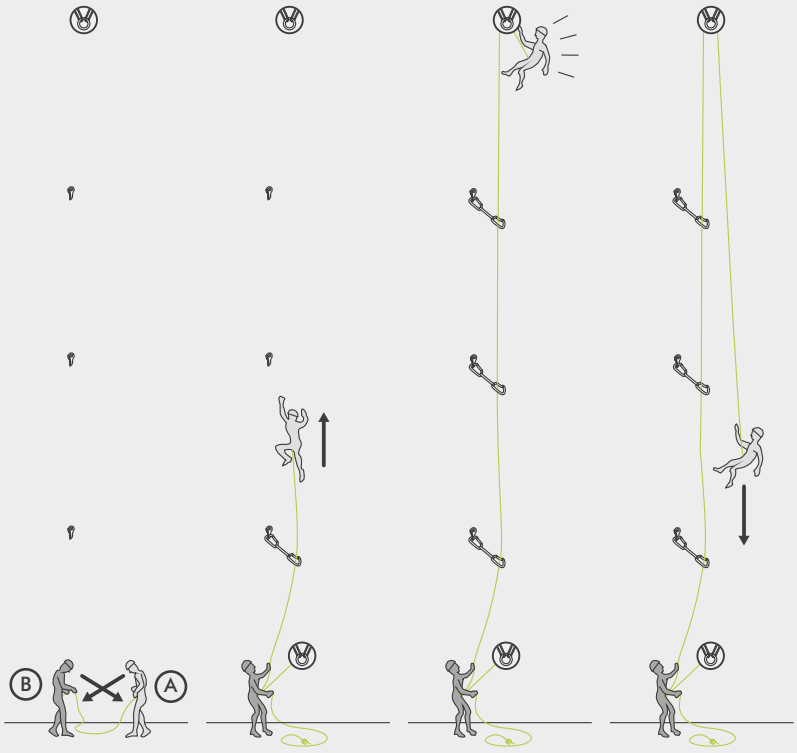
The successive steps in leading a single-pitch route are shown.

1 - Buddy check.
A checks that **B** has correctly connected the belay device to his harness and passed the rope correctly through the belay device. **B** checks **A**'s knot.

2 - Leading.
B belays, paying out rope to **A** who climbs up the route, clipping a quickdraw onto each bolt and the rope into the quickdraw.

3 - At the belay.
A has arrived at the end of the route and has threaded the rope through the lower-off.

4 - Lowering-off.
B pays out the rope through the belay device to lower **A** back down to the ground.



TOP-ROPING.

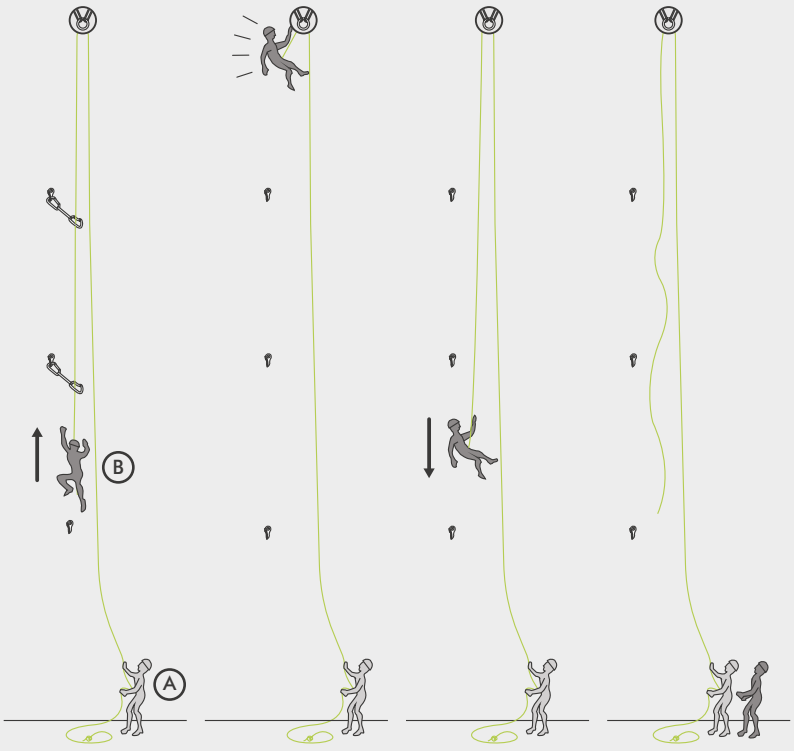
The successive steps in top-roping a single-pitch route are shown.

1 - Climbing top-rope.
After the buddy check, **B** climbs the route, removing the quickdraws as she climbs while **A** progressively takes in the rope so that she is belayed safely.

2 - At the belay.
B has reached the belay and is ready to be lowered-off.

3 - Lowering-off.
A pays out the rope through the belay device to lower **B** back down to the ground.

4 - Pulling down the rope.
A pulls down the rope by pulling on the end **B** wasn't tied to. The rope falls down and the team can tackle another route.



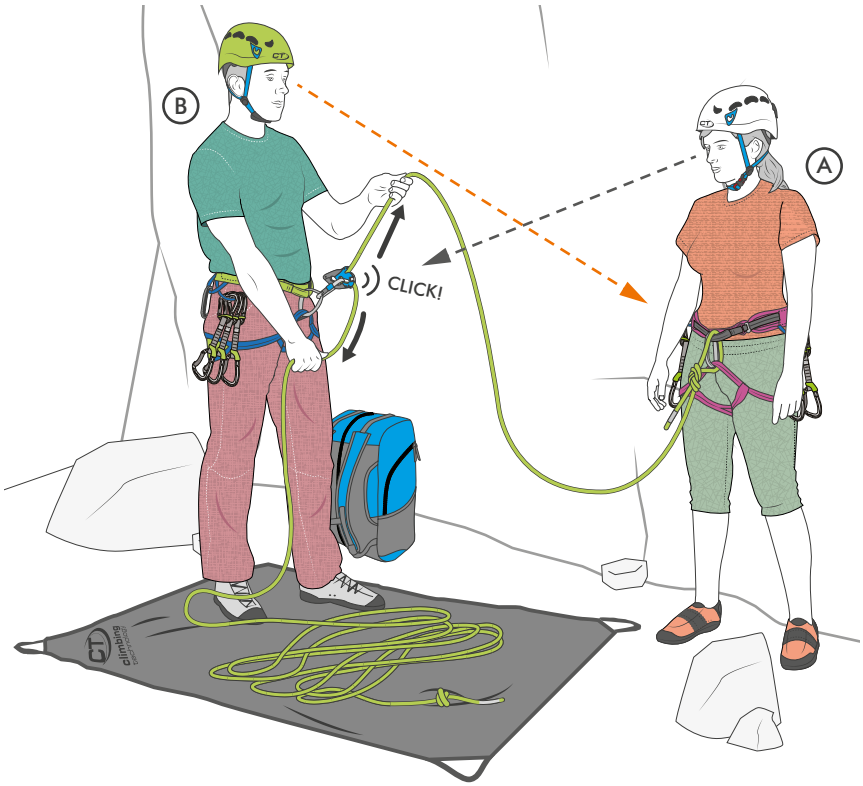
3 - PREPARING TO CLIMB

Two people are need to sport climb, one who climbs **(A)** and the other who belays **(B)**. Before starting climbing, a series of actions ensure safety:

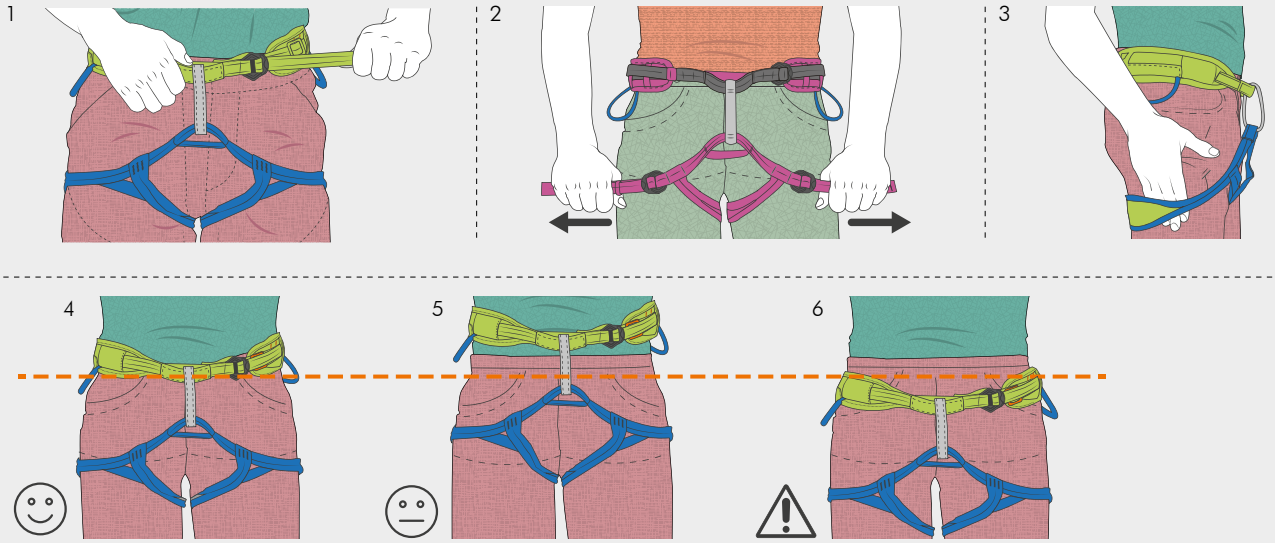
- **A** and **B** choose the route to climb and verify that the rope has an adequate length, i.e. at least twice the length of the route;
- **A** feeds the rope into an orderly pile on the rope bag, making sure there are no knots. She ties a knot in the end of the rope;
- **A** and **B** put on their harnesses and helmets correctly;
- **A** ties the rope into her harness with a figure of eight knot while **B** connects the belay device to his harness and passes the rope into it;
- **A** and **B** carry out a Buddy Check.

Buddy check.
The Buddy Check is the last and very important part of preparing to climb, and the safety of the team depends on it:

- **B** checks the belay device is functioning correctly and **A** makes sure he does this correctly;
- **B** checks **A** has tied the rope correctly to her harness with her figure of eight knot;
- **B** makes sure that **A** has everything she needs to complete the climbing route (quickdraws, carabiners, webbing/rope sling or daisy chain);
- **A** starts to climb, and **B** belays her.



3.1 - ADJUSTING THE HARNESS



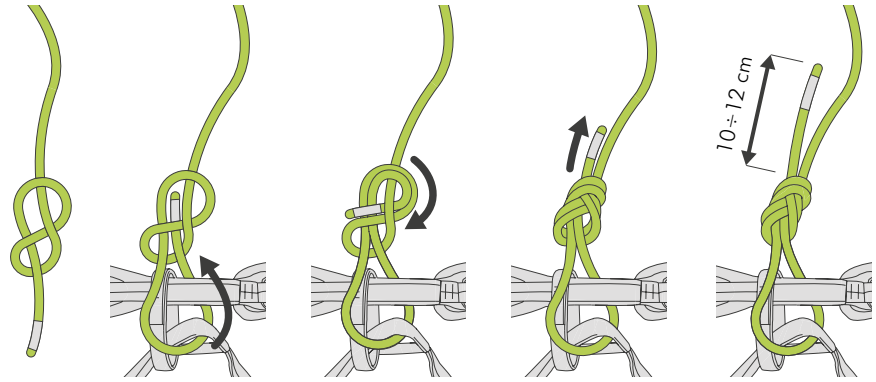
Harnesses for sport climbing are normally equipped with a single fastening buckle on the waistbelt and either fixed or adjustable leg loops. Models with fixed leg loops are ideal for beginners, for indoor use or for those who are looking for a lightweight harness which is not cumbersome while in use. Models with adjustable leg loops are instead ideal for experienced users who make good use of their versatile nature, during all seasons of the year. When purchasing the harness, it is very important to choose the size that fits you properly.

Before climbing, you need to:

- properly don waistbelt and leg loops;
- adjust the strap in order to make the waistbelt fit properly, using the fastening and adjustment buckles (Fig. 1). Where present, adjust the leg loop buckles (Fig. 2);
- verify that the harness has a snug fit over the body without being too tight (Fig. 3) and that waistbelt and leg loops are positioned at the correct height (Fig. 4÷6).

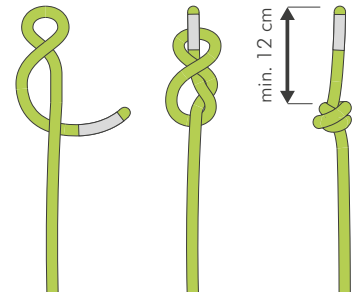
Not exhaustive information: always consult the user's instructions of each device and the technical manuals.
Attention! It is essential to possess a proper technical education.

3.2 - TYING THE FIGURE OF EIGHT KNOT



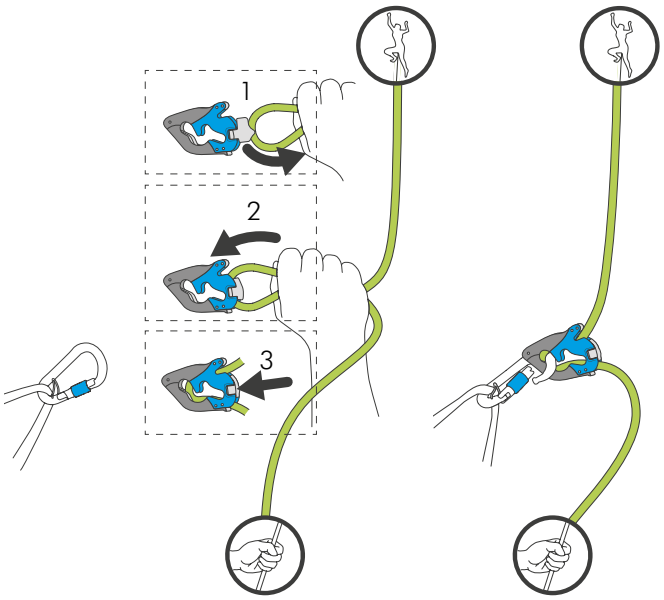
The **figure of eight knot** is the safest and easiest to tie knot for attaching the rope to the climber's harness. To tie it follow the steps shown in the diagram to the left making sure that the rope passes through both the waist loop and the loop joining the leg loops. Make sure the knot is tied correctly and at least 10-12 cm of free end of the rope is left sticking out.

3.3 - TYING THE KNOT IN THE END OF THE ROPE

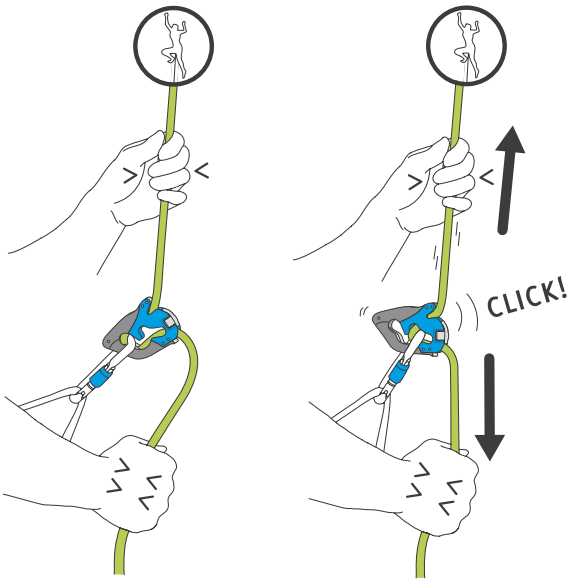


The knot in the end of the rope is tied so that the rope can't accidentally run through the belay device while lowering off if you haven't made sure that the rope is at least twice as long as the length of the route: **don't forget it!**

3.4 - PREPARING THE CLICK UP+ BELAY DEVICE



Installation. Insert a screw-gate carabiner into the harness's belay loop, lift the plate through the rope and insert it into the device, making reference to the indicated drawings. Insert the screw-gate carabiner through the device then screw up the gate.

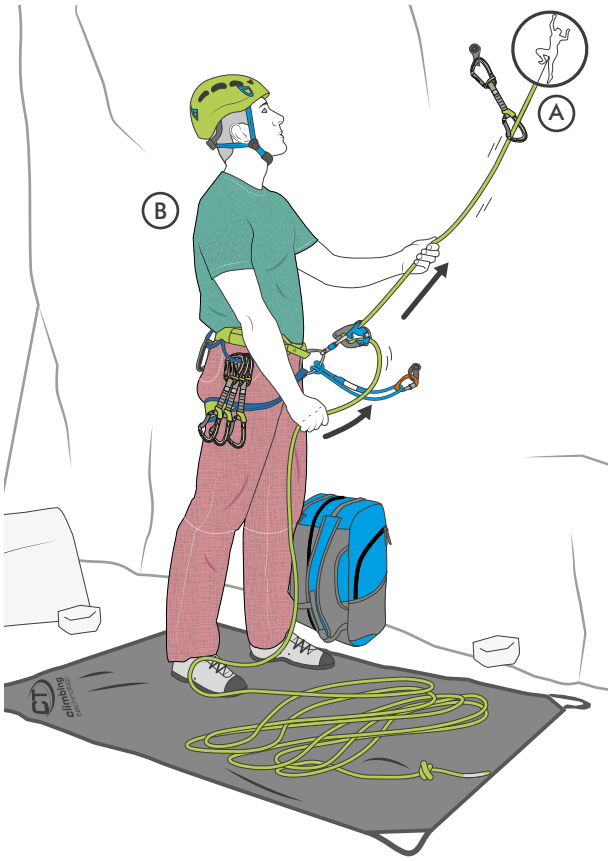


Functional test. Hold the free end of the rope with one hand and with the other pull the climber's rope upwards. Make sure the Click Up+ blocks the rope, making the distinctive "Click" sound.

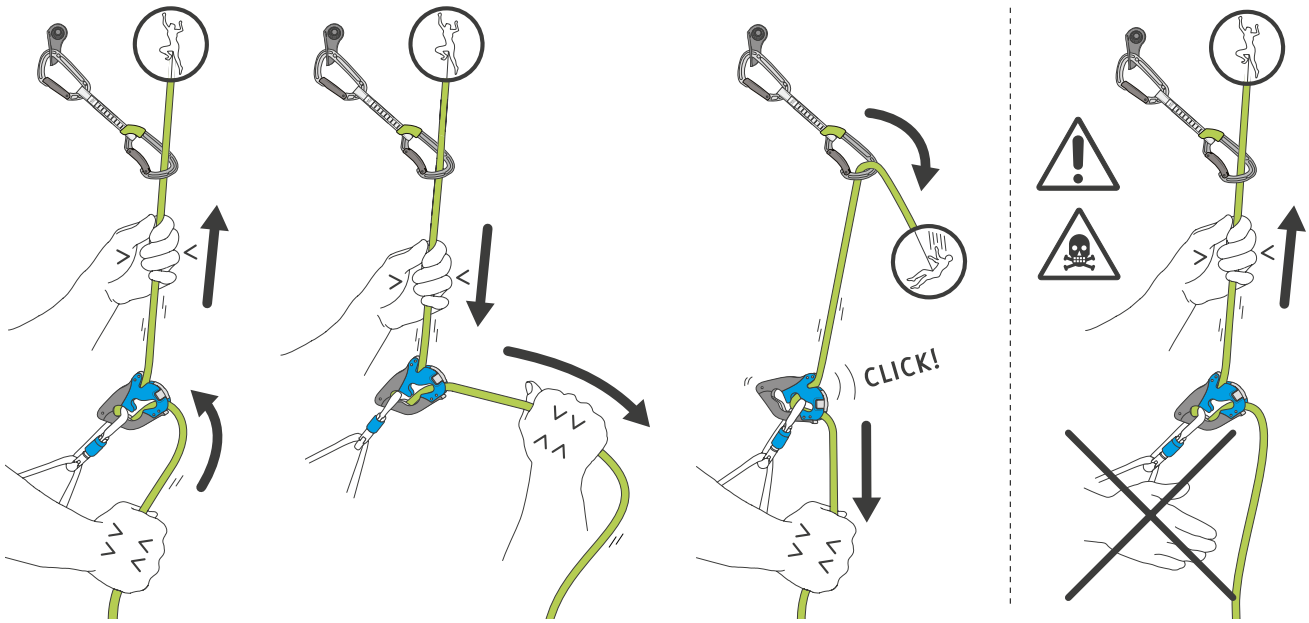
4 - BELAYING THE LEADER

Belaying the leader involves paying out rope through the belay device to the leader **(A)**, holding the rope in case of a fall and then lowering the leader back to the ground once she has climbed the route. This lets the leader climb the route in safety.
To belay well, the belayer **(B)** should:
• be able to use the belay device properly;
• belay themselves to the ground/nearby crag if they are much lighter than the leader **(A)** or if there is a risk of them falling off an exposed ledge from which they are belaying;
• pay constant attention to the leader **(A)** as she climbs and stand as close in as possible to the rock;
• never let go of the free end of the rope;
• not pay out to the climber **(A)** more rope than is necessary and be ready to take-in slack rapidly if needed;
• be ready to hold the companion **(A)** is she falls and lower her to the ground as indicated in the instructions of the belay device used.

When sport climbing it is common to use a belay device with assisted braking to belay the leader. Belay devices with assisted braking are popular because, in the case of a fall, they automatically lock the rope provided the free end of the rope is held. The devices currently on the market do not always work perfectly in the following situations:
• paying out rope quickly to the leader without the rope jamming;
• they are dangerous if the rope is inserted incorrectly.
Our **Click Up+** belay device overcomes these disadvantages, thanks to its special design:
• it lets you pay out rope very quickly, without the device jamming;
• reduced chance of errors for incorrect handling of the rope when braking, thanks to the V-Proof System (Patent Pending, pag 22);
• it is very safe because, even if the rope is inserted incorrectly, it still lets you arrest a fall and lower the climber to the ground.
Click Up+ can be used with single ropes of diameter Ø 8.5÷11 mm.



4.1 - CLICK UP+: PAYING OUT ROPE AND HOLDING A FALL



Paying out rope.
With one hold pull the climber's end of the rope so it flows through the Click Up+ and with the other make a free loop and feed the rope into the device.

Taking-in rope.
With the lower hand pull the rope through the Click Up+, with the other pull the climber's rope downwards towards the device.

Holding a fall.
With the lower hand hold on tight to the rope, moving your hand downwards. The Click Up+ will automatically block the rope, making the distinctive "Click". **Important!** When belaying you must always hold onto the free end of the rope and never let go of it.

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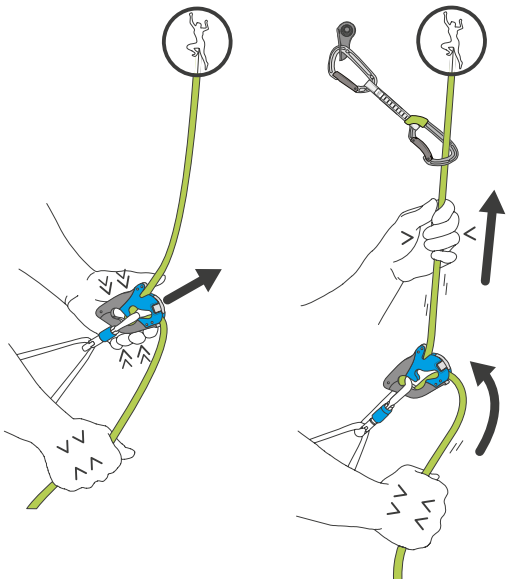
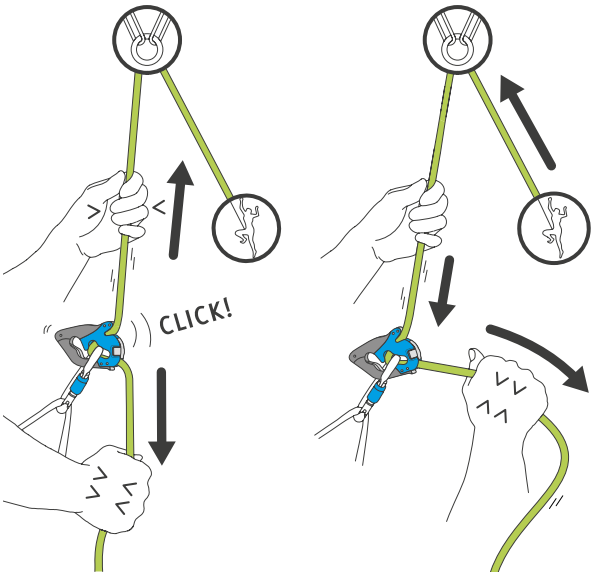
4.2 - RELEASING THE ROPE



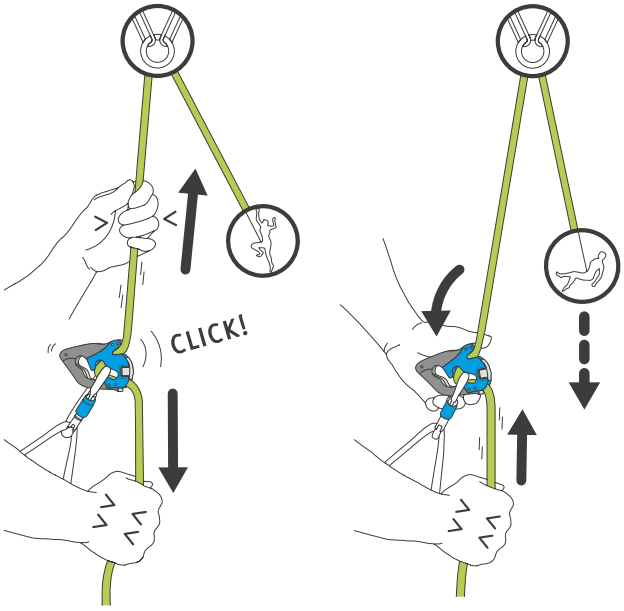
To start paying out again rope to the climber after she has hung on the rope or after a fall, keep holding the free end of the rope with one hand and with the other hold the Click Up+ and lift it upwards, so as to return the belay karabiner to its initial position. This unblocks the device and you can pay out rope again.

4.3 - BELAYING TOP ROPE



Use the Click Up+ in locking mode. With one hand pull the free end of the rope through the Click Up+, with the other feed the rope from the climber into the device. Using the device in this way is very safe because the climber is constantly belayed with the rope in tension and the Click Up+ in locking mode.

4.4 - LOWERING THE OTHER CLIMBER

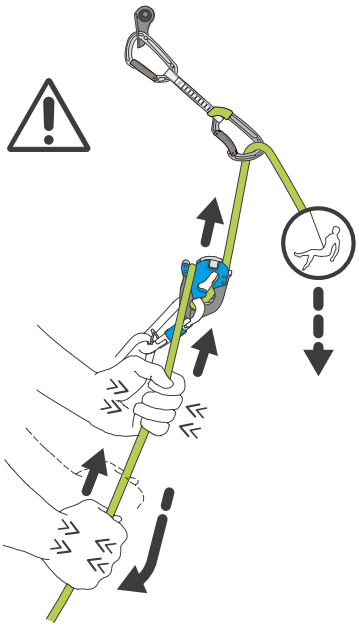


Lowering the other climber.
Take in rope and lock the Click Up+. Keeping one hand all the time on the free end of the rope, with the other hold the Click Up+ as shown in the diagram and with the palm of the hand push the corner of the device downwards. Feed the free end of the rope into the device. When the climber is on the ground, unblock the device.

4.5 - LOWERING THE OTHER CLIMBER EVEN IF USED INCORRECTLY

Even if the rope is inserted incorrectly into the Click Up+, thanks to the special V-shaped braking groove, the device remains effective for belaying!

This is an important feature because it combats and reduces the frequent cases of mistaken use that occur with other belay devices and makes the Click Up+ ideal for climbing schools, beginners and indoor climbing gyms.



Lowering the other climber even if used incorrectly.
If the rope is inserted incorrectly (the wrong way round, or the Click Up+ upside-down) the device still permits you to lower the climber safely to the ground. Keeping firmly hold of the free end of the rope, position it in the braking groove and slowly release rope towards the Click Up+ until the climber is on the ground.

L. Bana, S. Leoni, Gumbi, Toirano (Italy) © K. Dell'Orto - Climbing Technology

CLICK UP+

Click Up+ is a manual-braking belay device specifically designed for indoor and crag climbing. It is equipped with V-Proof, the innovative system that reduces the chance of error due to incorrect handling of the rope while braking.

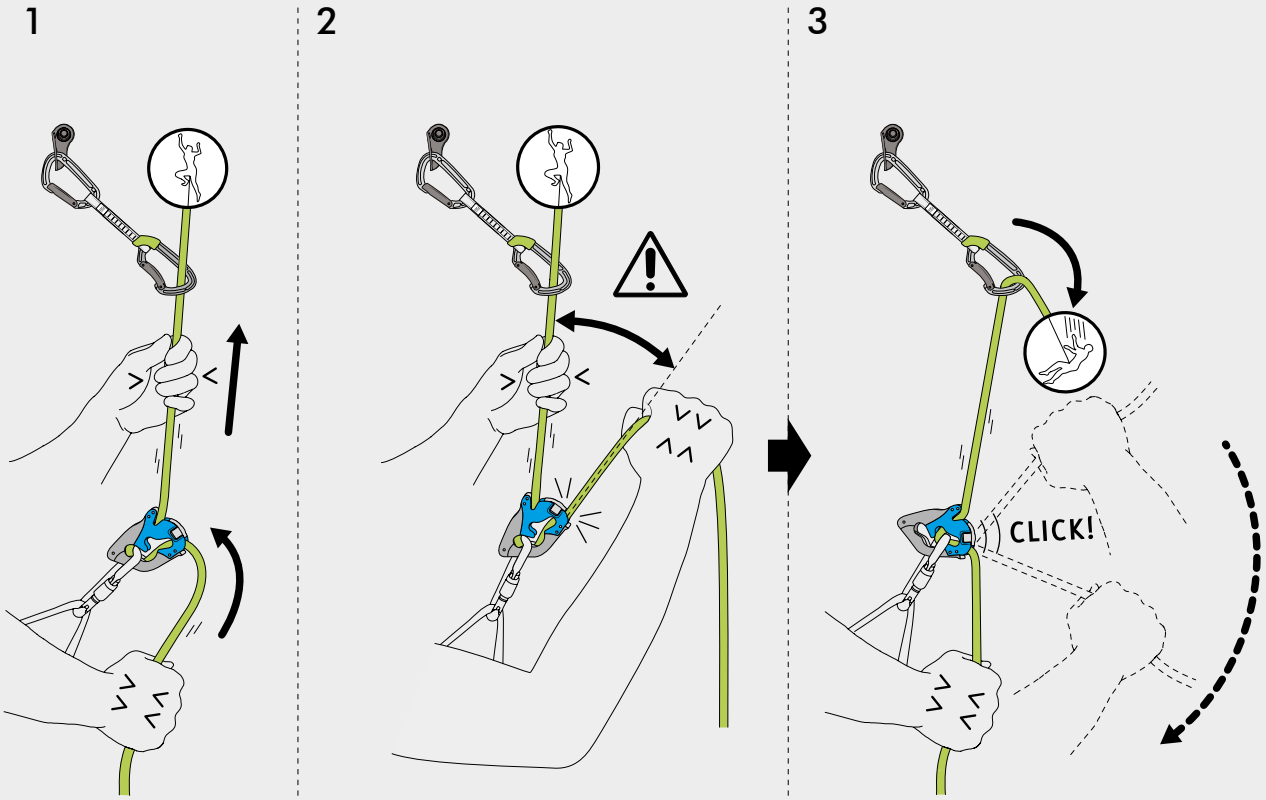
V-Proof System

When climbing, some processes are especially critical (like taking-in and paying-out rope to the leader, or taking-in slack when top-roping): in the event of a fall, the "V"-shaped angle between the two sections of the rope has to be maintained. A reduction in the value of this angle can affect the proper functioning of the device when locking the rope. The V-Proof System reduces the chance of error due to an incorrect reduction of the V-angle between the two strands of the rope.

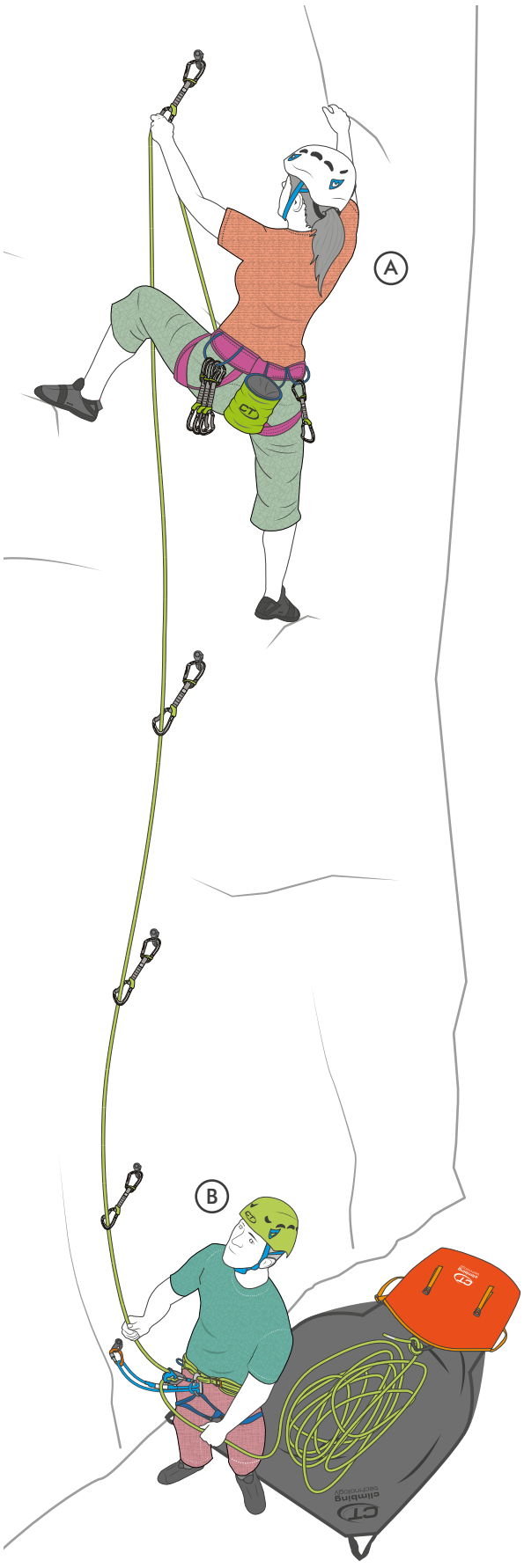
Operating principles

The V-Proof System consists of a mobile partition that enhances the activation of the assisted-braking system. If during the fall of the climber the braking-hand side of the rope comes into contact with the mobile partition (Fig. 2), this pressure contributes to the rotation of the device and to the consequent locking on the rope (Fig. 3).

The V-Proof mobile partition does not interfere with the insertion of the rope and it keeps the two sections of rope separate (Fig. 1). The symbols on the partition also indicate how to correctly position the rope sections.



5 - LEADING

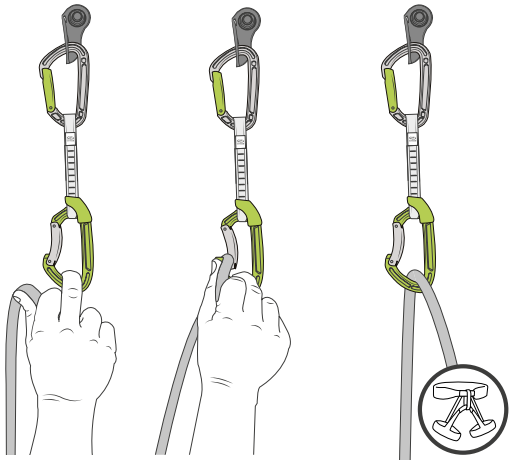


"Leading" is when the climber **(A)** climbs up the route using the natural hand- and footholds present in the rock and clipping the rope into the quickdraws clipped onto the bolts to protect herself in case of a fall. In order to climb safety the leader **(A)** should:

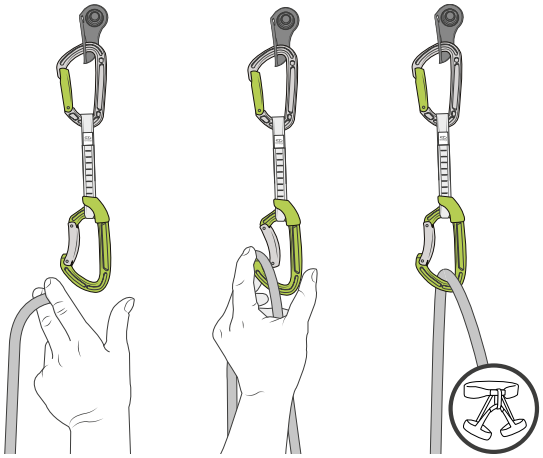
- be correctly tied into the rope and the belayer **(B)** should belay attentively;
- be aware of her own capabilities and know the appropriate climbing techniques;
- be able to clip the quickdraw onto the bolt and then the rope into the quickdraw, as correctly as possible;
- be able to thread the belay.

During the progression of the climber on lead, when anchors are very far apart, it may be hard to place a quickdraw and get the adequate protection. In these cases, Tricky may be used to clip the carabiner to a far anchor, otherwise out of reach (pg. 19).

5.1 - CLIPPING TECHNIQUES

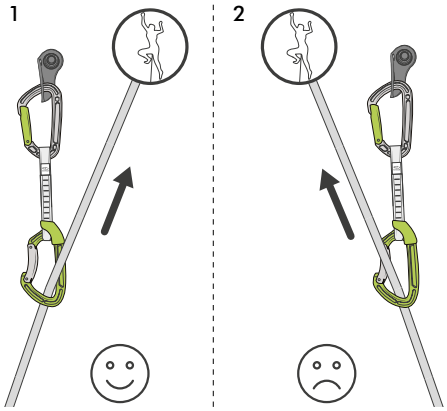


Correct clipping with the right hand, using the finger to steady the lower karabiner which has a curved gate to facilitate clipping.



Correct clipping with the left hand, using the hand to steady the lower karabiner. Place the rope so that it comes up though the karabiner and out towards the climber (see 5.2).

5.2 - POSITIONING THE QUICKDRAWS



It is necessary to place the quickdraw so that the gate is away from the direction the climber is climbing and then clip the rope so that the rope comes up through the karabiner and out towards the climber. If these rules are not followed it is possible that the quickdraw gets turned over and/or during a fall that the rope becomes unclipped.

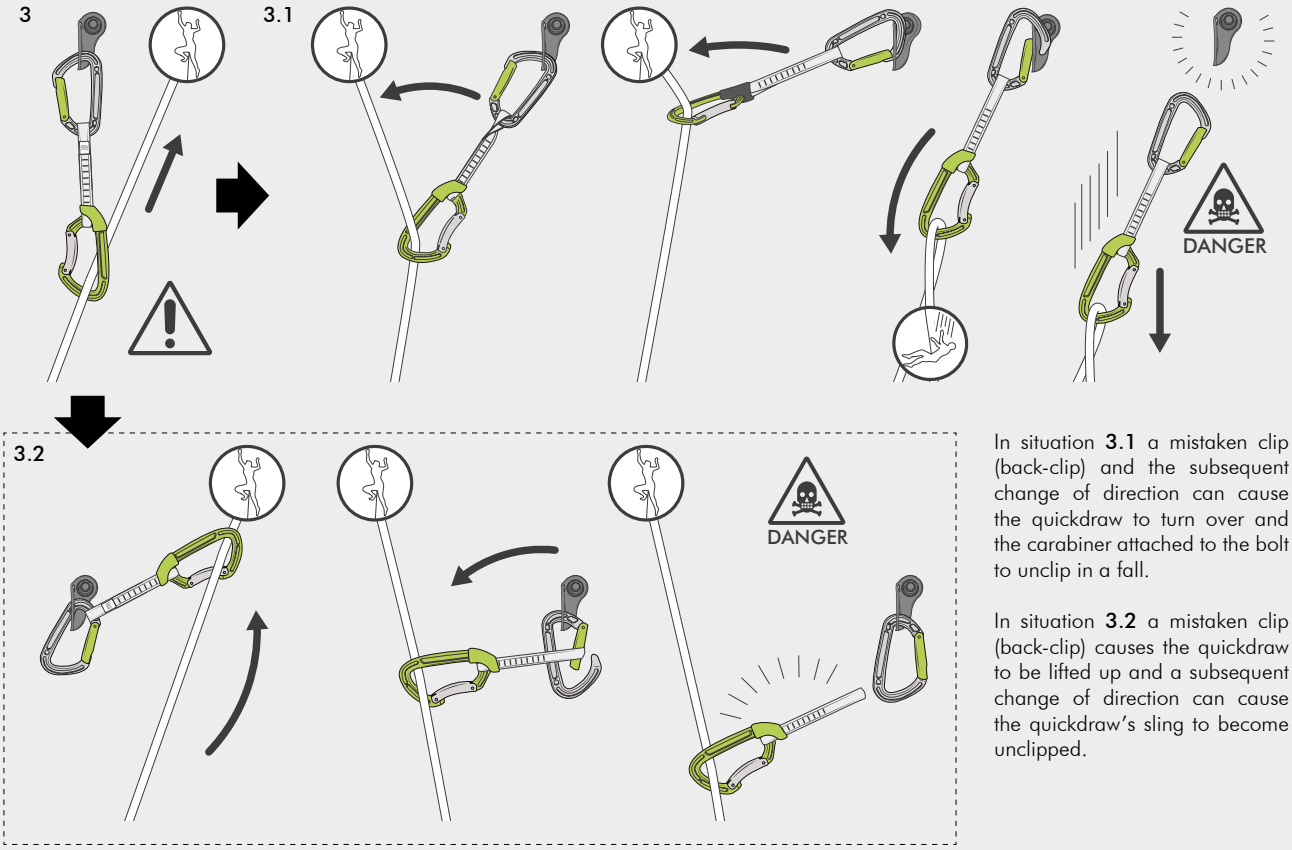
In the following pictures:

1) Correct set-up: the rope clipped through the carabiner goes outwards towards the climber while the gate is opposite to the direction of travel. Nevertheless, under certain conditions, the top connector could be loaded on the minor axis. Nimble Fixbar Set quickdraw can be used to avoid this: it is equipped with a rubber holder that prevents the top carabiner from rotating with respect to the sling (pg. 17).

2) Potentially dangerous situation: because the climber's rope is running in the same direction as the gate of the carabiner.

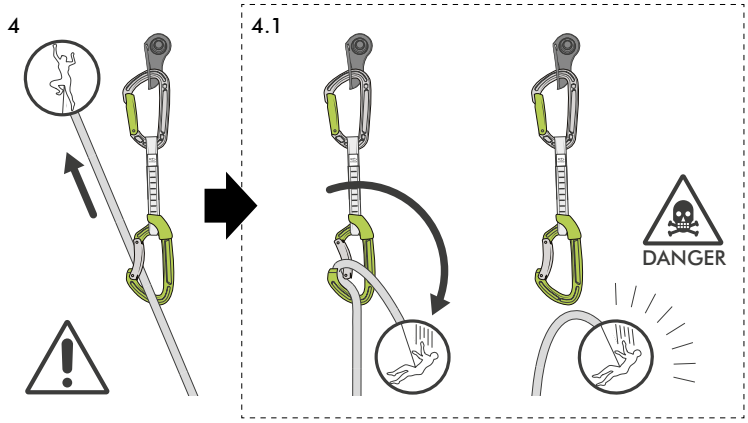
3) Real danger: the karabiner is back-clipped and, due to the climber changing direction, accidents could be caused (Fig. 3.1-3.2).

4) Real danger, becuase the karabiner is back-clipped and the gate is facing the same direction as the rope.



In situation **3.1** a mistaken clip (back-clip) and the subsequent change of direction can cause the quickdraw to turn over and the carabiner attached to the bolt to unclip in a fall.

In situation **3.2** a mistaken clip (back-clip) causes the quickdraw to be lifted up and a subsequent change of direction can cause the quickdraw's sling to become unclipped.



In situation **4.1** you see one of the most probable risks of back-clipping. In a fall the rope can open the gate of the quickdraw, leading to the rope unclipping itself from the carabiner.

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NIMBLE FIXBAR SET

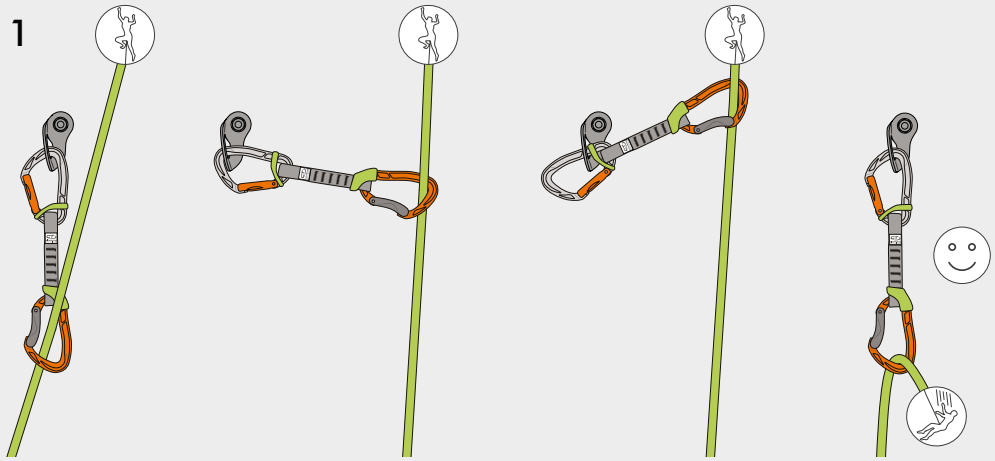
Nimble Fixbar set is a family of ergonomic quickdraws that have been specifically designed for sport climbing, for intensive use and to work a route. All models are high strength (25-10-10 kN) and rather lightweight, thanks to the hot-forging process.

Fixbar holder

All Nimble Fixbar Set quickdraws are equipped with the innovative rubber holder Fixbar that makes their use even more practical and safe. Fixbar is a system that provides the following benefits:

- it prevents the rotation of the carabiner with respect to the anchor and/or of the sling with respect to the carabiner itself (Fig. 1) and in both cases it avoids the possible of cross-loading on its minor axis (Fig. 2);
- it makes possible carrying the quick-draw carabiner hooked to the harness in the correct position, for easy access and usage (Fig. 3-4).

1



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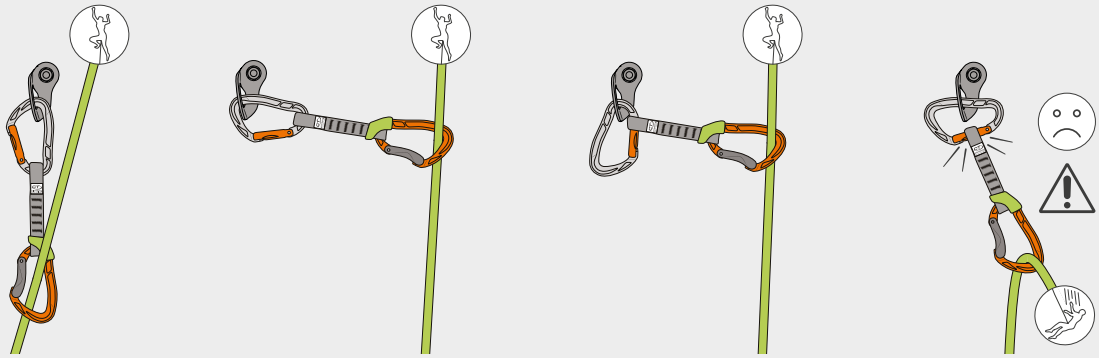

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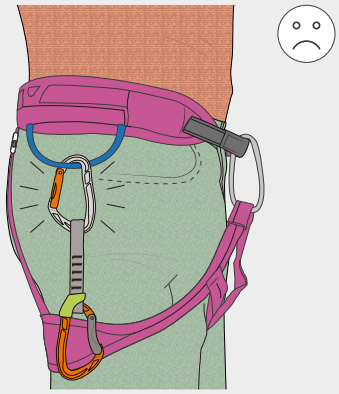

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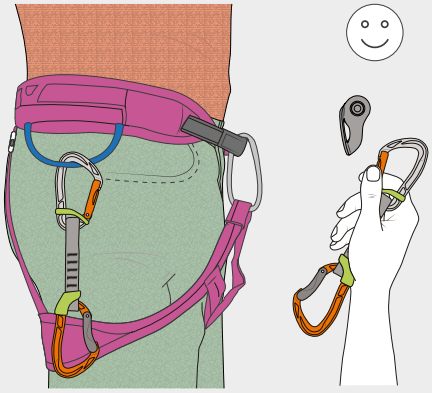

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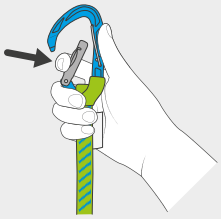
TRICKY

Tricky is an innovative system that makes it easier to clip the carabiner into a far anchor, otherwise out of reach. Tricky is equipped with a 35 cm long, semi-rigid tape, and with a lower loop to grab for easy A0-ing.
The carabiner used in the system is equipped with a special gate (Tricky Lever) that stays open and releases automatically once the system is loaded downward.
Attention! Tricky system is not a quickdraw for progression. Instead, it is a useful device for aid climbing: to progress beyond the anchor it must be replaced with a quickdraw for progression.

Operating principles

1) Open the gate of the carabiner with the index finger (Fig. 1) and at the same time use the thumb to push down the *Tricky Lever* (Fig. 2) to the point it is caught over the gate (Fig. 3), which, as a result, will be kept open (Fig. 4).
2) Reach the piece of protection (Fig. 5) and clip the carabiner in (Fig. 6), pulling it downward and so allowing the automatic release of the gate (Fig. 7).

1



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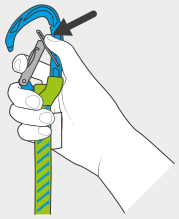

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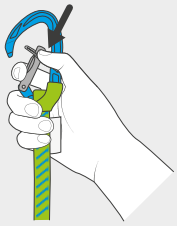

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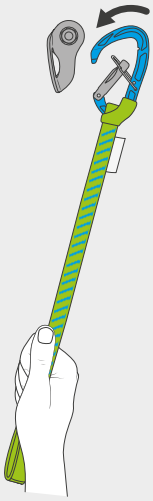

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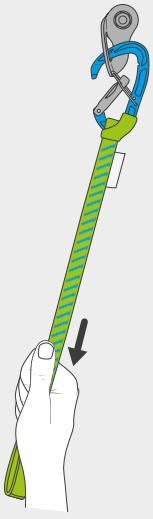

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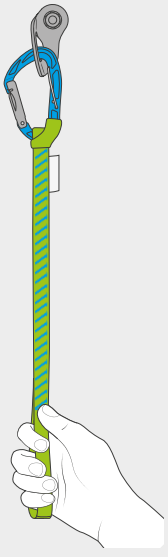

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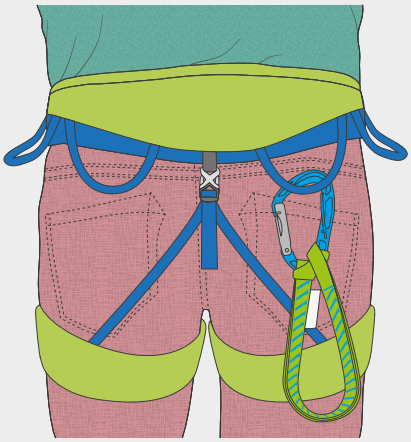
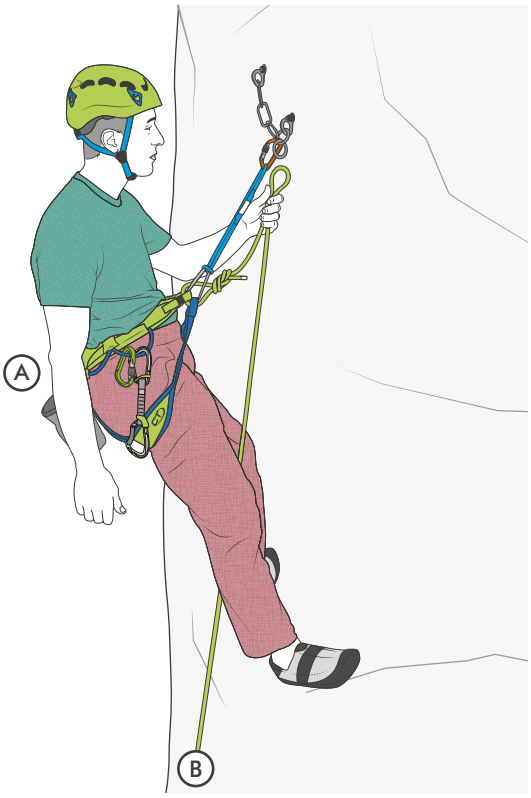


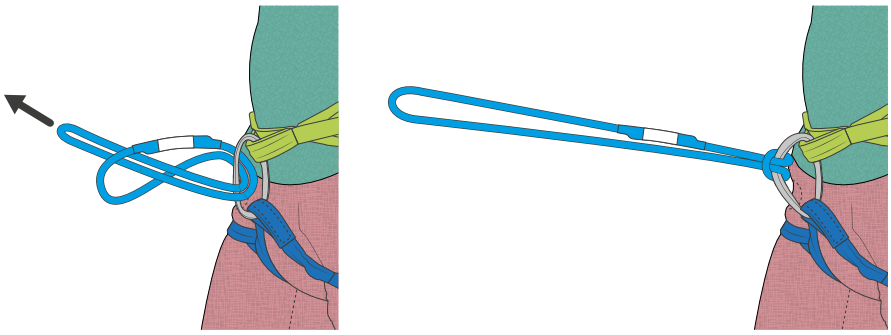
6 - THREADING THE BELAY

At the end of the route the climber will find the belay, normally consisting of two bolts joined by a chain and with a karabiner from which you can lower-off. In order to be lowered off, the climber must pass the rope through the karabiner, ask the belayer to take in tight and then be lowered.
At certain crags, instead of a karabiner for lowering-off, you find a closed ring or a "maillon rapide" which you cannot open to insert the rope. In this case you need to "thread the belay".
To do this safely you need:
- two screw-gate carabiners;
- a sewn sling, in rope or webbing, or a daisy chain.

Take care! If you don't know exactly how to do this, it's advisable not to make up your own methods because you could risk your life! It would be preferable to attach the rope to the ring with a screw-gate carabiner or with a quickdraw and lower-off.

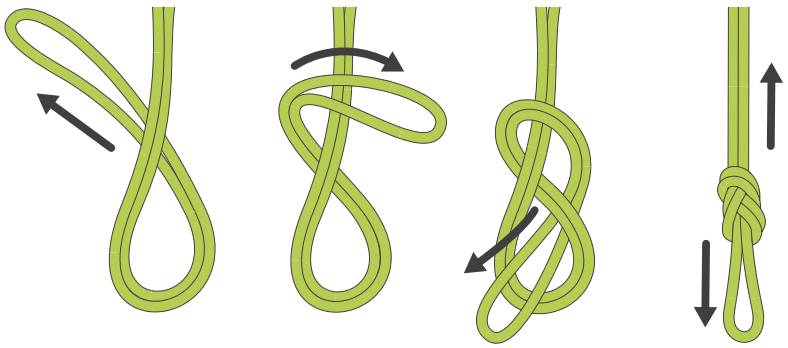


6.1 - MAKE A GIRTH HITCH



A **girth hitch** is used to connect a sewn sling, in rope or webbing, to the belay loop on the harness. Using a screwgate carabiner on the other end of the sewn sling, you can secure yourself to the stance anchor and deal with the manoeuvres for the descent.

6.2 - TIE A FIGURE OF EIGHT KNOT

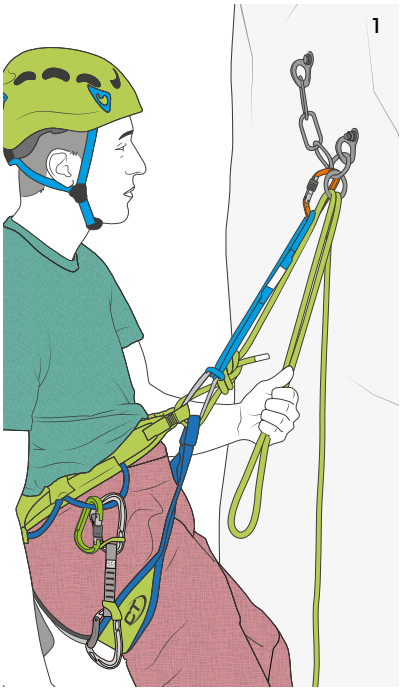


The figure of eight knot is used, after threading the rope through the lower-off ring, to connect the rope to the belay loop on the harness using a screw-gate carabiner.

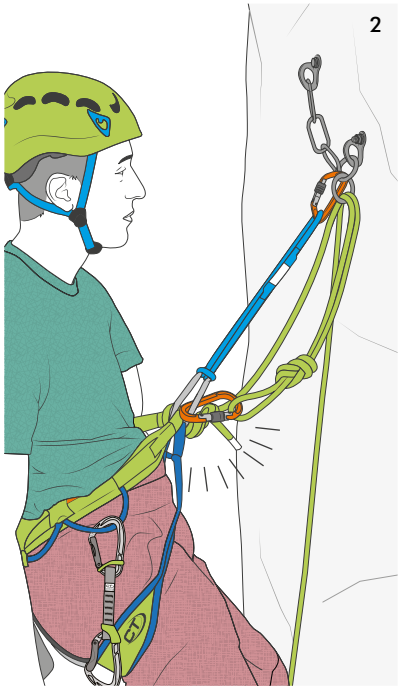
6.3 - STEPS IN THREADING THE BELAY

In the diagram on this page we see the following situation.

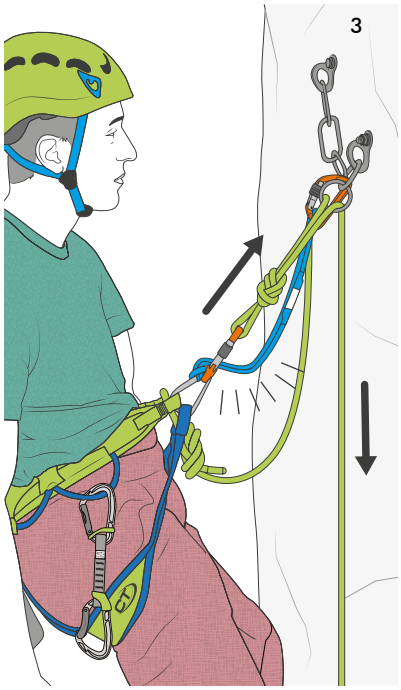
A has arrived at the belay and finds a ring to lower off without a karabiner to lower-off from.
A tells **B** he has arrived at the lower-off and has to thread the belay; he reminds **B** she should keep belaying him.
A secures a sewn sling, in rope or webbing, to the belay loop of the harness using a girth hitch. He clips a screwgate carabiner into it and uses it to secure himself to one of the most solid anchors of the stance.
A can now hang on this sling and he asks **B** to give him several metres' slack. He makes a loop in the rope.



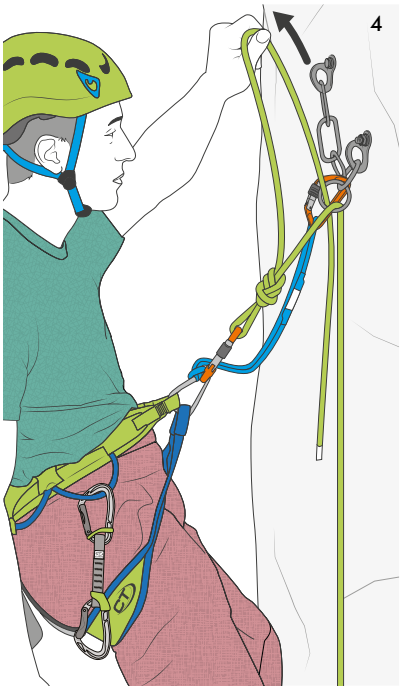
A threads the loop through the lower-off ring and pulls towards himself the doubled-over rope, until he has about 40 cm more rope than the length of sling he is hanging frome.



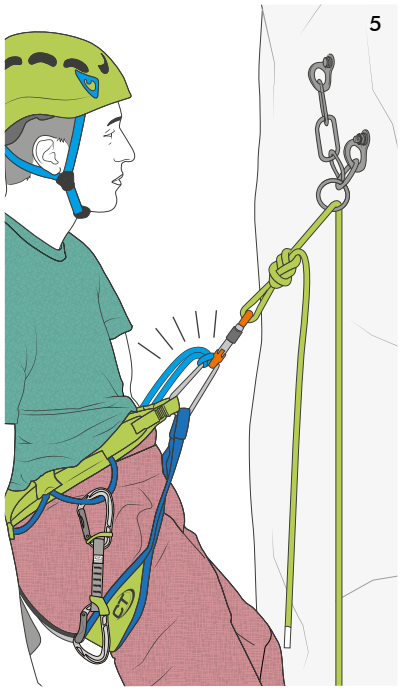
A makes a figure of eight knot at the end of the loop and connects the loop to his harness with a screwgate carabiner. He does up the gate.



A asks **B** to take in tight the climbing rope, so that he can check that he has correctly threaded the rope through the lower-off ring. The rope tied to the harness with the figure eight knot and the sewn sling used to secure himself to the anchor must both be slack.

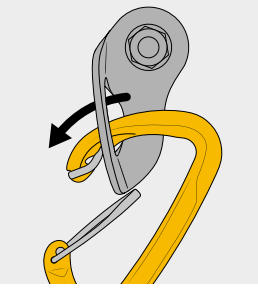


A sunties the end of the rope tied to his harness and unthreads it from the lower-off ring. **B** is holding him on the rope.



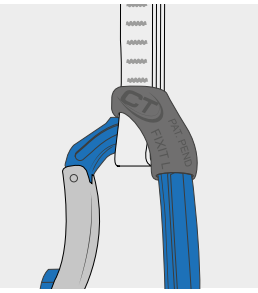
A checks that: the rope that pass through the lower-off ring and tied with the figure of eight knot correctly, the screw-gate carabiner is loaded lengthways and that its gate is correctly closed. At this point **A**, belayed by **B**, can unclip the sewn sling used to secure himself to the anchor and get lowered to the ground.

7 - INNOVATIONS



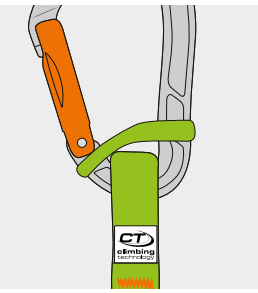
FG (Free Gate)
Innovative carabiner locking system that combines the functionality of the catch free systems along with the performance of wire gates. The stainless steel cover makes it easier to clip and unclip the carabiner avoiding ropes, slings or anchors accidentally catching during use.

Patent: US8234761B2 / EP2341255B1.

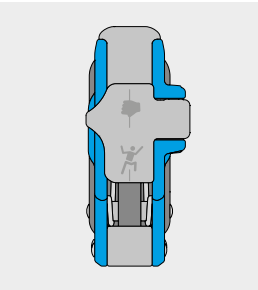


FIXIT
Innovative shaped rubber fastener for quickdraw slings. It secures the lower carabiner of the quickdraw to the sling, preventing the accidental rotation and keeps it on the axis. It also protects the sling from wear and tear.

Patent pending.

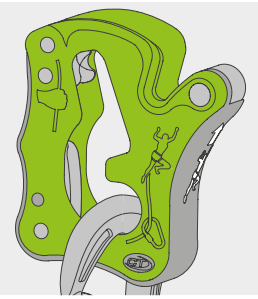


FIXBAR
Rubber retaining bar which prevents the top carabiner of the Nimble Fixbar quick-draw from rotating with respect to the sling and/or to the anchor, always keeping it in line.



V-PROOF
The Click Up+ V-Proof System consists of a mobile partition that enhances the activation of the assisted-braking system. If during the fall of the climber the brakehand side of the rope comes into contact with the partition, this pressure contributes to the rotation of the device and to the consequent locking on the rope.

Patent pending.



CLICK UP
The Click Up is an innovative belay device developed especially for sport climbing. Easy to use, intuitive and safe, it operates without the need to act on levers and moving parts and it allows to arrest a fall simply by holding the free end of the rope in your hand.

Patented.

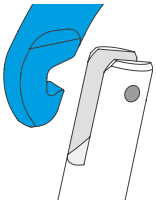
8 - STANDARDS

Mountaineering equipments:	
EN 564	Accessory cords
EN 565	Tapes
EN 566	Slings (tape, cord or rope)
EN 567	Rope clamps
EN 568	Ice anchors
EN 569	Pitons
EN 892	Dynamic mountaineering ropes
EN 893	Crampons
EN 958	Energy absorbing systems for use in via ferrata
EN 959	Rock anchors (plates, glue-in anchors, etc.)
EN 12270	Chocks
EN 12275	Connectors: Type B - Base connectors Type H - HMS connectors Type K - Via ferrata connectors Type D - Directional connectors Type A - Connectors for specific anchorage Type Q - Screw gate connectors (quick-links) Type X - Oval connectors
EN 12276	Frictional anchors (friends, etc.)
EN 12277	Harnesses
EN 12278	Pulleys
EN 12492	Helmets for mountaineers
EN 13089	Ice tools - ice axes: Type 1: For use in snow and/or ice Type 2: For use on rock, snow and/or ice
EN 15151-2	Manual braking devices: Tipo 2: Belay device without friction adjustement Tipo 4: Belay device with friction adjustement

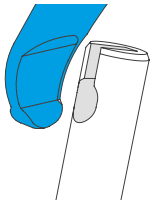
Work equipments:	
EN 795	Protection against falls from a height - anchor devices
EN 362	Connectors: Class B - Basic connectors Class A - Anchorage connectors Class T - Terminal connectors Class M - Multipurpose connectors Class Q - Screw gate connectors
EN 1891	Low stretch Kernmantel ropes
EN 12841-B	Rope access systems - working line ascender

9 - CARABINERS AND QUICKDRAWS

Locking system typology:

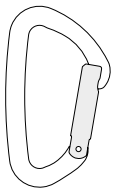


TRADITIONAL
This locking system is recommended in dirty environnements, where it's necessary to clean the carabiner easily.

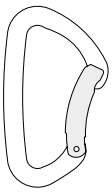


CATCH FREE
This locking system makes the hooking and releasing movements of the carabiners more fluent, avoiding the catching in ropes, webbings and anchoring points.

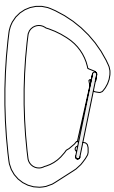
Gate typology:



STRAIGHT GATE (S)
Classic lever designed for progression.

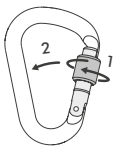


BENT GATE (B)
Classic lever designed for progression. Eases the placement of the rope.

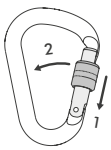


WIRE GATE (W)
On equal performances highly reduces the weight of the connector. Diminishes the "open gate" effect in case of fall.

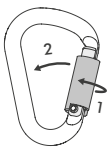
Gate blocking system typology:



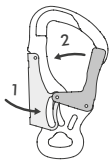
SCREW GATE (SG)
Two movements are necessary to open the gate (1-unscrew and 2-open). **Warning!** It's necessary to screw in order to guarantee lock the gate.



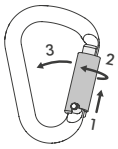
AUTOMATIC GATE
Two movements are necessary to open the gate (1-push and 2-open). **Warning!** It automatically comes back in the locking position of the gate.



TWIST-LOCK GATE (WG)
Two movements are necessary to open the gate (1-twist and 2-open). **Warning!** It automatically comes back in the locking position of the gate.



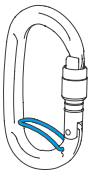
DOUBLE GATE
Two movements are necessary to open the gate (1-push and 2-open). **Warning!** It automatically comes back in the locking position of the gate.



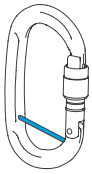
TRIPLEX GATE (TG)
Three movements are necessary to open the gate (1-push, 2-twist and 3-open). **Warning!** It automatically comes back in the locking position of the gate.

The abbreviation that follows the name of the carabiner indicates the type of gate. The letter L at the end indicates the ACL system, whereas the HC acronym at the end indicates the anodizing anti-wear.

Special features:



ACL SYSTEM (ANTI CROSS LOADING)
The ACL system allows to maintain stable eyelet ropes or webbings inserted in the connector. It allows an easy positioning or removal. It avoids the danger to load along minor axis.



CAPTIVE BAR
The captive bar could be supplied assembled or loose, to be assembled by the customer.

ALL THE CONNECTORS ARE INDIVIDUALLY TESTED

Not exhaustive information: always consult the user's instructions of each device and the technical manuals.
Attention! It is essential to possess a proper technical education.

L. Bana, S. Leoni, Euskal, Albenga (Italy) K. Dell'Orto - Climbing Technology

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to the products without advice.

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GENUINE ITALIAN HARDWARE

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