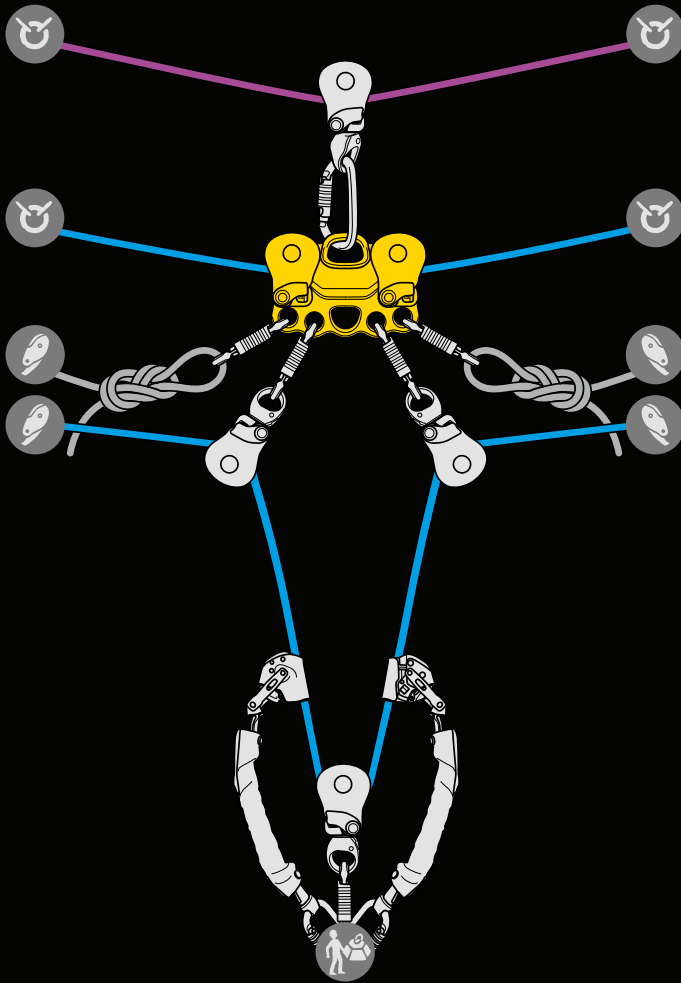




ROPE SYSTEMS



TECHNICAL RESCUE

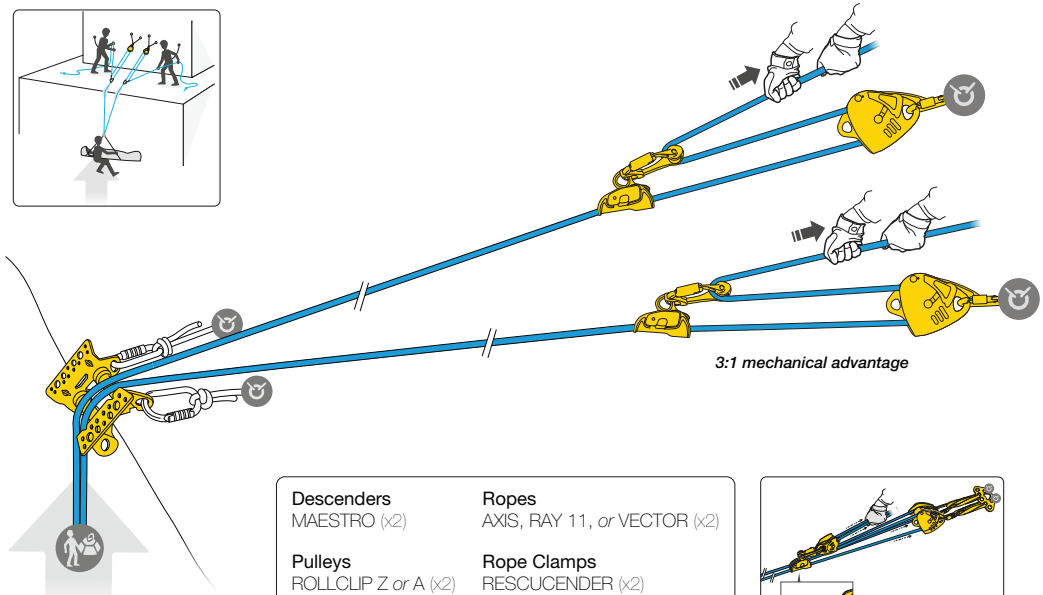
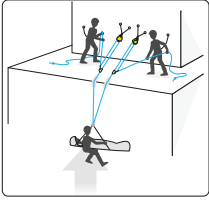
Second Edition

Two-Tensioned Rope System

A two-tensioned rope system shares the load between two ropes, both under tension. Each system is capable of functioning as both main line or back-up to the other line.



Overview



Descenders
MAESTRO (x2)

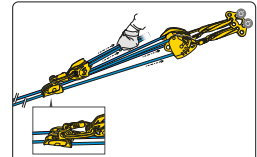
Pulleys
ROLLCLIP Z or A (x2)

Edge Protector
ROLLER COASTER

Ropes
AXIS, RAY 11, or VECTOR (x2)

Rope Clamps
RESCUCENDER (x2)

Connectors
AM'D, VULCAN or OXAN (x2)



Sharing the load more equally when hauling

System Benefits

- load is distributed between two systems, reducing force concentration on any one component
- in the event of a line failure, the amount of load transferred to the remaining line is approximately half of the total load, thus minimizing the drop distance and arresting force
- rigging is the same for both sides of the system, reducing the complexity of training and operations
- knot-passing is greatly simplified

MAESTRO

- AUTO-LOCK function automatically captures rope progress when hauling, and locks the rope in place when the handle is not in use
- integrated progress-capture pulley for increased hauling efficiency
- audible clicking sound during haul mode indicates that rope is in motion



Refer to the Technical Notice

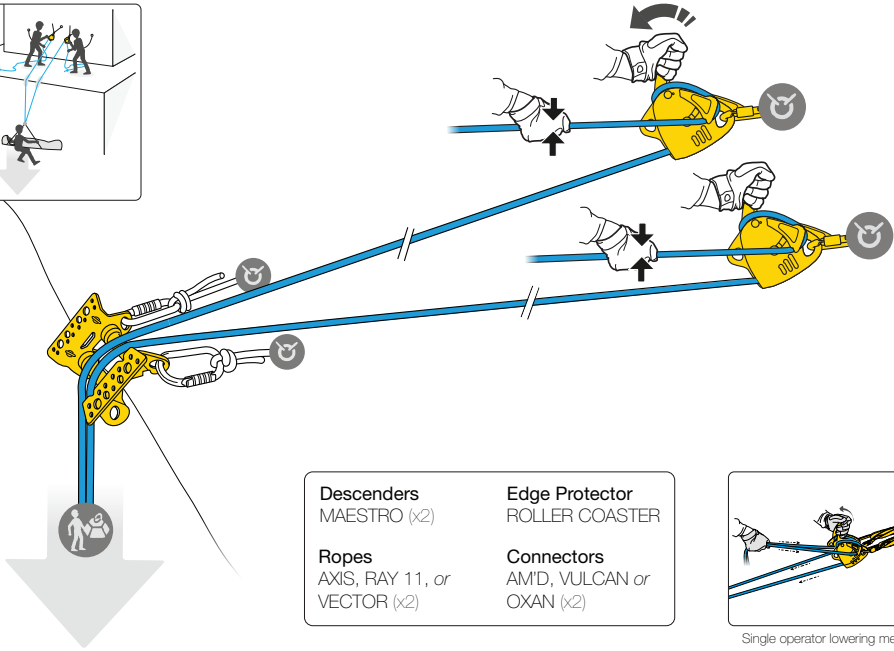
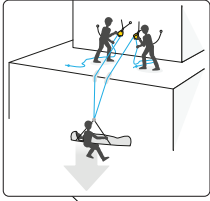
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Overview

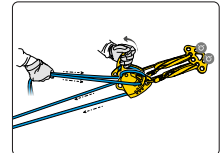


Descenders
MAESTRO (x2)

Edge Protector
ROLLER COASTER

Ropes
AXIS, RAY 11, or
VECTOR (x2)

Connectors
AMID, VULCAN or
OXAN (x2)



Single operator lowering method

System Benefits

- load is distributed between two systems, reducing force concentration on any one component
- in the event of a line failure, the amount of load transferred to the remaining line is approximately half of the total load, thus minimizing the drop distance and arresting force
- rigging is the same for both sides of the system, reducing the complexity of training and operations
- knot-passing is greatly simplified

MAESTRO

- AUTO-LOCK function automatically captures rope progress when hauling, and locks the rope in place when the handle is not in use
- one-directional faceted sheave and auxiliary brake provide optimal friction control
- ergonomic handle and integrated brake allow for comfortably controlled descents
- optimal heat dissipation during long lowering operations



Refer to the Technical Notice

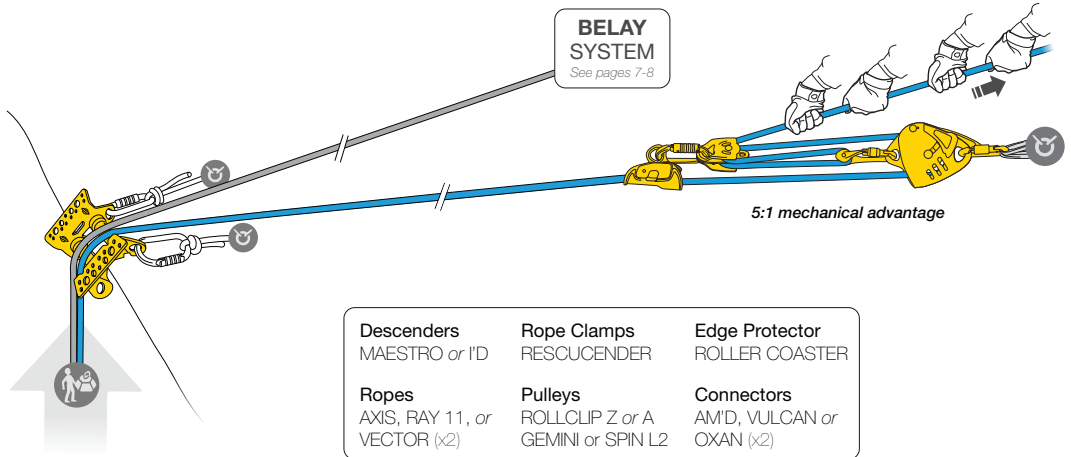
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Single-Tensioned Rope System

A single-tensioned rope system suspends the load on a main line and backs-up that system with a redundant belay system, which only comes into play in the event of a main line system failure.



Overview



System Benefits

- edge transitions & horizontal travel may be easier to manage
- system may require less equipment
- belay system rope is not under full load tension, thus reducing the chances of rope damage due to rock fall

MAESTRO

- AUTO-LOCK function automatically captures rope progress when hauling, and locks the rope in place when the handle is not in use
- integrated progress-capture pulley for increased hauling efficiency
- audible clicking sound during haul mode indicates that rope is in motion



Refer to the Technical Notice

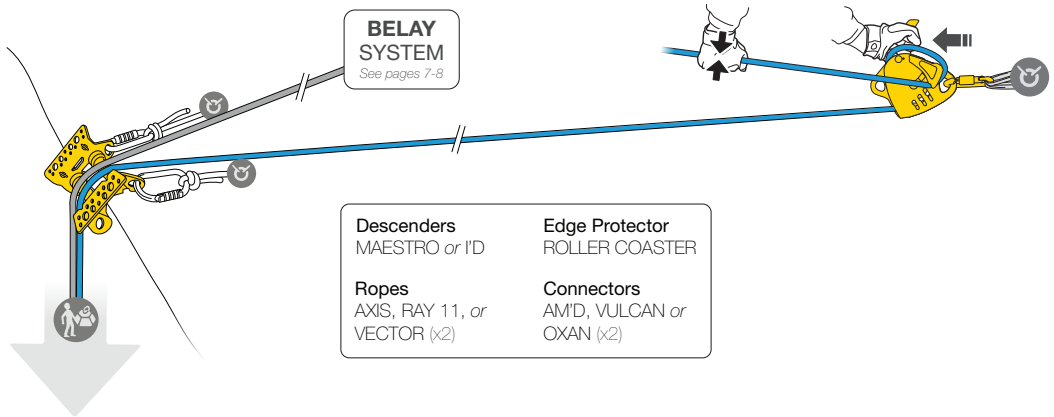
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Block and Tackle System

A lowering and raising system that is primarily used for shorter vertical rope access and rescue operations. The system, which is usually pre-rigged, provides continuous raising capabilities without needing to reset the system.

Overview

Haul/Lower System

See pg. 6 for configurations

Edge Protector

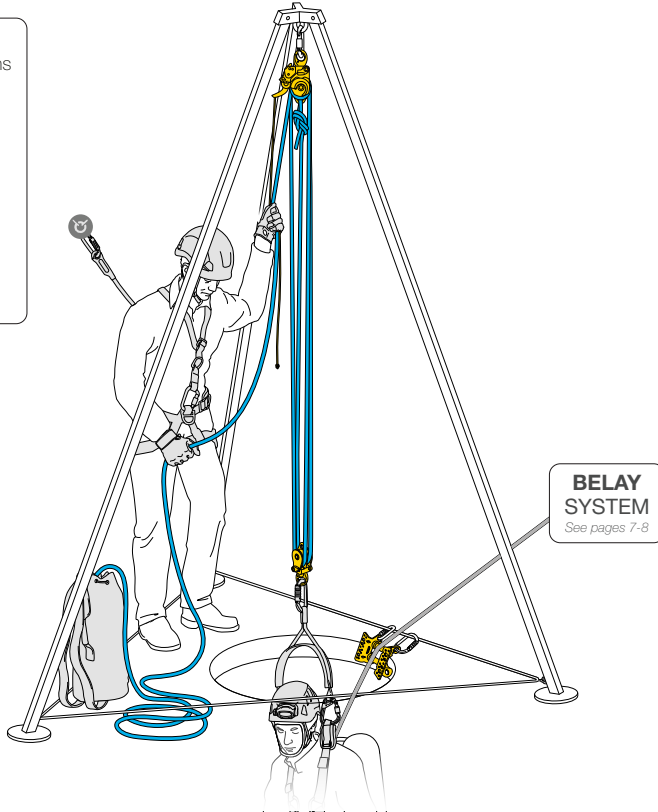
ROLLER COASTER

Connectors

AM'D, VULCAN or
OXAN (x2)

Ropes

AXIS, RAY 11, or
VECTOR



4:1 mechanical advantage with combined lowering and raising system using the TWIN RELEASE

System Benefits

- ideal for confined space, rope access work and rescue operations
- continuous raising function without the need to reset the rope grab
- easy to control descent speed since less than 25% of the load is managed by the operator
- easy to pre-assemble and quickly deploy



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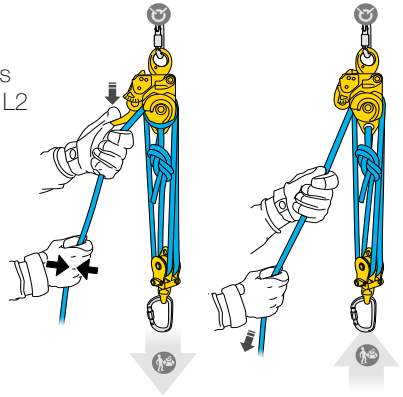
Block & Tackle Systems

TWIN RELEASE

Dedicated 4:1 haul and lower system for vertical rope access and rescue, rigged using a TWIN RELEASE pulley and SPIN L2 pulley.

Overview

- quick transitions between lowering and raising modes
- friction cleat for increased control and ability to handle heavier loads
- easy to rig while attached to anchor
- continuous lowering and raising is possible when connected directly to the load
- can be operated remotely with cordelette

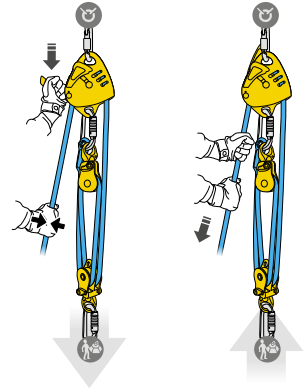


MAESTRO

Versatile system capable of adapting to 4:1 haul and lower system for vertical operations, rigged using a MAESTRO descender, SPIN L1 pulley or ROLLCLIP (top), and SPIN L2 pulley (bottom).

Overview

- quick transitions between lowering and raising modes
- friction cleat for increased control and ability to handle heavier loads
- can be quickly adapted to fit needs of rescuer (2:1, 3:1, 4:1, etc.)
- continuous lowering and raising is possible when connected directly to the load
- can be operated remotely with cordelette



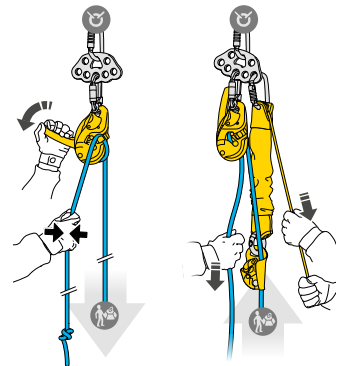
Detachable System

I'D EVAC + JAG SYSTEM

An alternative to the above Block & Tackle systems, this I'D EVAC lowering configuration can be rigged with a detachable hauling system using a JAG SYSTEM, and BASIC or RESCUCENDER rope clamp.

Overview

- minimizes the amount of rope required for longer operations
- no additional rope friction can be created due to system twisting
- lower possibility of rope and pulley entanglement



Refer to the Technical Notice

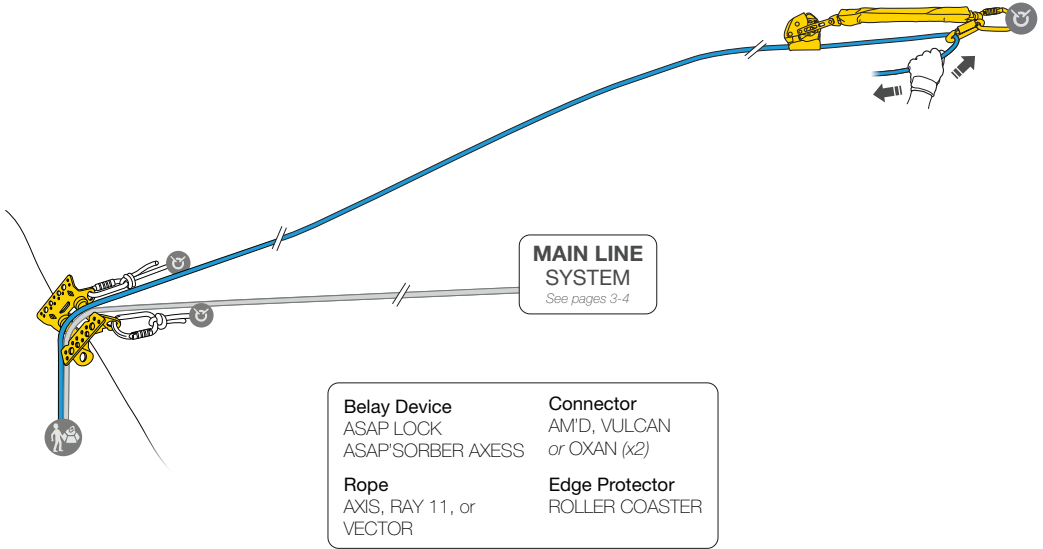
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ASAP Belay System

Taut-line belay system used in conjunction with a single-tensioned rope system. This system comes into play if the main line system fails or over-speeds.



Overview



System Benefits

- the ASAP LOCK's locking mechanism does not rely on human reaction to catch or arrest the load
- in the event of a sudden rope pull, the ASAP LOCK will lock on to the belay rope
- the ASAP'SORBBER AXESS shock absorber is designed to limit forces on system
- simple set-up for speed and efficiency
- easy to maintain taut belay line during rope take-in & pay-out
- easy to install and remove at any point on the rope



Refer to the Technical Notice

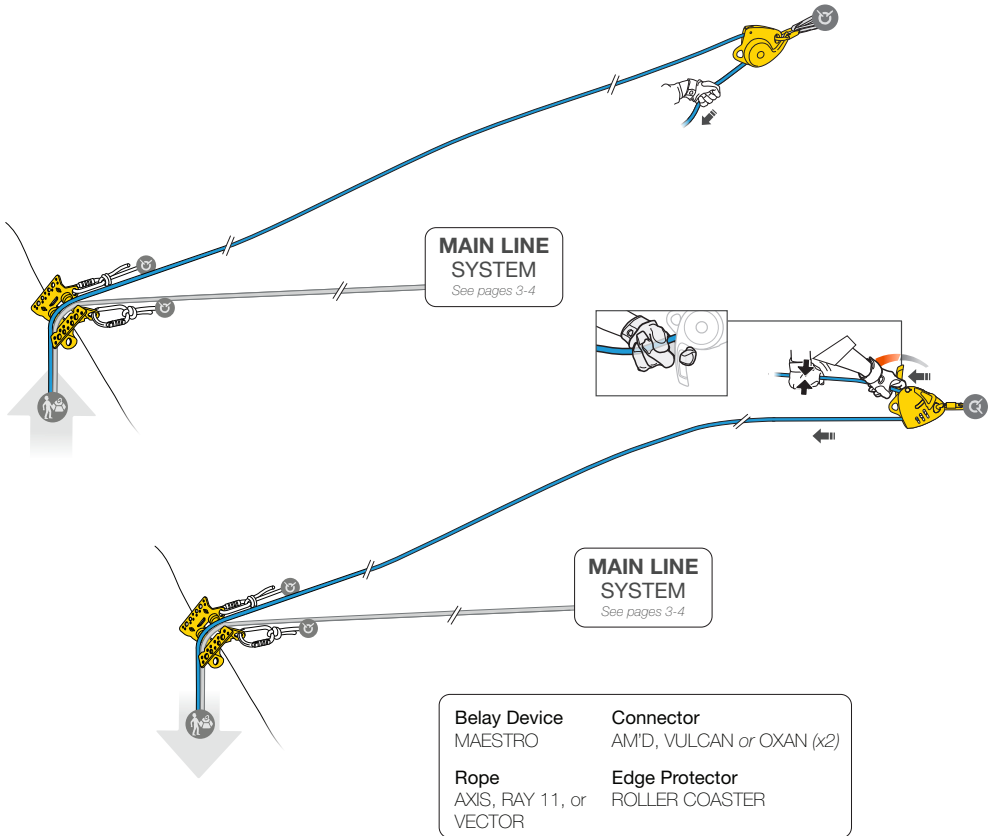
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MAESTRO Belay System

Taut-line belay system used in conjunction with a single-tensioned rope system. The MAESTRO locks onto the rope if the main line system fails.



Overview



System Benefits

- intuitive rope installation and handle operation
- immediate changeover between STRS and TTRS
- releasable under tension
- easy to keep belay line taut during pay-out and take-in operation

MAESTRO

- AUTO-LOCK function automatically locks rope when the handle is not in use
- in the event of a sudden rope pull, the MAESTRO will lock onto the belay rope when the handle is released
- simple, intuitive, and smooth rope feeding when lowering



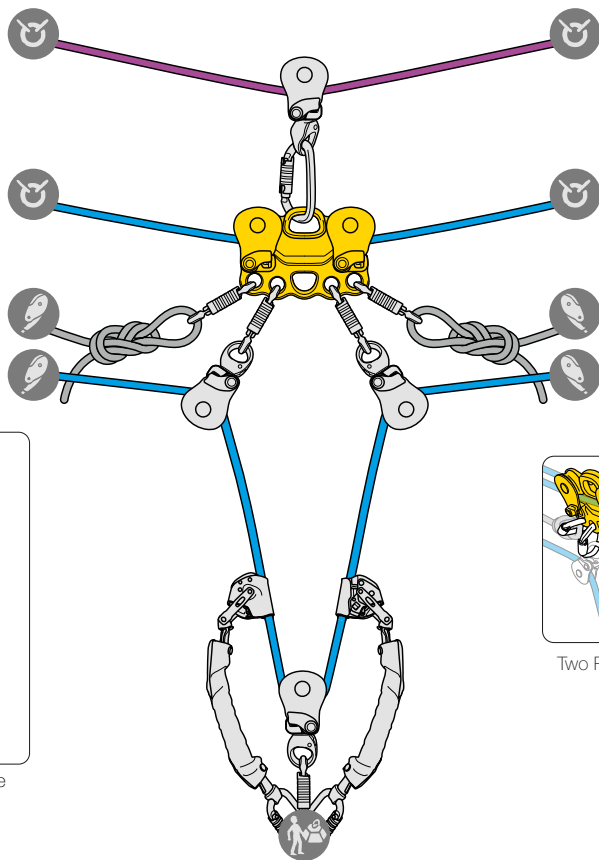
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Highline Assembly

A unique rescue system used to access challenging locations that accomplishes both horizontal and vertical access while maintaining system redundancy. The REEVE and SPIN pulleys help to simplify and organize the rigging and operation.

Overview



Pulleys*

REEVE
SPIN L1 or SPIN S1

Connectors*

AMD or OXAN

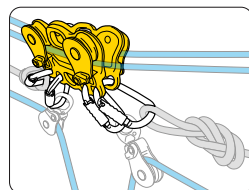
Ropes*

AXIS, RAY 11, or
VECTOR

Belay Device (x2)

ASAP LOCK
ASAP[®]SORBER AXESS

*Quantities vary by use



Two REEVES can be set up side-by-side

System Benefits

- allows for both horizontal and vertical access
- the ASAP LOCK and ASAP[®]SORBER AXESS can back up a system failure from either side
- redundant with every component backed up
- can be rigged on two highlines: one above the other or side-by-side (with an additional REEVE)

REEVE

- simplifies setting up rescue systems on tensioned highlines
- reduce system setup time by pre-connecting SPIN S1 OPEN pulleys directly onto REEVE (not shown in diagram)
- compact design limits the number of connectors and the height of the system



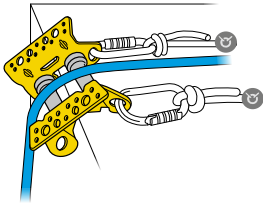
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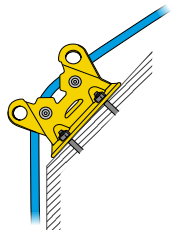
Anchoring and Rope Protection Techniques

Depending on the rescue situation, there are various techniques for installing and protecting the rope.

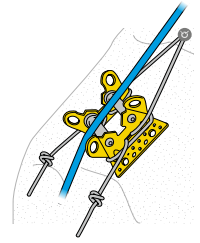
Edges and Sloped Surfaces



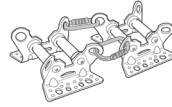
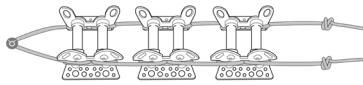
Angle



Flat / hard surface



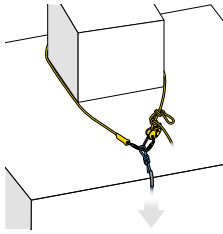
Soft surface



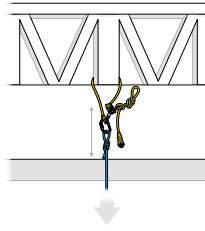
Multiple ROLLER COASTERS can be used to better adapt to the terrain

Adjustable Temporary Anchors

Wrap around an existing structure by directly adjusting the length of the anchor (GRILLON or PROGRESS ADJUST-I)



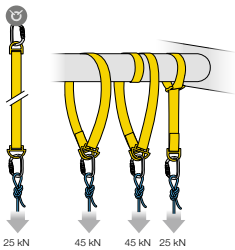
Large structures



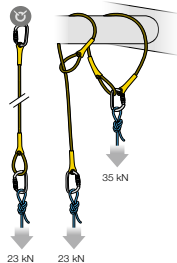
Structures requiring specific positioning

Temporary Anchors with Multiple Configurations

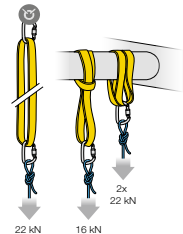
Adapt to the situation by connecting directly to the anchor OR connecting to a structure by wrapping around it or using a choker hitch



CONNEXION VARIO (0.3 - 4 m)



WIRE STROP (0.5 - 3 m)



ANNEAU (0.6 - 1.5 m)



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