

Petzl Tactical EXO System

Training Manual



PETZL TACTICAL EXO SYSTEM

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PETZL TACTICAL EXO SYSTEM

WARNING

Although every effort has been made to provide accurate and reliable information, this Tactical EXO System instruction manual may contain errors. Petzl America cannot be held responsible for any misinterpretation or misuse of the information contained herein.

This is, by no means, a comprehensive reference in tactical access or escape procedures. It is simply basic information and a guide on how to use the Tactical EXO Systems. Petzl America recognizes that different or additional safety measures may be employed by your organizations.

There are numerous ways of handling different tactical rope-based situations, and some techniques are better than others under specific circumstances and in certain environments. Although an attempt has been made to treat important system deployment and use issues fairly, there are many omissions of detail and fact. This guide is by no means complete.

Finally, moving in an elevated environment and using the Tactical EXO System is dangerous and entails physical and legal risks. This guide alone is no substitute for proper training, regular practice, experience, equipment inspection, maintenance and common sense. Petzl America is not responsible for any damages, injuries or deaths incurred by users of this guide.

To make comments about this training guide, or to request additional technical information, please contact:

Michel Goulet

Manager - Work and Rescue Division
mgoulet@petzl.com

Petzl America
Freeport Center M-7
PO Box 160447
Clearfield, Utah
84016 USA
Tel: 877 807-3805

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PROGRAM OVERVIEW

This program is designed to educate and train tactical law enforcement and military operators on the design, construction, proper deployment & use, inspection, care and maintenance of the Tactical EXO Personal Access & Escape System.

During this program, participants will attend classroom presentations and participate in hands-on practice sessions. A written, multiple choice test will complete the training in order to verify the participant's level of comprehension and to correct any misunderstandings.

By the end of this program, all participants will have received training in the following areas:

Basic components of the EXO system.

How to mount the system on a harness.

How to rapidly deploy the system.

How to anchor the system.

How to rapidly move toward the positioning, access or egress point.

How to use the system for tactical positioning, access and egress.

How to descend in a controlled fashion using one and two hands.

Alternate rigging and special situation use of the system.

How to inspect and maintain the system.

How to conduct an EXO demonstration (for trainers).

How to safely conduct training sessions (for trainers).

WHO IS PETZL?

Founded on a spirit of exploration and discovery over 50 years ago, Petzl provides tools, techniques and ideas that minimize risk while enabling access to the inaccessible. Petzl manufactures and distributes specialized equipment for technical rope rescue operations and rope access work in over 50 countries. Petzl's product line features state-of-the-art sport and industrial harnesses, helmets, carabiners, ascenders, rope grabs, descenders, and pulleys.

THE NEED

Law Enforcement SWAT Teams, Counter Terrorism Units and Military Special Operations Groups must be able to move quickly and efficiently within their operational environment in order to accomplish their assigned objectives. Many times this includes the ability to access, enter and exit multi-story structures and elevated terrain in a rapid and safe manner. A purely traditional approach to rope-based techniques and tools has proven itself to be impractical for many of these teams. The demands of today's tactical and military small unit operations require a rope-based system that is lightweight, compact, rapid to deploy and easy to use under duress and in extreme situations. Further, operators must have a device that is extremely versatile, allowing for both up and down movement and proper tactical positioning while still maintaining an appropriate "engagement platform." Any system carried into the theater operations must be able to fulfill individual as well as team-based vertical movement needs. Enter the Petzl Tactical EXO System. This system clearly meets all of the needs required by high-speed, professional tactical operators and has already proven itself on today's modern battlefields where it has been used to ensure the safety and accomplish the objectives of some of the world's most elite tactical, CT and Special Operations teams.

DEVELOPMENT HISTORY

Originally, the research and development of this system was the result of a strong partnership forged between the experts of vertical access equipment – Petzl; and the experts in the world of firefighting – the FDNY. The FDNY sought a rapid, lightweight and effective escape system following a tragic accident that occurred early in 2005. On January 23, six firefighters, responding to a three-alarm fire, became trapped in a blazing Bronx apartment building. All firefighters were forced to jump from the building. One Firefighter was slightly injured and three were seriously injured as they attempted to escape out of a fourth story window. The two others suffered fatal injuries after dropping nearly 50 feet.

Following this accident, the FDNY immediately began to investigate and research personal emergency safety systems that would provide each individual firefighter the means to rapidly escape from a burning multi-story building. The FDNY performed one of the most comprehensive studies of personal safety systems ever undertaken. Over 40 designs were examined and more than 5,000 tests were conducted at the Department's training facility at Randall's Island.

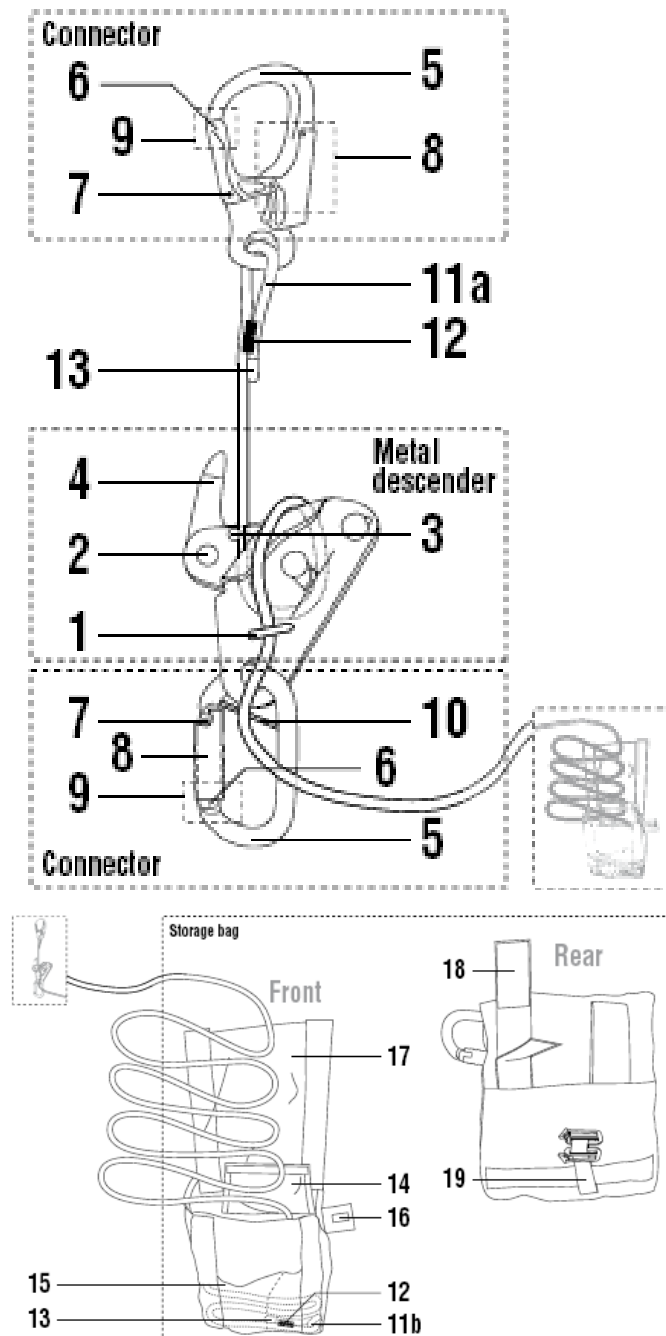
DEVELOPMENT HISTORY cont'd

Months of intensive research convinced the FDNY that the new bail-out kit must be light and compact, easy to deploy, permit rapid use, have hands-free capability, and be compatible with 7.5mm heat resistant escape line. During their extensive evaluation of available descent control devices, the fire department approached Petzl to develop a product that would respond to their rigorous demands.

Petzl mobilized to meet the challenge. Several months of collaborative research and product development between the FDNY, Petzl's designers in France and the Petzl America team in Clearfield, Utah produced the EXO. It is modeled after the GRIGRI, Petzl's proven belay/rappel device, and was specifically designed to be compatible with the Department's system specification and performance requirements.

In 2006, an elite military unit searching for many of the same attributes in a rope-based access/egress system that the fire service demanded approached Petzl America. These operators needed a system that was compact, lightweight, versatile, easy to use under duress and could withstand the demands of varied operational environments and tactical situations. Again Petzl rallied to meet the need. Redesigning the anchoring options and slightly modifying the device itself, the Tactical EXO System immediately found favor with law enforcement and military special operations teams alike.

SYSTEM COMPONENTS



Nomenclature

1. Rope Guide
2. Cam
3. Pin
4. Handle
5. Frame
6. Gate
7. Hinge
8. Locking System
9. Key lock
10. Fixed Bar
- 11a. Sewn Term. at anchor point
- 11b. Sewn Term. at rope end
12. Stitching
13. Heat-shrink
14. Rope divider flap
15. Connector Pocket
16. Velcro tab for OK connector
17. Flap Closure
18. Velcro belt attachment
19. Velcro leg loop attachment

ANCHOR CONNECTION POINT (Eas'hook)

- Allows for rapid anchoring of the system.
- Eliminates the need to tie complex knots.
- Easy, one handed operation.
- Available in flat black to reduce shine and reflection.
- Rated strength: 28kN major, 12kN minor & 12 kN open gate



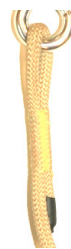
ROPE

- Manufactured of 100%
- Technora fibers for superior cut and heat resistance.
- Technora fibers have a melting point of over 900 degrees F.
- Rope diameter is 7.5mm - Available in Tan and Black color
- Circumference is 24.5mm (lightweight and compactable).
- Standard rope length is 50 ft (15.6m).
- The minimum breaking strength is 5,000 lbs (22.3 kN).



ROPE TERMINATIONS

- Very strong and compact sewn termination
- Eliminates the need for knots making the connection to the Eas'Hook more secure.
- The rope end is covered with a shrink tub protective cover.
- Stitching fibers are made of Kevlar thread.
- The end is knotted and also sewn to prevent users from rappelling off of the end of the rope.



WARNING: Never connect a carabiner through the sewn eye termination.

EXO DESCENT CONTROL DEVICE



- Unique, hybrid design based on the Petzl GriGri rappel / belay device. Designed to be used with 7.5mm rope.
 - Rope guides minimize the chance of rope jamming and allow for one-handed use.
 - Spring less cam allows rapid engagement.
 - Aluminum release handle is durable and resists bending.
 - The EXO cam is activated by its user's weight creating a self-braking descent control device.
- Descent is initiated by gently pulling back on the release handle while maintaining a firm grip on the braking side of the rope.
 - Descent speed is controlled by varying the grip of the brake hand on the braking side of the rope.
 - Additional braking can be achieved by raising the free end of the rope to create friction against the U-bolt.
 - The EXO is labeled with an individual serial number for equipment tracking. It's color is flat back to reduce shine and reflection.

CONNECTOR

- The OK TRIACT BAR carabiner is manufactured of aluminum alloy.
- It is used to connect the EXO descender directly to the user's harness or via an auxiliary extension connection sling.
- The gate closure is a three-stage self-locking design.
- The carabiner's MBS is 24kn along its major axis.
- Flat black color to reduce shine and reflection.
- The captive bar on the carabiner reduces the possibility of:
 - Tampering with the device.
 - Cross loading the carabiner's minor axis.
 - Accidental disconnection.
 - Reduces sound between the EXO and connector.



HARNESS

- The Tactical EXO System is designed to be used with an NFPA Class I or II or CE certified sit harness.
- The sit harness design features should include the following:
 - An "A" frame or auxiliary extension connection sling.
 - A strap or D-ring that is compatible with the EXO connector.
 - Adjustment buckles on waist and leg straps.
 - A soft connection point to eliminate any metal-on-metal sound.
 - Low profile so it does not interfere with the wearing and deployment of other tactical equipment.



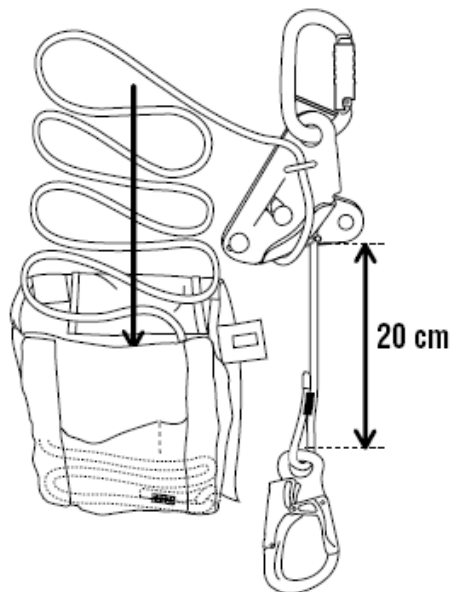
CARRY BAG



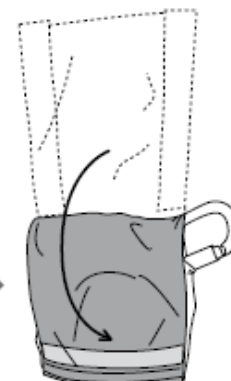
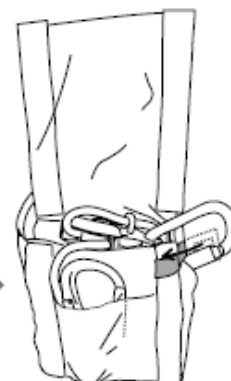
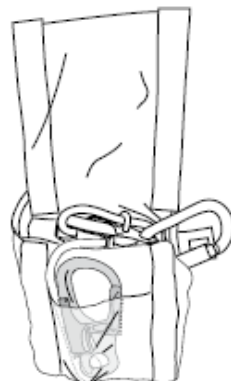
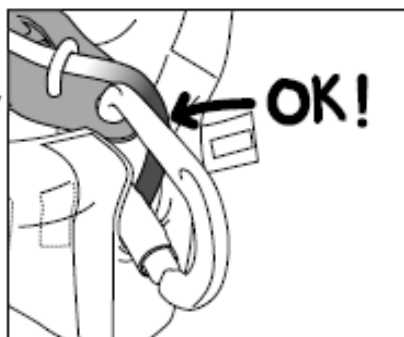
- The EXO system carry bag is manufactured of Nomex fabric.
- Its cover flap uses a Velcro closure and a pull tab area that allows rapid deployment.
- The bag compartments include a main pouch for rope storage and a secondary pocket for Eas'hook storage and a Velcro flap that separates the EXO from the rope compartment.
- The carry bag connects to the harness via three Velcro retainer straps.
- Half of the connector sits outside the bag and is held in place with a Velcro strap.

SYSTEM ASSEMBLY

PACKING THE SYSTEM

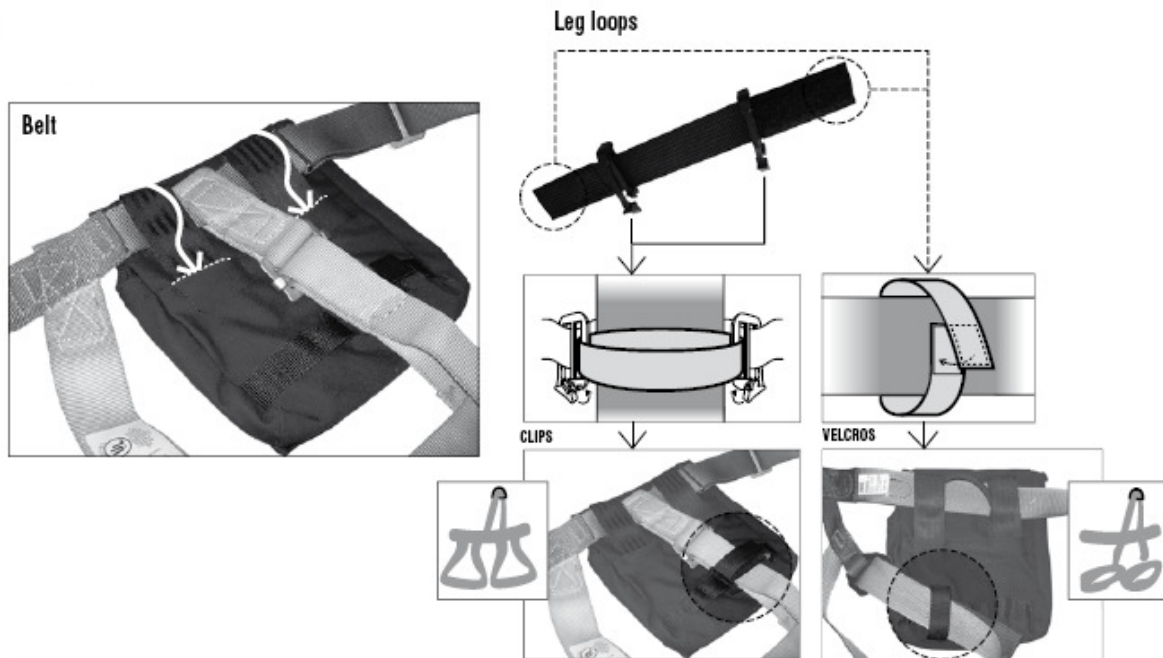


- Zigzag rope lengths approximately five-inches long.
- Bundle four to six zigzag rope lengths at one time.
- Push into bag and repeat.
- Properly place EXO on the carry flap.
- Make certain that the rope passes behind the connector
- Leave 8" (20 cm) of free rope between EXO and hook.
- Place Eas'hook in pocket.
- Position rope behind the EXO not in front of it.
- Position the OK carabiner half way outside of the bag , fasten the Velcro tab through the carabiner and close flap.

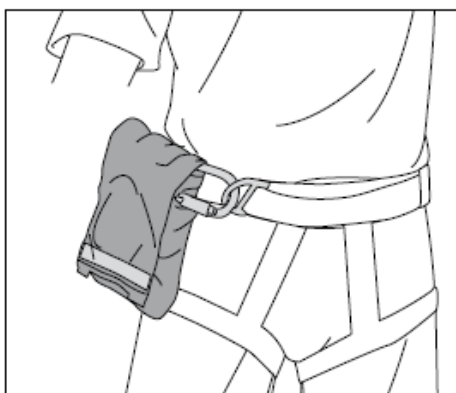


ATTACHING THE SYSTEM TO THE HARNESS

- Attach the carry bag to the harness waist belt and leg loop with the Velcro attachment straps.



- Connect the OK carabiner to the harness belay loop, "D" ring or "D" ring retainer straps using an auxiliary connection strap.



SYSTEM DEPLOYMENT

RECOGNIZE THE NEED FOR EMERGENCY ESCAPE

- This is often the most difficult part. Field Operatives must maintain 100% “situational awareness” during missions. They must know and recognize the signs of a potential “hostile event” and be able to take immediate, corrective actions up to and including emergency egress/escape.

DECLARE A “MAYDAY”

- Follow your Unit’s Mayday SOP.
- NOTE: Based on current conditions and your location, you must decide between declaring a “Mayday” or performing an immediate exit.

IDENTIFY EGRESS POINT

- Ideally, this should be done anytime you enter a enclosed space during operations.
- If caught in rapidly deteriorating conditions, find a room with a door and close it to compartmentalize the space.
- Find the closest window that will allow for a quick escape.
- NOTE: In heavy smoke conditions, you may have to perform a “wall/parameter” search to locate a window.

BREACHING

- If time and the situation allow, open the window.
If not, break the glass and clear the sill.
 - Forcible entry tool
 - Furniture or other objects
 - “Z” in a “box”
- Clear the screen if present.
- NOTE: If the room is charged with heavy, hot smoke, consider breaking the glass from the bellow and/or beside the sill and then ducking down once the window is breached. This will allow the super-heated gases to escape over your head to the exterior and provide you with better visibility.



“OPENING” THE SYSTEM

- Find the carry bag flap with your right hand. (figure 2.1)
- Fully open the flap to access the anchor hook.
- Grab and remove the Eas’hook from the carry bag with your right hand. (figure 2.2)
- Pull the Eas’hook forward forcefully with both hands in front of your body, ensuring that the EXO clears the bag. (figure 2.3)



figure 2.1



figure 2.2



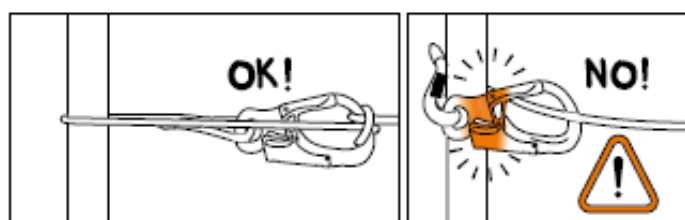
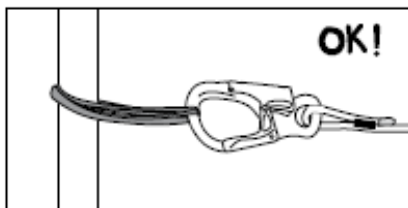
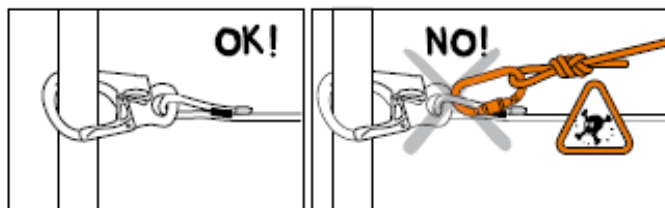
figure 2.3

- If more slack is needed:
 - Once the EXO is completely out of the bag, leave the Eas’hook in your left hand and slide your right hand down the rope to the EXO.
 - Depress the cam with your right thumb and extend your left arm allowing the rope to pass through the EXO.
- NOTE: Remember that introducing too much rope during the deployment may over-extend the device, which may result in an excessive “drop” and shock loading of the system when exiting the window.

ANCHORING THE SYSTEM

- **Remote Anchoring:**

- Select a substantial object. Introduce enough slack between the rope and the EXO to pass the Eas'hook and rope completely around the object and to tie a clove hitch around the Eas'hook. Place the Eas'hook on top of the rope and begin to tie the first and then the second hitch tightening the rope around the Eas'hook on every turn



- o Move backwards, away from the anchor point keeping the rope and EXO under tension. (figure 3.1)
- o To move horizontally, hold the cam lever down to release the rope; Avoid impeding the rope with a gloved hand (figure 3.2)



figure 3.1



figure 3.2

NEGOTIATING THE SILL

- Prior to exiting the window, ensure that there is sufficient rope between the EXO and the anchor so that when the EXO is loaded, it will completely clear the sill of the window by no more than six inches.
 - o If needed, extend the EXO beyond the sill by manipulating the cam with your right hand. Once the EXO is beyond the outside edge of the sill, let go of the EXO and re-grasp the rope below the EXO.
- **NOTE: It is crucial that the EXO completely clear the sill of the window.**



- With your left hand grasp the inner edge of the interior wall. **Do not get your hand caught under the rope.**
- Place your right hand (still gripping the braking side of the rope) outside, below the windowsill (you may rest it against the wall). **DO NOT hold the EXO while exiting** as this may prevent the locking cam from engaging and result in a free fall.
- While maintaining your left hand position inside of window, roll forward head-first out of the window until your upper body and right leg are outside of window below the sill. (figures 4.2, 4.3)
- Lock your left leg over the sill and press against interior wall. (figure 4.4)
- Maintain the position of your left hand on the interior wall/hook. (figure 4.4)
- While holding the rope tightly with your right hand, release your left leg from the interior wall. Allow your body to rotate to an upright position. Your left hand must continue to hold the interior wall until your body weight loads the EXO. (figure 4.5)
- Release your left hand from interior wall/hook.
- At this point your head should be below the windowsill.



figure 4.2



figure 4.3



figure 4.4



figure 4.5

DESCENT CONTROL

- Place your knees against the wall about shoulder's width apart
- Move your right hand up, forcing the free end of the rope that is being held against the side plate rope guide (U-bolt). This increases friction and provides better descent control.
- Move your left hand to the EXO and pivot the release handle.
- Gently pull back on the release handle while maintaining a firm grip on the braking side of the rope.
- Control the rate of descent by varying the grip of the brake hand on the braking side of the rope.
- As you move lower down the wall, place your feet on the wall and sit in the "L" position.

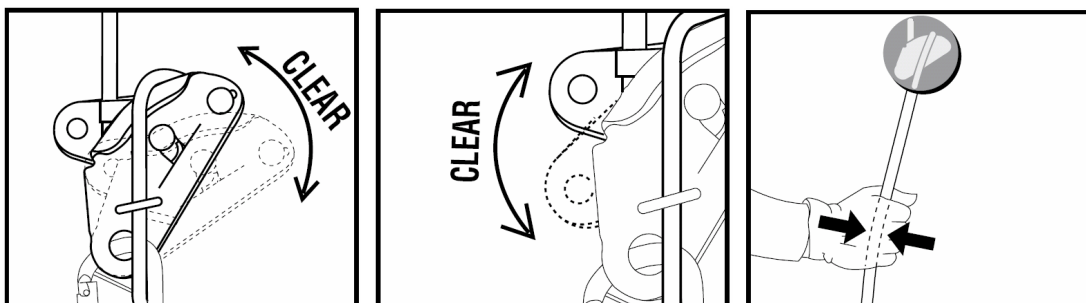
NOTE: Releasing the handle will immediately activate the EXO's self-braking function.

**Always remember:
The release handle is a throttle and
it must be released to stop**



PRECAUTIONS BEFORE AND DURING USE OF THE SYSTEM

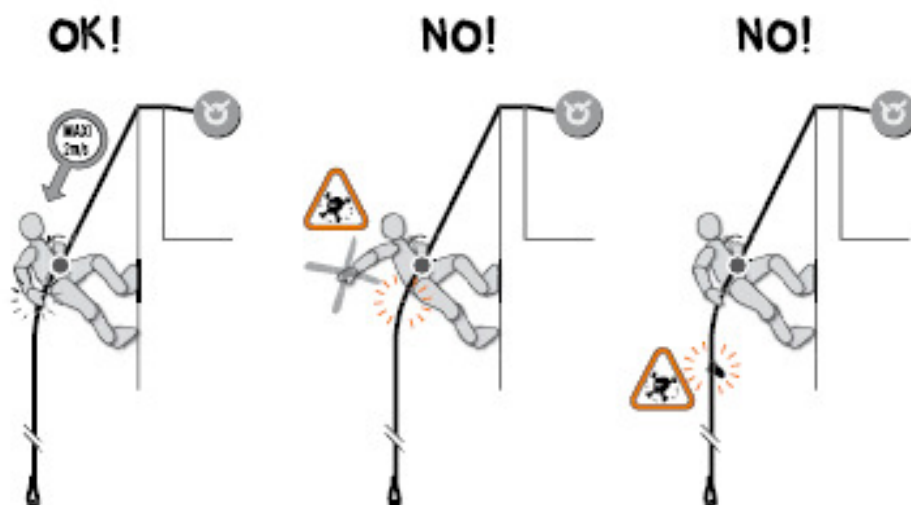
- The body and the cam of the EXO must be clear of obstructions and able to operate freely at all times; IF NOT, DANGER OF DEATH.
- While descending, you must always firmly grip the braking rope when releasing the cam with the release handle; IF NOT, DANGER OF DEATH.
- The OK TRIACT carabiner must always be used closed and loaded along its major axis. Loading in any other direction reduces its strength. Nothing must obstruct the free movement of the carabiner, any constraint or external pressure is dangerous.
- **WARNING DANGER OF DEATH:** any inward loading on the gate is dangerous. The locking sleeve can break and the gate can come open, allowing the device to detach itself from the harness.
- Rope must be packed properly. All possible coils may interfere with descending device and slow down the descending action.



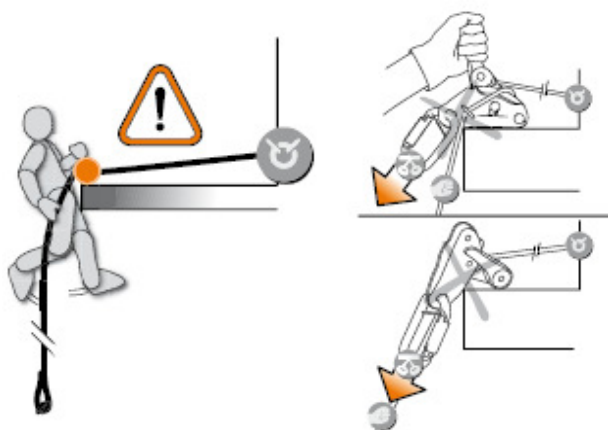
DESCENT WARNING:

1. Descent speed must not exceed 2 meters (6 feet) per second
2. Pulling the release handle without maintaining a firm grip on the braking side of the rope can result in a very rapid and uncontrolled descent
3. Caution must be used not to over speed the descender and hit a loop or the knot at the end of the rope. Very high impact forces will result.

Failure to observe any of these warnings can result in serious injury or death.



- Prior to exiting the window, ensure that there is sufficient rope between the EXO and the anchor so that when the EXO is loaded, it will completely clear the sill of the window by no more than six inches.



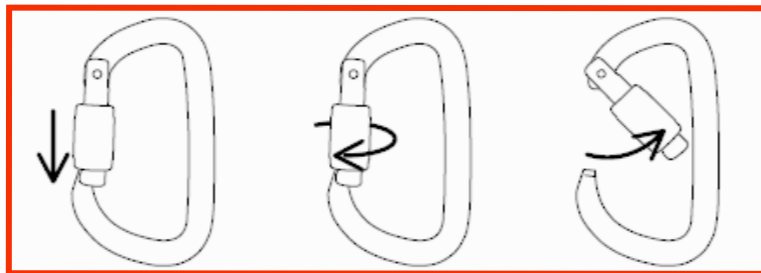
SYSTEM DISCONNECTION

- On a secure surface:
 - Squat down to introduce slack into the system. Pull and twist the carabiner gate to open it. Unclip.
 - Follow Unit's SOP regarding standing-down the "mayday" situation.
- On a ladder:
 - Descend down onto the rungs of the ladder. Secure yourself to the ladder (ladder carabiner, leg lock, etc.).
 - While depressing the cam with your right hand, pull slack through the system with your left hand.
 - Pull and twist the carabiner gate to open it. Unclip.
 - Follow Unit's SOP regarding standing-down the "mayday" situation.
- Lower window:
 - Descend to the level of the window. Let go of the release handle.
 - Open or breach the window. Clear the sill.
 - ◆ NOTE: This is much easier if a second person does this from the inside. Move to the side of the window to avoid any flying glass.
 - Adjust your position on rope as necessary and climb into the window feet first.
 - Once on the floor face the window, squat down to introduce slack into the system. Pull and twist the carabiner gate to open it. Unclip.
 - Follow Unit's SOP regarding standing-down the "mayday" situation.

1. PUSH DOWN,

2. TWIST

3. OPEN



SPECIAL SITUATIONS

- Clearing a trapped/pinned EXO from the sill
- Freeing a pinned hand
- Rope entanglement
- Multiple firefighter escape



Other useful ways to employ the EXO Personal Escape System

- **Positioning System:**

The EXO can be used as a positioning system. Once the Eas'hook is securely connected (clove hitched) to a substantial object, the rope length between the anchor point and the EXO can be quickly adjusted and the system can be used for travel restraint.



- **One-handed descent**

With practice, it is possible to descend statically and in control with the EXO using only one hand on the device. The trick is to grasp both the EXO release handle with your fingers and the free end of the rope with your thumb. Squeeze to descend slowly and release to stop. This technique requires much practice to master. Not recommended for dynamic entries into buildings.



- **Ascending short distances**

It is possible to ascend with the EXO System by using a rope grab (Handled Ascender or TiBloc) and a foot loop (Etrier or Footpro). The use of a pulley will facilitate longer ascents.



TRAINING CONSIDERATIONS

GENERAL REQUIREMENTS

- Due to the nature of this equipment and the extreme environment in which this product is used, Petzl requires that all end-users of this system be trained by an authorized EXO trainer.
- To be authorized as an EXO trainer, you must attend a three-day workshop and pass a written test offered by Petzl America.
- EXO trainers are responsible for any and all safety considerations during hands-on training evolutions. The use of appropriate PPE, redundant belay systems and crash pads are mandatory during training.
- End-users of the EXO System will be trained using the following guidelines;

Guideline Description	Terminal Objective	Approx Time	Basic Skills Covered	Format
Introduction	The student shall be familiar with each component of the EXO system, its general design, function, basic usage carry bag mounting and stuffing.	1.5 hour	General overview. Harness donning. EXO system attachment. Inspection and maintenance.	PowerPoint Lecture and Demonstration. Safety briefing.
System Deployment	The student shall demonstrate environment control and proper deployment of the EXO system.	0.5 hour	Room control and isolation. Window selection, breaching and clearing. Opening storage bag, deploying the hook and EXO preparatory to anchoring.	Demonstration and "hands-on" training.
Anchoring	The student shall demonstrate remote anchoring methods using the EXO system's Eas'hook.	0.5 hour	Tying-off to structural points. Using common tools as emergency anchors.	Demonstration and "hands-on" training.
Safety Back-up	The student shall demonstrate the ability to set-up and operate an appropriate and effective belay system	1 hour	Set-up and operate both a top and top-bottom (slingshot) belay system	Demonstration and "hands-on" training
Horizontal Movement and Sill Negotiation	The student shall demonstrate horizontal movement from a remote anchor and the appropriate method of negotiating a window sill.	2 hour	Moving horizontally from a remote anchor to the sill. "Rolling over" the sill both from a remote anchor and the hook/sill anchor. Clearing the EXO beyond the sill and brake hand control.	Demonstration and "hands-on" training.
Controlled Descent	The student shall demonstrate the appropriate body position and proper control of the EXO during descent.	1 hour	"Loading" the harness. Body position. EXO release and descent rate control. Brake hand control.	Demonstration and "hands-on" training.
System Disconnection	The student shall demonstrate proper system disconnection.	0.5 hour	Disconnection on the ground, on a ladder, in a second window	Demonstration and "hands-on" training.
Care and Inspection	The student will know which components need to be checked, inspection frequency, proper care, retirement recommendations	0.5 hour	Complete a multiple choice test on proper use, care and inspection of the EXO kit.	Complete test
Debrief	Course Evaluations	0.5 hours		

PERSONAL PROTECTIVE EQUIPMENT

- Training host will ensure that the following equipment is available and used during training sessions;
 - EXO systems and sit harnesses.
 - Complete belay system including rope, fall arrest harness and hardware.
 - Mission ready clothing and ballistic protection.
 - Helmet and gloves.
 - Protective face shield, safety goggles or glasses.

TRAINING SITE CONSIDERATIONS

- Classroom with LCD projector.
- Low rappel tower with crash pads and/or belay system.
- High rappel tower with belay system and crash pads.
- Appropriate anchor points

SECONDARY SAFETY SYSTEM

- Belay system (safety lines, fall arrest harness, belay device, and hardware).
Figures 5.1, 5.2
- Trained and competent belayer.
- Crash pads.
- Provisions for a timely rescue.



figure 5.1



figure 5.2

CARE AND INSPECTION

The end-user is to be trained in the proper care and inspection of the EXO system. Any evidence of heat damage, deformation, contamination or alteration is cause for removal from service and replacement.

INSPECTION, POINTS TO VERIFY

Refer to the EXO Instructions for Use document for complete inspection information.



Conduct a visual inspection of the carrying bag, before and after each use. At any time heat exposure is suspected, or the carrying bag shows signs of damage (such as burns, tears or fabric discoloration), becomes heavily soiled or saturated with water or chemicals, or opens during firefighting operations, inspect the equipment for any change affecting its condition or strength.

Inspect the EXO as follows:

- Look for cracks, marks, deformations, wear and corrosion.
- Check the operation of the release handle spring.
- Check the operation of the cam.
- Verify there are no foreign objects (such as sand, debris, etc.) in the mechanism.

Inspect the OK TRIACT BAR as follows:

- Look for cracks, marks, deformations, wear and corrosion.
- Open and release the gate to verify it is closing and locking properly.
- Verify there are no foreign objects in the Key lock slot (gate)
- The captive bar must be present, properly fixed in place, and not damaged and/or deformed.

Inspect the Eas'hook as follows:

- Look for cracks, marks, deformations, wear and corrosion. Gate must operate freely

Inspect the rope as follows:

- Inspect the entire length of rope for fraying, cut fibers, abrasions or other signs that might indicate possible degradation. Inspect carefully the 2 sewn terminations. If there is any doubt about the serviceability of any component of the system, it shall be placed out of service and notified to your Commanding Officer.

INSPECTION FREQUENCY

- In addition to the inspection before and during use, a periodic in-depth inspection must be carried out by a competent inspector at least once every 12 months. The frequency of the in-depth inspection must be governed by the type and the intensity of use.
- To keep better track of your equipment, it is preferable to assign each piece of equipment to a unique user so that he will know its history. The results of inspections should be documented in an «inspection record». This document must allow recording of the following details: type of equipment, model, name and contact information of the manufacturer or distributor, means of identification: serial or individual number, year of manufacture, date of purchase, date of first use, name of user, all other pertinent information for example maintenance and frequency of use, the history of periodic inspections: date / comments and noted problems / name and signature of the competent person who performed the inspection / anticipated date of next inspection.

See examples of detailed inspection records and other informational tools available at www.petzl.com/ppe.

- Inspection based on Unit's SOP Policy.
- Recommendations:
 - At the beginning of every shift/tour.
 - After every "working operation."
 - After every Hazardous Materials incident.
 - Every twelve months regardless of usage.
 - After every use.

PROPER CARE RECOMMENDATIONS

- Wash off any mud, soot, ash, etc.
- Use lukewarm water.
- Always dry out any and all wet / damp components before repacking.
- Avoid drying in direct sunlight / UV rays.

RETIREMENT RECOMMENDATIONS

- Place Training Units out of Service when the rope becomes worn and/or the EXO becomes worn or damaged.
- Place Training and Field Units Out of Service if:
 - Shock loaded.
 - Rope damage.
 - Hardware damage.
 - Carry Bag damage.
 - Sewn termination damage.
 - Hook or Connector damage.
 - Hazardous Materials contamination.

GENERAL INFORMATION

PRODUCT LIFETIME

The **potential** lifetime of Petzl products is as follows: up to 10 years from the date of manufacture for plastic and textile products, indefinite for metallic products. The **actual** lifetime of a product ends when it meets one of the retirement criteria listed below (see “When to retire your equipment”), or when in its system use it is judged obsolete. The actual lifetime is influenced by a variety of factors such as the intensity, frequency, and environment of use, the competence of the user, how well the product is stored and maintained, etc.

ATTENTION: in extreme cases, the lifetime of the product can be reduced to one single use through exposure to for example any of the following: chemicals, extreme temperatures, sharp edges, major fall or load, etc.

WHEN TO RETIRE YOUR EQUIPMENT

Immediately retire any equipment if:

- it fails to pass inspection (inspection before and during use and the periodic in-depth inspection).
- it has been subjected to a major fall or load*.
- you do not know its full usage history
- it is at least 10 years old and made of plastics or textiles.
- you have any doubt as to its integrity.

Destroy retired equipment to prevent further use.

MAJOR FALL AND IMPACT: SPECIFIC INFORMATION

Do not continue to use this equipment if it falls a distance of more than six feet onto a hard surface, or if the equipment sustains a major impact from another hard object. Even though no external signs may be visible, a deformation may restrict its operation or internal damage may have occurred, thus reducing its strength. Report the fall or impact to your Commanding Officer and request an inspection of the equipment by the Fire Department Safety Command

PRODUCT OBSOLESCENCE

There are many reasons why a product may be judged obsolete and thus retired before the end of its actual lifetime. Examples include: changes in applicable standards, regulations, or legislation; development of new techniques, incompatibility with other equipment, etc.

MODIFICATIONS, REPAIRS

Any modification, addition to, or repair of the equipment other than that authorized by Petzl is prohibited due to the risk of impairing the function of the equipment.

GUARANTEE

This product is guaranteed for 10 years against any faults in materials or manufacture, excluding unauthorized modification of the equipment, use of the equipment for other than its intended purpose, improper inspection and/or maintenance of the equipment, and normal wear and tear (e.g., wear of storage bag, corrosion...).