© Marcos Ferro

PETZL®

ASAP

Experience

• This “Product Experience” document is a supplement to the Instructions For Use, which provides feedback from field experience and tips for using your product
• It is inseparable from the Instructions for use

Important / remember

• Read the instructions for use carefully before looking at the following techniques
• You must have already read and understood the information in the Instructions for use to be able to understand this supplementary information
• Mastering these techniques requires specific training
• Work with a professional to confirm your ability to perform these techniques safely and independently before attempting them unsupervised

Failure to heed any of these warnings may result in severe injury or death.

Table of contents

Each piece of information is listed according to the technical level required for its application. Respect your own level when choosing your techniques.

FOR BEGINNER

Beginner technique

Technique usable by a trained practitioner of the activity.

NOT FOR BEGINNER

Technique for a certified practitioner

Technique for a person trained and certified in the activity.

EXPERT ONLY

Expert technique

Technique only for experts in the activity.

- user
- climber
- victim
- rappel
- victim + rescuer
- fall
- user-mass
- hand
- anchor
- mass
- small mass
- harness

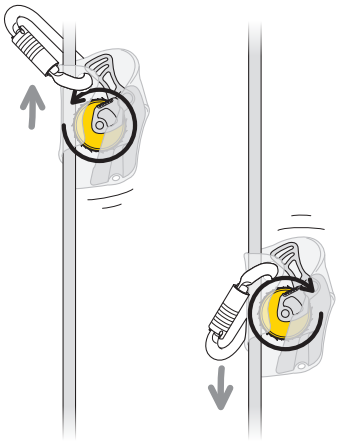
Working principle

The ASAP is a mobile fall arrester on rope, it moves along the rope without manual operation.
At moderate speeds, the locking wheel turns freely in both directions.

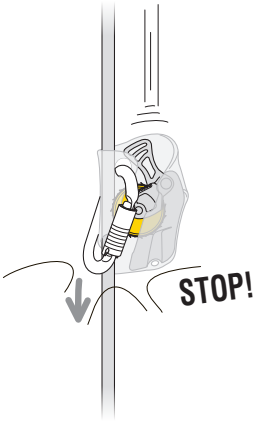
A rapid downward movement accelerates the rotation of the locking wheel clockwise. The centrifugal force activates the weights inside the device, blocking rotation of the locking wheel. The arm then pivots on its axle and the rope is jammed by pinching between the locking wheel and the body of the device.

To unlock the device, it must be pushed upward. During this movement, keep the locking wheel pressed against the rope, so that it turns counter-clockwise and unlocks the weights. The ASAP returns to its primary working mode, with the locking wheel turning freely in both directions.

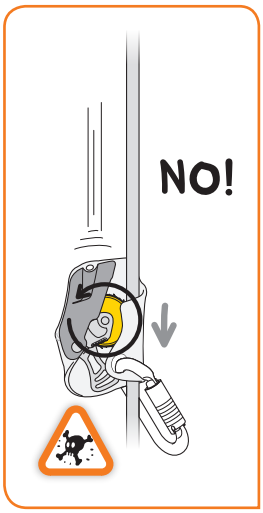
Moderate speed



Great speed



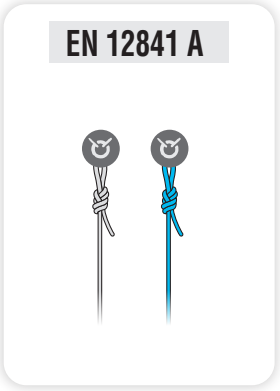
Warning, the ASAP is a directional device and locks in only one direction.
Danger of death if the ASAP is positioned upside down on the rope: verify the proper locking direction at each installation.

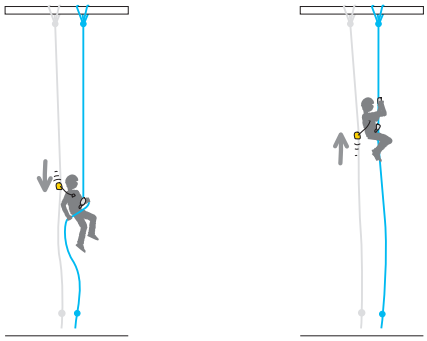


Backup device in a rope access system (EN 12841 A: rope adjustment device for the safety rope)

In a rope access system, the worker moves along a work rope.
The ASAP is installed on a safety rope and connected to the “A” (fall arrest) attachment point of the harness. Its role is to arrest the fall in case the primary belay or positioning system fails.

In accordance with the EN 12841 standard, the ASAP was certified using only 10 to 13 mm EN 1891 type A semi-static (core + sheath) ropes.
The use of other ropes has not been tested, and thus falls under the responsibility of the user.

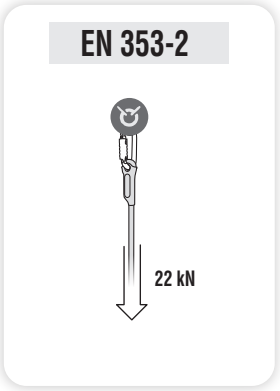


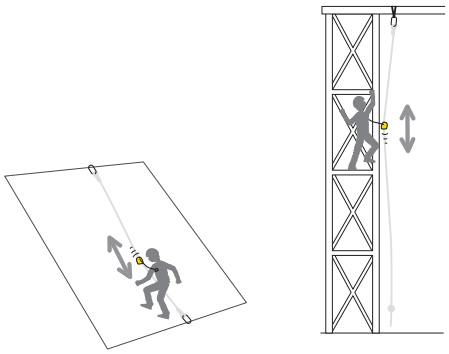


Primary belay device in a fall arrest system (EN 353-2: Mobile fall arrester including a flexible safety line)

In a fall arrest system, the worker moves about on the structure.
The ASAP is installed on a safety rope and connected to the “A” (fall arrest) attachment point of the harness. Its role is to arrest the fall, it should not be used for work positioning.

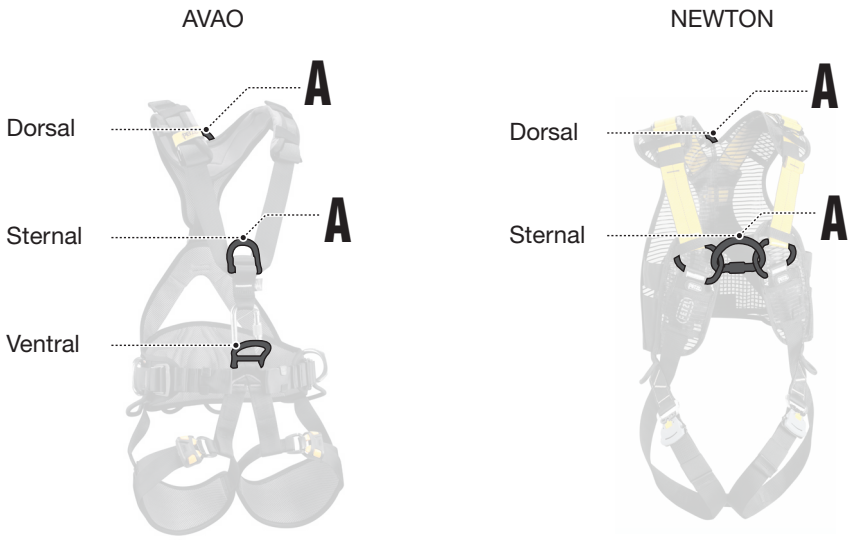
According to the EN 353-2 standard, the fall arrest system consists of an ASAP and a specific rope.
The strength of the safety rope must be 22 kN. This value cannot be guaranteed if knots are made in the rope, so the certification is done with ropes having sewn terminations.
The ropes tested during the CE EN 353-2: 2002 certification of the ASAP are:
- Parallel PETZL 10.5 mm with a sewn termination (nylon)
- Axis PETZL 11 mm with a sewn termination (nylon)
- BEAL Antipodes 10.5 mm with a sewn termination (nylon)
- BEAL Antipodes/Industrie 11 mm with a sewn termination (nylon)
- EDELWEISS Rescue 13 mm with a sewn termination (nylon)





FOR BEGINNER 1. Choice of harness attachment point for the ASAP

Example of a harness having an “A” fall arrest point:



The choice of harness attachment point influences:
- Work comfort (ASAP and absorber in front or behind the worker)
- Worker autonomy (can the worker install the ASAP himself, or not)
- The post-fall suspension position, especially in case of unconsciousness

Ventral (seat harness without fall arrest point)

- The ventral attachment point is not an “A” fall arrest point
- Risk of inversion if the victim is wearing a pack, or has a heavy object attached to the harness

Sternal

- Comfortable when suspended
- Rescuer can easily manage the victim's position
- The ASAP can take up space in front of the user during work

Dorsal

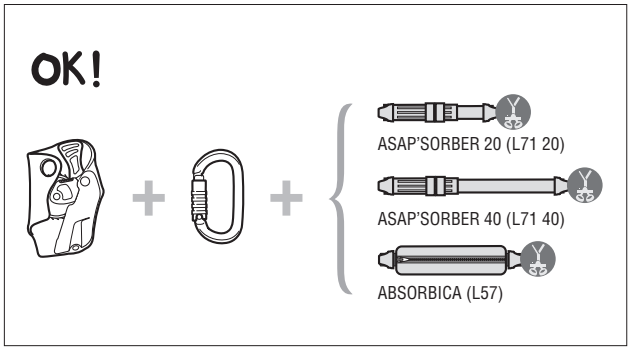
- Clear work space
- Uncomfortable position when suspended: abdomen and airway squeezed if the person is unconscious
- Difficult for rescuer to manage the victim's position

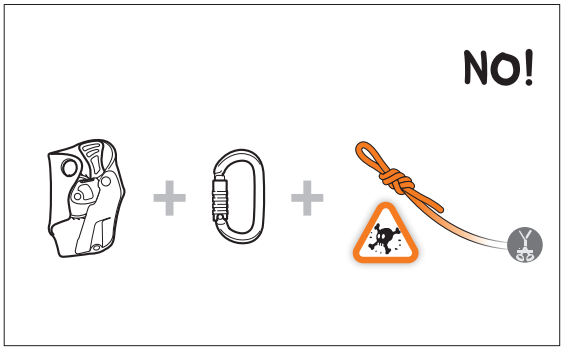
FOR BEGINNER ●○○ 2. ASAP usage with an energy absorber

An energy absorber can limit the impact force in case of a fall.
A lower impact force provides better comfort for the user and reduces the risk of damaging the rope during locking.
Using an energy absorber also allows distancing the device from the work station, but the potential fall height is then increased: the user must must make the appropriate choice for the situation.

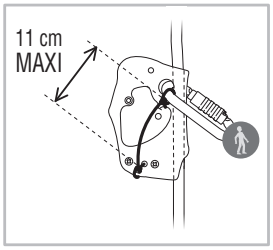
The absorbers compatible with the ASAP are:
ASAP'SORBER 20 (L71 20)
ASAP'SORBER 40 (L71 40)
ABSORBICA (L57)

Only energy absorbers compatible with the ASAP are authorized for extending the connection to the ASAP.
The energy absorber used must not be extended, to avoid increasing the potential fall height.





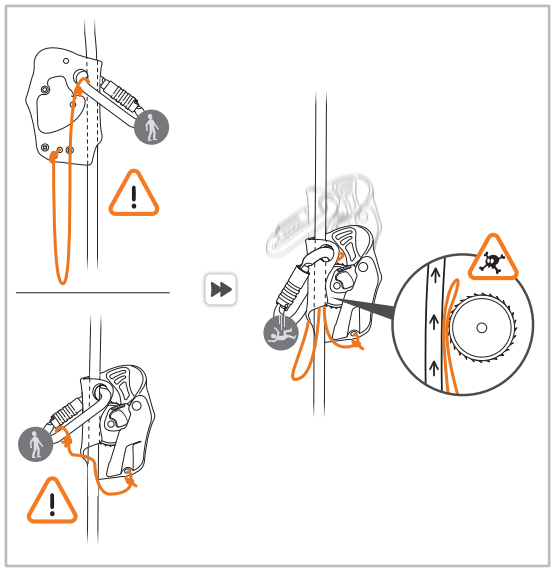
NOT FOR BEGINNER 3. Making the ASAP “drop-proof”



In certain work situations, it is obligatory to secure all tools and equipment to prevent anything being dropped. It is possible to attach the ASAP to the OK TRIACT with a keeper cord. Warning, using a keeper cord makes the device more difficult to handle and increases potential dangers and possible misuses.

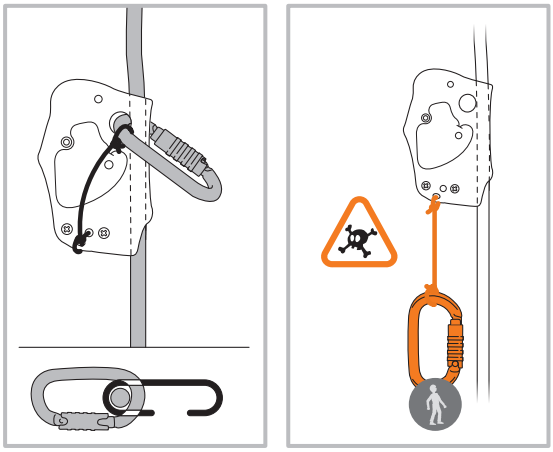
Installing the keeper cord

Tie one end of the keeper cord to the lower hole of the ASAP (identified as n° 7 in the “Nomenclature” section of the Instructions for use). The knot of the keeper cord must be tied as close as possible to the device to keep the size of the loop to a minimum.
Make a loop at the other end of the cord and connect it to the OK TRIACT carabiner. The loop must be tightened on the carabiner frame so that it stays in place close to the ASAP attachment holes.
The cord must be short: once in place, it should be no longer than 11 cm. An elastic cord may be used to make handling easier, provided it is no longer than 11 cm when not stretched.
When attaching the ASAP to the rope, run the keeper cord along the backside of the device (the side opposite the toothed wheel). Once the OK TRIACT carabiner is connected to the ASAP, the keeper cord must not be able to reach the toothed wheel.



WARNING DANGER:

- If the keeper cord is longer than 11 cm when tied to the device
- If the keeper cord is on the wheel side of the ASAP, there’s a risk that the keeper cord may get jammed in the toothed wheel, causing the ASAP to malfunction

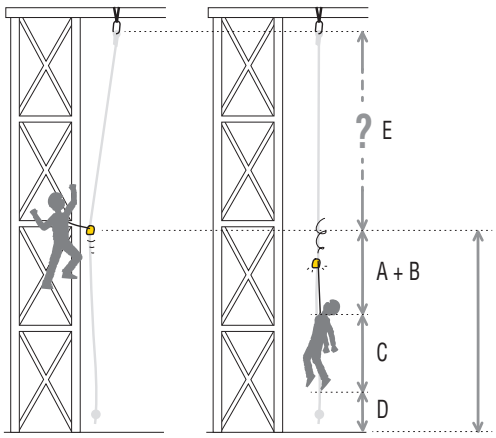


WARNING, when using the ASAP, the OK TRIACT carabiner must be clipped through the 2 attachment holes and the rope must run inside the carabiner, IF NOT, DANGER OF DEATH.

FOR BEGINNER

4. ASAP usage when approaching an obstacle or the ground

The clearance is the minimum amount of clear space under the ASAP that is required to prevent the user from hitting the ground in case of a fall.



The clearance is measured from the initial position of the ASAP at the time of the fall.
It takes into account:
A. The stopping distance of the ASAP (the maximum value of which is specified by the EN 353-2 standard)
B. The energy absorber's elongation due to tearing
C. The average height of the user
D. A safety margin
E. Rope stretch (varies with the situation)

Testing has shown that the absorber used and the ASAP's position have a minimal effect on the clearance.
For ease of use in the field, Petzl recommends remembering just one number:
Clearance = 4 m + rope stretch

4.1. Do not neglect rope stretch

Rope stretch adds a variable to the clearance, which depends on the distance from the anchor.
The elongation under static load value is covered by the EN 1891 standard: it must be less than 5 %
Even so, the elongation during a fall is not precise, and varies between rope models.

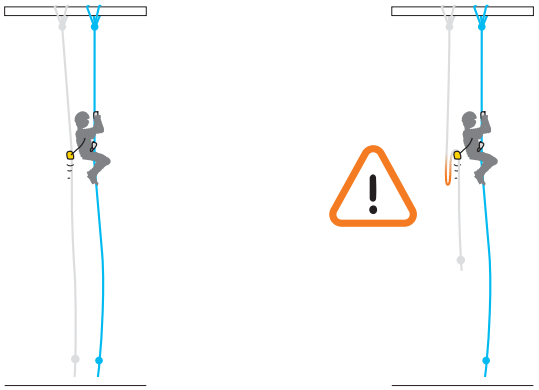
For example, if we propose a dynamic elongation value of 10 %:
- At 10 m from the anchor, 1 m must be added
- At 50 m from the anchor, 5 m must be added, the effective clearance is then 9 m. In this case, it is recommended to plan for an intermediate anchor in the rope above, when possible, to limit the elongation

4.2. Deliberately locking the ASAP in a high position

At the work station, the ASAP will naturally slide down the rope to a point below the fall arrest attachment point.
It is possible to deliberately lock the ASAP by a sharp downward pull, so that it stays in a higher position.
This technique is suitable when the worker is moving close to the ground, or to an obstacle, as it allows clearance to be optimized.
In other situations, deliberate locking is not recommended as it creates the following disadvantages:
- Repeated deliberate locking can accelerate wear on the ASAP
- Involuntary contact with the ASAP can suffice to unlock it in certain cases
- If the worker moves upward without unlocking the ASAP, a loop of slack is created, increasing the potential fall height

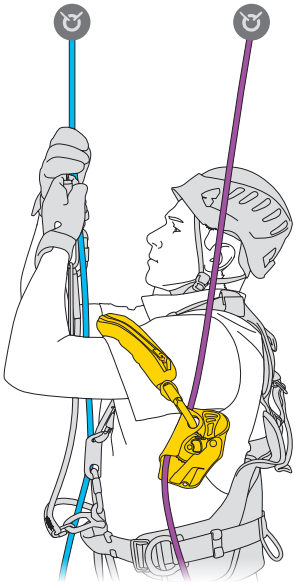
4.3. Monitor the rope tension

Close to the ground, with little rope weight, it is important to make sure the rope is properly sliding through the ASAP, to avoid creating a loop of slack that can increase the potential fall distance.

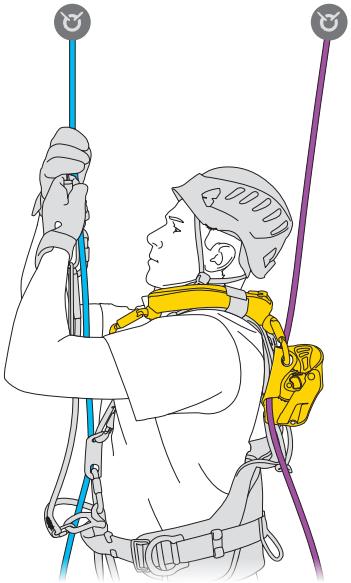


4.4. Examples of solutions to optimize the ASAP's position during progression

ASAP over the shoulder or arm

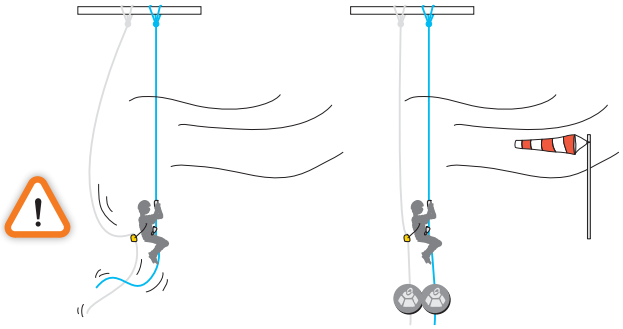


ASAP positioned by velcro on the AVAO harness



NOT FOR BEGINNER ●●○ 5. ASAP usage in high winds

In normal work configuration, the rope slides through the ASAP when it is not locked. If the rope is pulled upward, for example by the wind, a loop of slack can be created, increasing the worker's potential fall height.
In case of high winds, a co-worker can hold the rope, otherwise a suitable ballast in the end of the rope can be a solution (the weight must not take out all of the rope stretch).
Anchoring the bottom end of the rope may also be considered, with the likely consequence of complicating a possible rescue.
A specific risk analysis of the situation must be done.



FOR BEGINNER

6. ASAP usage on static rope (non CE)

Using the ASAP on static rope is outside the scope of the EN 12841 and EN 353-2 certifications.

For your information, Petzl did a series of tests on static ropes with harness + dummy. These tests give a realistic overview of falls in normal ASAP usage.
The results are satisfactory: the impact force is limited, the rope is not damaged and the stopping distance is acceptable.

Consequently, Petzl authorizes ASAP usage with 10 - 13 mm static ropes.

6.1. Usage tests on static ropes

The following tests were done in labs, on new ropes and devices, but it is impossible to recreate every scenario. Warning: we did not test every rope on the market; the results of these tests could be different with other types of rope.
The test values are given for information, to give an idea of the loads involved in such situations.
Warning: older ropes are generally weaker. The rope condition at the time of the fall can also be unfavorable: wet, icy, dirty, etc..

	Absorber	Impact force	Condition of the rope
Fall "factor 2"*	ASAP attached directly to the harness (point «A»)	5.4 kN	Intact
(ASAP at the lowest possible point, fall height = twice the length of the absorber)	ASAP'SORBER 20	5.2 kN	Intact
	ASAP'SORBER 40	5.5 kN	Intact
	ABSORBICA L57	4.4 kN	Intact

*. Test on 11 mm static rope, done at 1 m from the anchor with 100 kg dummy + harness.

6.2. Exceptional situations on static ropes

Users weighing 100 - 140 kg
On static rope, users of 100 - 140 kg may use the ASAP only with an ABSORBICA L57 absorber.

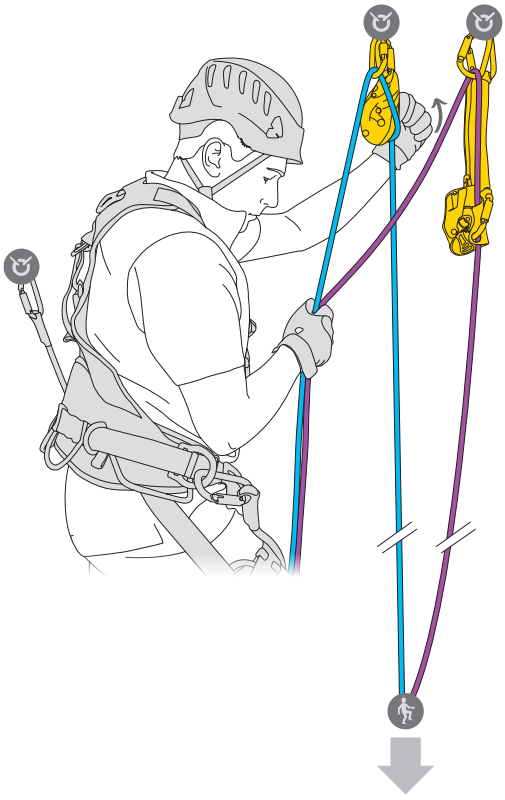
Rescue scenario - accompanied descent:
On static rope, using an ASAP on an ABSORBICA L57 absorber, for the rescuer and victim, is acceptable up to 200 kg.
When possible, it is preferable to use both ASAPs (rescuer's + victim's) for the descent.
The other precautions found in the “Rope rescue - accompanied descent” chapter must be followed.

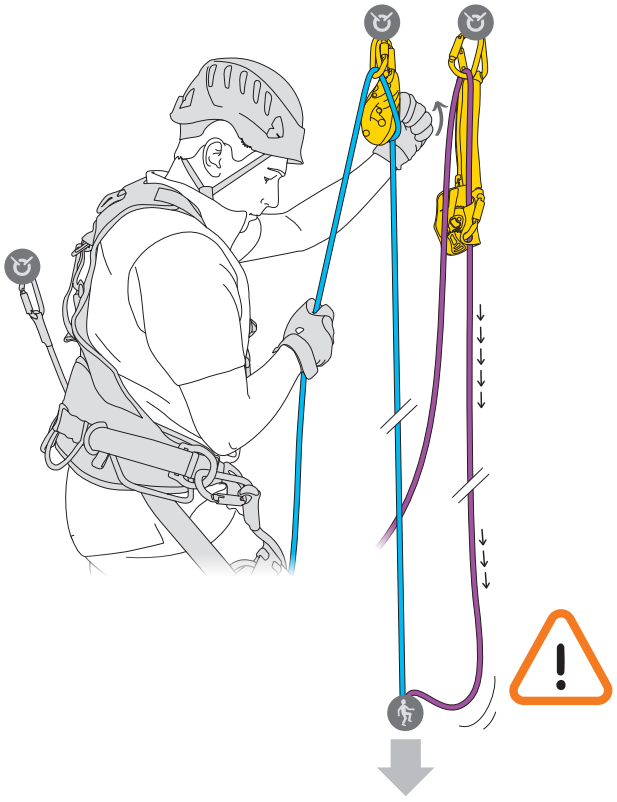
NOT FOR BEGINNER ●●● 7. Backup belay for one person with the ASAP on the anchor

For lowering a worker or victim who does not need tending, a single team member can control the descent using a descender on a high anchor, with an ASAP installed as a backup belay.

7.1. Precautions:

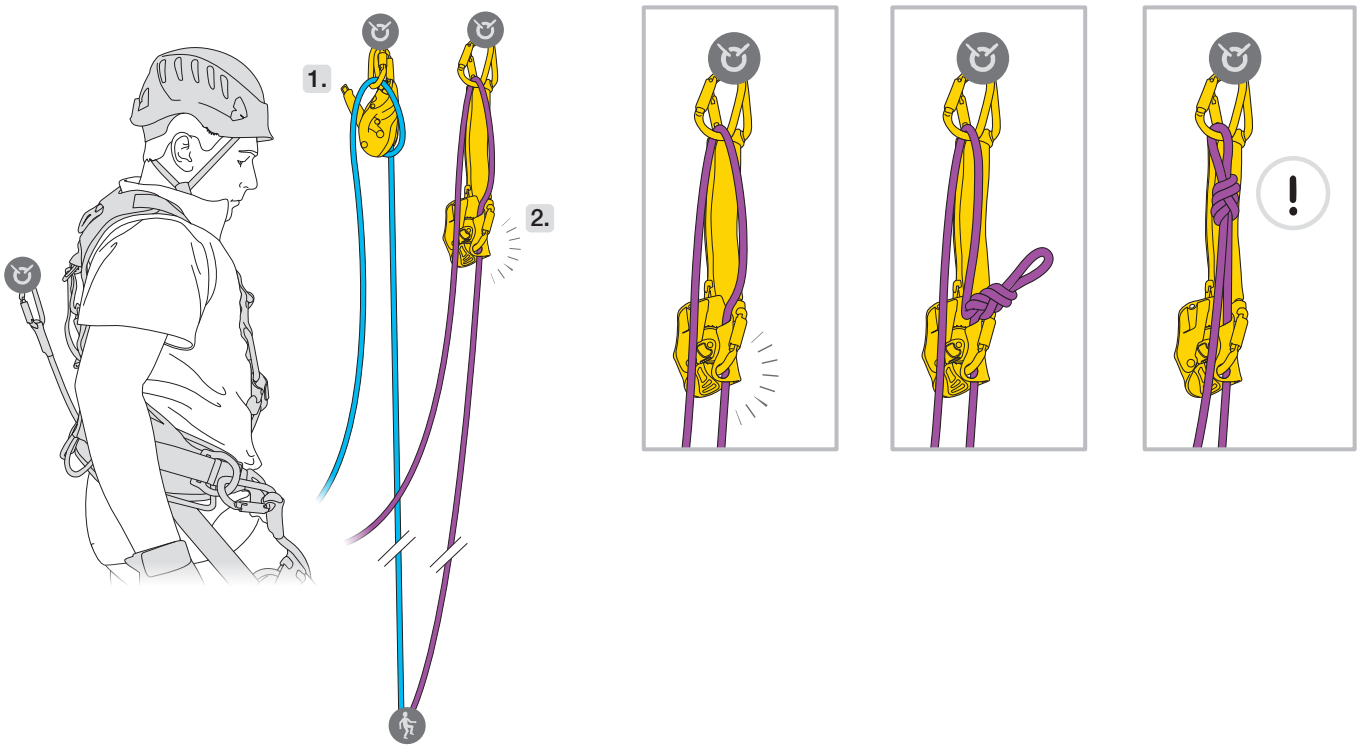
- Do a function test on the ASAP to verify it is installed in the correct direction
- The rope must pass through a redirect point on the anchor so that the ASAP stays in the correct position
- The ASAP must be connected to an energy absorber (ASAP'SORBER 20 or 40 or ABSORBICA L57)
- The user must always hold the rope so that it cannot slide through the ASAP under its own weight, creating a loop of slack (the user can hold the ropes for the ASAP and the descender in the same hand)





7.2. Stopping position

If the operator must stop the descent and let go of the ropes, it is essential to perform the following two operations:
-1. Put the descender handle in the “work positioning” position or tie off the descender
- 2. Keep the ASAP's rope from moving through the device by locking the wheel or by making a stopper knot in the rope Warning, do not attach the rope to the anchor, the energy absorber cannot deploy in case of a fall



EXPERT ONLY DDD 8. Installing a safety line

Installing a safety line is a dangerous operation, especially due to the great risk of a pendulum fall.

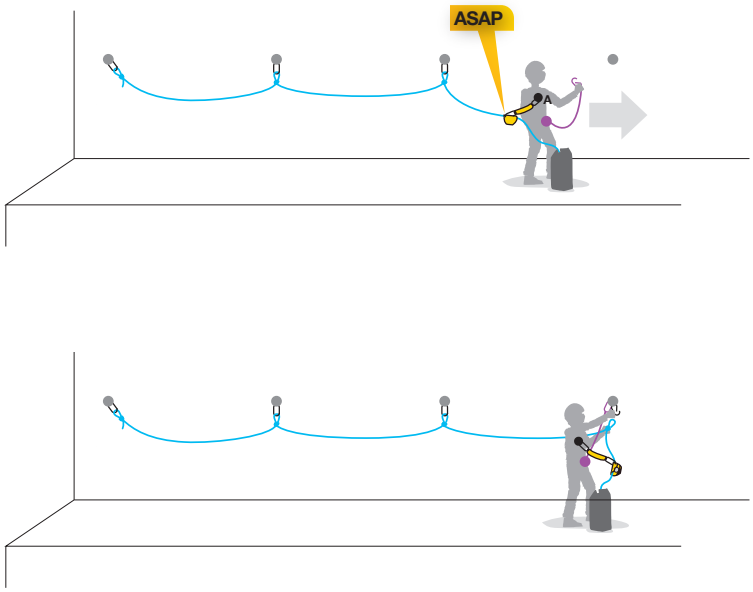
For this type of installation, the ASAP offers certain advantages, but requires specific precautions:
⊕ The hands are free to manage the progression
⊕ The user can quickly create enough slack to make knots, due to the sliding of the rope in the ASAP, while optimizing the rope tension during movement phases

⊖ In case of a pendulum fall on the ASAP, the clearance is difficult to assess. It is greater than that from a simple pendulum on a rope
The clearance consists of:
- The rope length deployed since the last anchor, and its elasticity
- The possible tearing of the energy absorber
- The engagement distance of the ASAP, which can be longer than for a fall in clear space (the ASAP is not immediately tensioned in a pendulum)
⊖ When suspended on the ASAP after a fall, the user or his team-mate must install another system for the evacuation

Precautions:

- Always keep the ASAP's rope under tension, without any slack
When tying a knot, slack must be created. The ASAP must then considered to be deactivated: the user must have a replacement system (lanyard on the anchor, for example)
- Always stay below the anchor points
- Whenever possible, use a back up system on a high point that reduces the pendulum hazard
- The user must do a risk analysis before committing. It must specifically address the spacing of the anchor points and the pendulum risk, and assess the necessary clearance in case of a fall

8.1. Example of an installation technique when there is a low risk of falling:



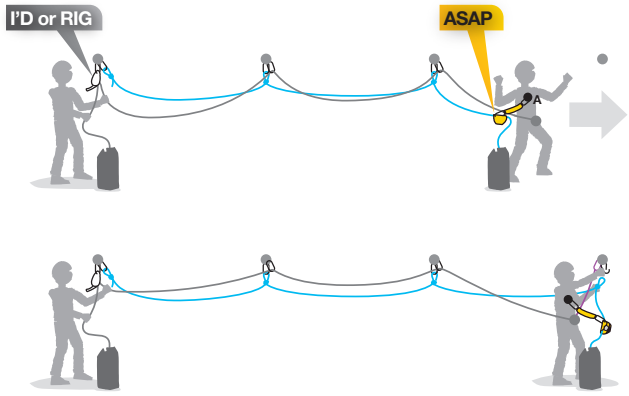
Progression:

The blue rope is installed as a safety rope, the rope moving through the ASAP allows slack to be avoided.

Tying a knot:
User supported by the lanyard connected to an anchor. The user makes enough slack above the ASAP to tie the knot. The ASAP is ready for the next progression stage

⊕ User autonomy
⊖ Limits progression to closely-spaced anchors and to situations with a low risk of falling

8.2. Example of installation technique with a teammate providing a backup belay at the anchor:



Progression:

The blue rope is installed as a safety rope, the rope moving through the ASAP allows slack to be avoided. Backup belay on the gray rope with a belayer at the anchor.

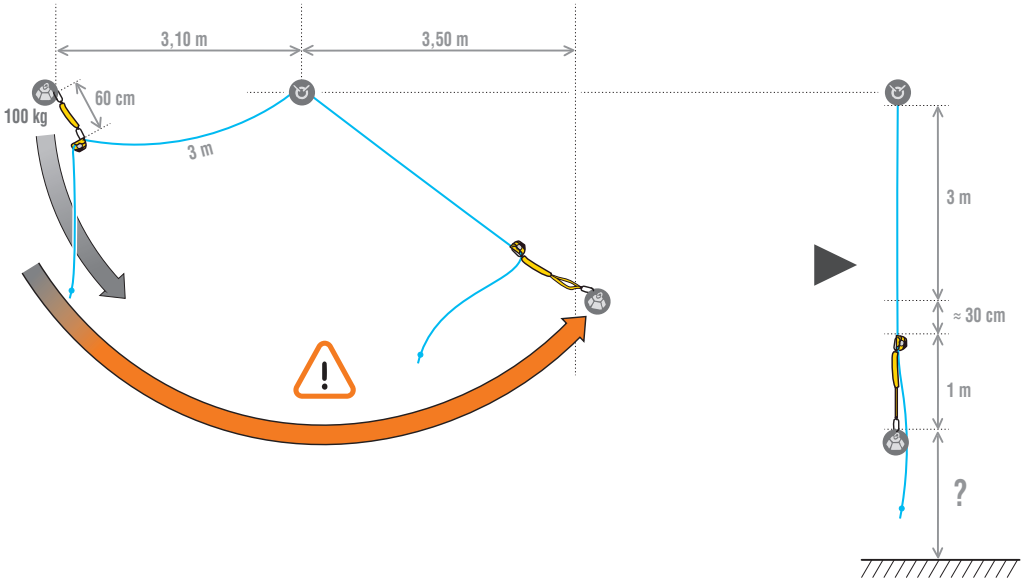
Tying a knot:

The user in tension on his lanyard and always backed up by the gray rope. The user makes enough slack above the ASAP to tie the knot. The ASAP is ready for the next progression stage.

- ⊕ Speed and “hands-free” progression
- ⊕ Pre-installed system for teammate assist
- ⊖ Managing multiple ropes passing through the anchors

8.3. Pendulum fall tests

Tests done with a 100 kg mass, with an ASAP'SORBER 40, ASAP installed on a new AXIS 11 mm rope, figure-8 knot at the anchor point. Start of the fall: mass positioned 3 m from the anchor point, with 3 m of rope deployed (the length of the ASAP'SORBER + 2 connectors creates a slight loop of slack).
The same fall was repeated three times under identical conditions.



Principal results:

ASAP engagement distance: 21 to 32 cm.
Complete tearing of the ASAP'SORBER 40.
Rope intact, ASAP to be retired.
Mass stopped 4.30 m below the anchor point (add the height of the user and a safety margin to calculate the necessary clearance).
During the pendulum, the mass reached a point opposite the anchor, more than 3.50 m from it.

This test was repeated multiple times to be able to record average values, however the results obtained are given for informative purposes only.

With the ASAP'SORBER 40, 3 m seems to be the maximum acceptable distance between the anchors.
Consider this information, in the context of your environment, when doing your risk analysis.

NOT FOR BEGINNER DDD 9. Rope rescue: accompanied descent

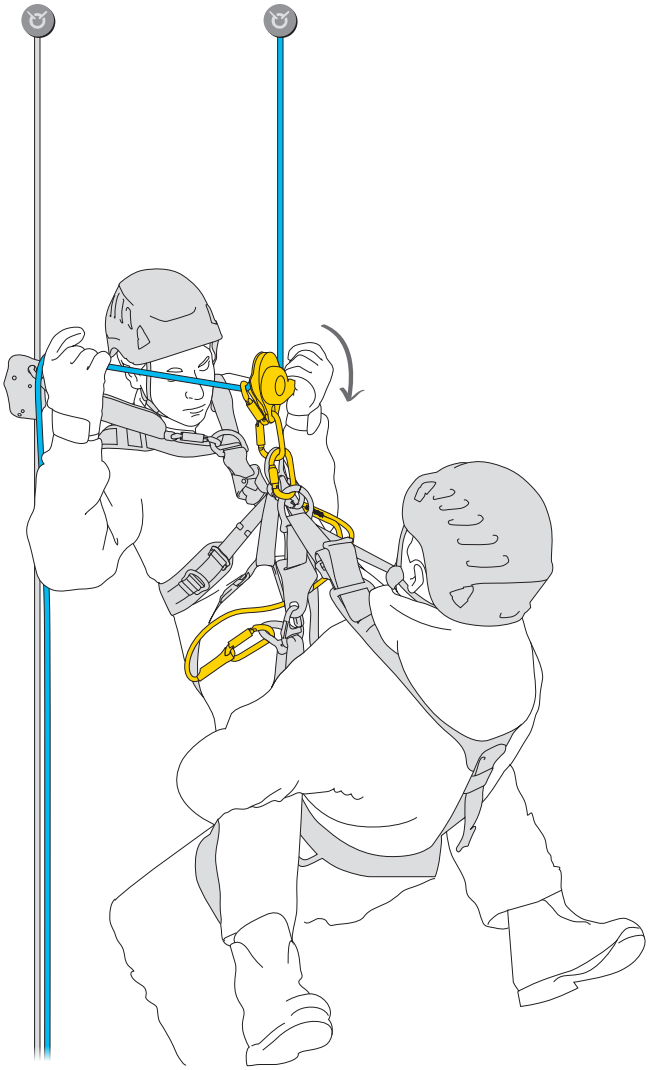
In case of an accident, the suspension of a person who is unconscious, or inert, in a harness is a dangerous situation that must be addressed urgently. The victim's first physiological problems can appear after only a few minutes.
To act rapidly, workers at height must rescue their co-worker on their own, with their standard equipment.
This rescue situation is an exceptional case, where it is acceptable to use PPE for belaying or backing up more than one person.

Downward evacuation is generally the most efficient solution. The rescuer connects himself to the victim, disconnects him from his rope and does an accompanied descent.

When possible, it is preferable to use both ASAPs (rescuer's + victim's) for the descent.

Otherwise, it is acceptable to use a single ASAP, if the following conditions are met:

- Only in rope rescue - accompanied descent, required by the urgency of an inert suspended victim, done by a trained person who has practiced this type of rescue
- Only if all risks of a fall and impact load are minimized (anchor failure, pendulum, poorly braked descent, sudden loading)
- Only when the ASAP is connected to a non-extended ABSORBICA L57 energy absorber



Weight limit

On EN 1891 rope, backing up two people with an ASAP + ABSORBICA L57 is authorized in rescue situations with loads up to 250 kg.
Above 250 kg, it is recommended to choose another evacuation strategy.

Clearance

If two people fall on an ASAP + ABSORBICA L57, the tearing of the absorber will be more significant than for one person.
In this case: clearance = 5 m + rope stretch.

Rescue training: beware of practicing too close to the ground

To avoid the risk of hitting the ground in case of a two-person fall on an ASAP, it is recommended to perform the rescue maneuvers at least 5 m from the ground (more if the rope length implies a significant elongation under load).

Tests

The following tests were done in labs, on new ropes and devices, but it is impossible to recreate every scenario. Warning: we did not test every rope on the market; the results of these tests could be different with other types of rope.

These results are given for informative purposes only.

Tests done with new ropes, certified to current European standards (EN 1891 semi-static ropes).
Warning: older ropes are generally weaker. The rope condition at the time of the rescue can also be unfavorable: wet, icy, dirty, etc..

		Absorber	Condition of the rope
Fall "factor 0"* (ASAP above the user, fall height minimized)	200 kg	ASAP'SORBER 40	
		ABSORBICA L57	
	250 kg	ASAP'SORBER 40	
		ABSORBICA L57	

* Dynamic test on 11 mm semi-static rope, done at 1 m from the anchor.

		Absorber	Condition of the rope
Fall "factor 1"* (ASAP at the level of the harness attachment point, fall height = length of absorber)	200 kg	ASAP'SORBER 40	
	250 kg	ABSORBICA L57	

* Dynamic test on 11 mm semi-static rope, done at 1 m from the anchor.

		Absorber	Condition of the rope
Fall "factor 2"* (ASAP at the lowest possible point, fall height = twice the length of the absorber)	200 kg	ASAP'SORBER 40	
	250 kg	ABSORBICA L57	

* Dynamic test on 11 mm semi-static rope, done at 1 m from the anchor.