

SAFETY



Fall Prevention Training Program

**University of California Santa Cruz
UCO/Lick Observatory – Mt. Hamilton
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Fall Prevention Training Program

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Introduction: California's fall protection safety order states that:

"Approved personal fall arrest, personal fall restraint or positioning systems shall be worn by those employees whose work exposes them to falling in excess of 7 1/2 feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaftways and openings, sloped roof surfaces steeper than 7:12, or other sloped surfaces steeper than 40 degrees not otherwise adequately protected [...]"

When assessing the workplace for fall hazards, it is important to undertake a complete risk evaluation. This evaluation can be done in the form of a job hazard analysis, where the work task is broken down into a number of distinguishable steps. The steps are then analyzed to determine the hazards and identify preventive measures to protect against the hazards. The selection of the particular fall protection system to control the hazard to the worker is dependent upon the circumstances and the job task.

Control Measures (Fall Protection Systems)

- ❖ Surface protection (non-slip flooring)
- ❖ Fixed barriers (handrails, guardrails)
- ❖ Surface opening protection (removable covers, guardrails)
- ❖ Travel restraint systems (safety line and belt)
- ❖ Fall arrest systems (safety line and harness)
- ❖ Fall containment systems (safety nets)

Ideally, the choice of a protection system will be one that removes the risk of falling entirely. For example, it is preferable to provide a fixed barrier to prevent a worker from falling, than personal protective equipment (safety harness and lifeline). In this way, the worker is never in a position where an actual fall may occur. Otherwise, the worker must rely on the personal protective equipment system to safely arrest the fall.

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Chapter 1: Elements of Fall Protection/Arrest Systems

Personal Fall Arrest Systems (PFAS) consist of four types of necessary equipment. Choosing the right piece in each category is critical to safe functioning of the system and protection of the worker. Ensure that all pieces are compatible with each other, inspected regularly, and replaced after a fall or if they show signs of wear that could affect their performance.

Anchorage means a secure point of attachment for lifelines, lanyards or deceleration devices. "Anchorages use for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 lbs. (22 kN) per employee attached, or shall be designed, installed, and used as follows :

[OSHA 1926.502(d) (15) (i)] : As part of a complete personal fall arrest system which maintains a safety factor of at least two; and [OSHA 1926.502(d) (15) (ii)] : Under the supervision of a qualified person.

Remember that while anchorage devices may be capable of supporting the required 5,000 lbs. or greater, an anchorage device is only as good as the anchorage point to which it is attached. When choosing an anchorage point, be certain that it is appropriate for the system being attached: PFAS utilizing a standard shock absorbing lanyard as a deceleration device must be capable of supporting a 310 lb. person after free falling for 6 feet (5,000 lb. requirement). PFAS utilizing a self retracting lifeline must be capable of supporting twice the potential impact energy generated by a 310 lb. person who has fallen (3,000 lb. requirement).

Be smart - choose your anchorage point wisely!

Body Harness means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

"Personal fall arrest systems, when stopping a fall, shall limit maximum arresting force on an employee to 1,800 lbs. when used with a body harness" [OSHA 1926.502(d) (16) (2)].

Please Note: Effective January 1, 1998, Belts are illegal for use as fall protection. They may, in some circumstances, be used for **positioning** purposes only.

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Body Harnesses, or Full Body Harnesses as they are commonly referred to, are designed to protect a worker from falling while limiting the extent of potential injury resulting from a fall. In order for a Full Body Harness to accomplish this task, several factors must be considered. Perhaps most importantly, the harness should be adjusted to fit the wearer properly. A harness should be snug but comfortable, and should not bind the wearer. The sub-pelvic strap should be positioned under the buttocks; this strap and its proper placement is crucial as it is the sub-pelvic strap that dissipates much of the energy generated in a fall. All connectors must be fastened properly, the chest strap must be fastened securely, and the dorsal D-ring should rest between the wearer's shoulder blades.

Connector means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

"Connectors shall be drop forged, pressed, or formed steel, or made of equivalent materials" [OSHA 1926.502(e)(3)]. "Connecting assemblies shall have a minimum tensile strength of 5,000 lbs. (22 kN)." [OSHA 1926.502(e)(5)].

Connectors come in a wide variety of shapes and sizes and, as stated above, may be an independent part of the PFAS, or an integral part of one of the PFAS components. Connectors should be selected with respect to their potential attachment point. For example, will the connectors allow the components to fit together properly, and is there a potential for accidental disconnection. **WARNING: NEVER CONNECT TWO SNAPHOOKS TO ONE ANOTHER, HOOK-TO-HOOK.** Independent connectors used as attachments to anchorage points or anchorage devices should be considered along the same guidelines. The most important aspect of connectors is inspection before use. Damaged, abused, or worn out connectors will render the PFAS component useless, and it must be immediately withdrawn from service.

Decelerator or deceleration device means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/lanyard, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

"Personal fall arrest systems, when stopping fall, shall: limit maximum arresting force on an employee to 1,800 lbs. (8 kN) when used with a body harness; be rigged such that

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an employee can neither free-fall more than 6 feet (1.8 m), nor contact any lower level." [OSHA 1926.502(d) (16) (iii), (iv), (v)]

Choice of a deceleration device should be determined primarily by the amount of clear free fall space below the user. All users of fall protection equipment should be competently trained in how the equipment works and how to calculate free-fall, deceleration, elongation, total fall distance, and total clearance distance. Self retracting lifelines are recommended when there is a limited fall distance to the next level or the ground. Whether the deceleration device is a shock-absorbing lanyard or a self-retracting lifeline, it is important that the anchorage point for the deceleration device be located as close to directly above the user's head as possible. Traveling more than 15° in any direction from the anchorage point increases the possibility of a "pendulum" effect wherein the user falls, and the arc of travel after complete arrest allows contact with the lower level or other obstacles to the side of a vertical trajectory. These swing impacts can injure or kill an employee who otherwise would have survived the fall unscathed.

Chapter 2: Competent vs Qualified

A "competent person" is defined by 29 CFR 1926.32(f) as someone "...who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them"

A "qualified person" is defined by 29 CFR 1926.32(m) as someone "...who , by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, work, or the project".

REMEMBER: A Competent person may **NOT** be Qualified!

Chapter 3: Fall Prevention Equipment Instructions

PETZL – Navaho BOSS – C90 Harness

Nomenclature – See page 11

- (1) EN 358 ventral attachment point,
- (2) EN 358 lateral belt attachment points,
- (3) EN 358 lateral belt-seat attachment points,
- (4) EN 361 diverted chest attachment point for fall arrest,
- (5) Double-Back adjustment buckle,
- (6) Shoulder straps,
- (7) Leg loops,
- (8) Back support for work positioning,
- (9) Seat,
- (10) Slider,
- (11) Fixing system for ventral rope clamp / grab,
- (12) Optional ATTACHE connector + CROLL rope clamp / grab,
- (13) Tool carrier,
- (14) Equipment loop,
- (15) Heavy equipment loop,
- (16) Adjustable elastic straps.

Checking: points to verify

Before each use, check the webbing at the attachment points, at the adjustment buckles and at the safety stitching. Look for cuts, wear and damage due to use, to heat, and to contact with chemical products etc... (Check for cut or worn threads).

Check that the buckles operate correctly.

Instructions for use

Check the compatibility of the harness with the other components of the fall arrest or work positioning system (energy absorber, lanyard, and connector). The anchor point for the system must preferably be sited above the position of the user. It must fulfill the requirements of the standard EN 795.

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Diagram 1. Pulling on the harness

The leg loops of the harness are unfastened.

- a. & b. Spread the shoulder straps, hold the harness by the belt and pull it on over the feet.
- c. Adjust the belt by pulling on the belt adjustment straps. Stow the ends of the webbing straps tidily using the sliders.
- d. Position the shoulder straps one at a time.
- e. Adjust the diagonal straps linking the belt and seat.

Note: for working on a vertical rope lower the belt by pulling the diagonal straps linking the belt and seat as much as possible.

- f. Adjust the shoulder straps.
- g. Fasten the leg loop buckles.

Note: the user must carry out movements and a test suspension in the equipment to ensure that it is correctly sized and gives the required level of comfort for the intended use.

Diagram 2. Use for fall arrest

Unfasten the diverted chest attachment point for fall arrest by pulling the webbing strap near the velcro.

Attach your fall arrest system and always replace the chest attachment for fall arrest at the back of the harness on its velcro.

Check that the technical characteristics of the mobile fall arrest device (height of fall) are compatible with the diverted chest attachment point.

Diagram 3. Use for work positioning

- A. Ventral work positioning
- B. Lateral work positioning from the belt
- C. Lateral work positioning from the belt-seat

You can adjust the sitting position by tightening the adjustment straps of the lateral belt-seat attachment points for a vertical position, or by lengthening them for a diagonal position with support. These 3 systems can be combined. These attachment points must only be used for attachment to a work positioning system (maximum length of fall: 0.5 m) and never to a fall arrest system.

Diagram 4. Rope climbing

The attachment points for the fixing system (11) are only for positioning the ventral rope clamp / grab. They must always be used in conjunction with a fall arrest system fixed to the diverted chest attachment point.

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- A. Attach the ventral rope clamp / grab using a connector EN 362 in the two attachment points (with the closure at the bottom). Pass the webbing strap of the attachment system for the ventral rope clamp grab through the upper hole of the rope clamp / grab and rethread the buckle to fix it.
- B. Pull on the diagonal straps which link the belt and seat to lower the ventral rope clamp grab as much as possible. Tighten the shoulder straps once you are suspended from the rope.

General Information

1. Important notice: Specific training is essential before use

Read this notice carefully, it gives instructions for the use of this product. Only the techniques shown in the diagrams and not crossed out are authorized. All other uses are excluded: danger of death. A few examples of misuse and forbidden uses are also represented (shown in the crossed out diagrams or with the "skull and crossbones" symbol) Many other types of misuse exist and it is impossible to enumerate or even imagine all of them. In case of doubt or difficulty in understanding, contact PETZL. Activities at height are dangerous activities which may lead to severe injury or even death. Gaining an adequate apprenticeship in appropriate techniques and methods of protection is your own responsibility.

You personally assume all risks and responsibilities for all damage, injury or death which may occur during or following incorrect use of our products in any manner whatsoever. If you are not able, or not in a position to assume this responsibility or to take this risk, do not use this equipment.

2. Use

This product must only be used by competent and responsible persons, or those placed under the direct and visual control of a competent and responsible person.

Personal protective equipment (PPE) is to be used only on or with energy absorbing systems (for example dynamic ropes, energy absorbers etc...). Check that this product is compatible with the other components of your equipment.

To prolong the life of this product, care is necessary, when transporting as well as when using it. Avoid impacts, or rubbing against 1 abrasive surfaces or sharp edges. It is up to the user to foresee situations requiring rescue in case of difficulties encountered while using this product.

3. Checking = safety

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Do not hesitate to scrap a product showing signs of wear which might affect its strength, or restrict its operation. For your safety we advise you to adopt a 3-level checking schedule:

- Before and after each use it is necessary to check the condition of the product.
- During use, it is important to regularly monitor the condition of the product and of its connections to the other elements of the system.
- Periodically, a more thorough, inspection must be carried out by a competent inspector: approximately every three months for textile products and helmets, approximately annually for metallic products.

For more safety and better control of your equipment, we advise you to keep an inspection record for each product or batch of products. It is preferable to personally issue each user of P.P.E. such as helmets, impact absorbers or textile products, with his or her own set of equipment to ensure better traceability. On the other hand, it is not necessary to personally issue metallic equipment or anchors to a single user.

4. Major fall and impact

Do not continue to use this product after a major fall or a major impact (fall of the product or impact on the product). Even though no external signs may be visible, a deformation may restrict its operation or internal damage may have occurred, thus reducing its strength. Do not hesitate to contact PETZL in case of doubt.

5. Lifetime = length of time in storage + length of time in use

Length of time in storage (in favorable conditions):

- Helmets, harnesses, webbing slings and lanyards: 5 years.
- Metallic products: no limitation.

Maximum length of time in use (without taking account of wear):

- Helmets and harnesses: 5 years.
- Webbing slings and lanyards: 3 years
- Metallic products: no limitation.

The operational lifetime depends on the intensity of use. It is difficult to give a precise lifetime because this depends on the environment where it is used. Certain environments considerably increase the amount of wear: marine or sandy environments, or where chemicals are present. However wear or damage could occur on the first use which reduces the lifetime of the product to that one single use.

For webbing slings and lanyards, because of their direct contact with supporting structures and the heavy demands that usage places on them, their average operational lifetime is 6 months heavy use, 12 months normal use, 3 years maximum occasional use.

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6. PETZL 3 year guarantee

This product is guaranteed for 3 years against any faults in materials or manufacture. Exclusions from the guarantee: normal wear and tear, modifications or alterations, incorrect storage, damage due to accidents, to negligence, or for use in a way for which the product was not intended. PETZL is not responsible for the consequences, direct, indirect or accidental, or any other type of damage befalling or resulting from the use of its products.

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PETZL - Navaho BOSS - C90

Nomenclature of parts

10
4
6
5
11
12
1
2
3
8
9
7

4
6
8
13
14
15
16
9

Static-breaking load

15 kN
15 kN
15 kN
15 kN
15 kN
15 kN

Gear loop maximum load

5 daN
10 daN
20 daN
5 daN
10 daN
20 daN

Closing / opening
 Fermeture / ouverture
 Schließen / Öffnen
 Chiusura / apertura
 Cierre / abertura

Tightening
 Serrage
 Spannen
 Allacciatura
 Apretado

Loosening
 Desserrage
 Entspannen
 Stacciatura
 Aflojado

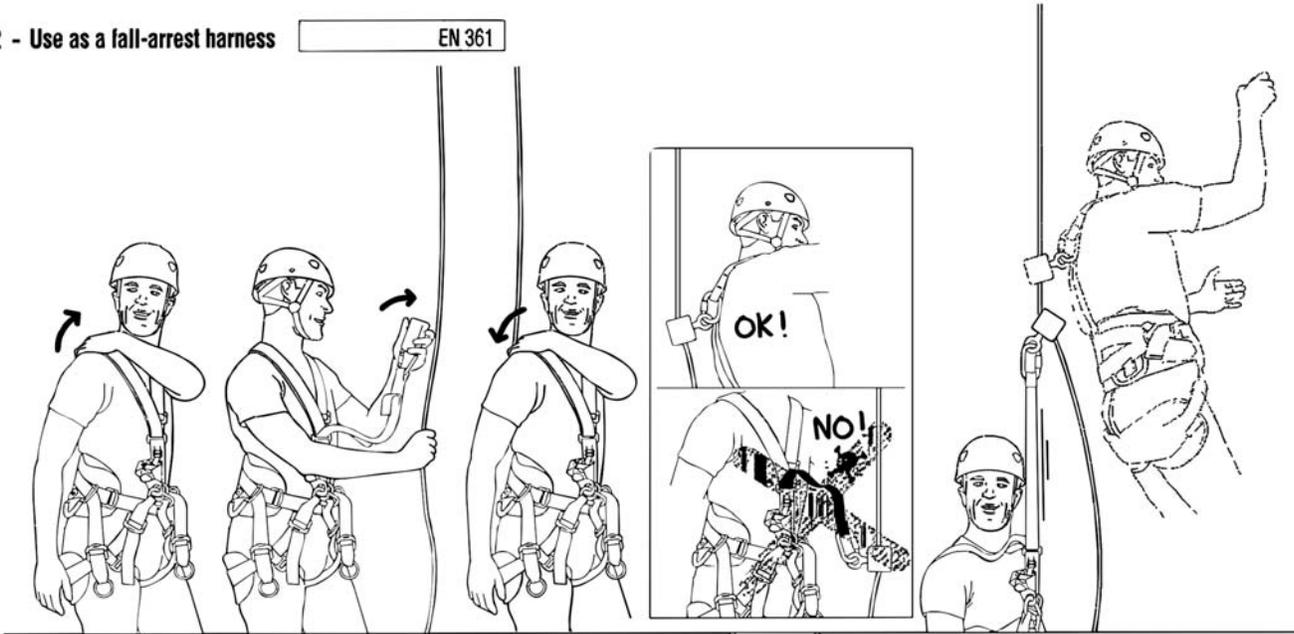
1 - How to put on

a
b
c
d
e
f

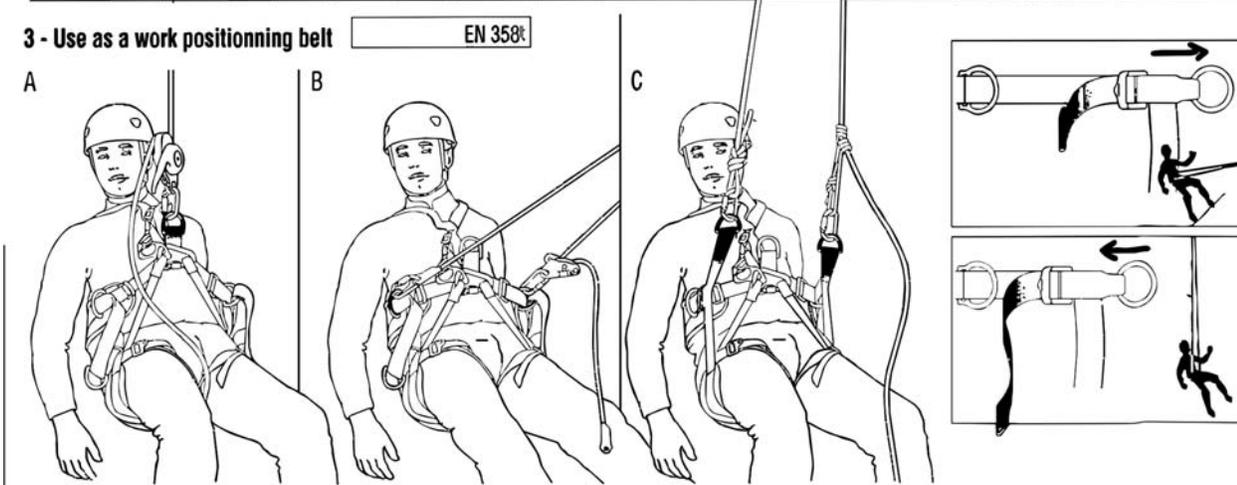
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PETZL - Navaho BOSS - C90

2 - Use as a fall-arrest harness EN 361



3 - Use as a work positioning belt EN 358R



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PETZL - Navaho BOSS - C90

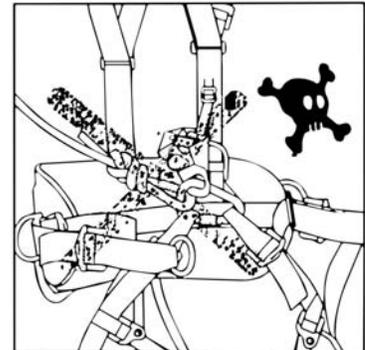
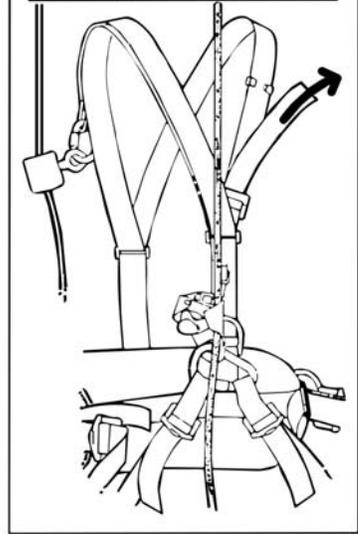
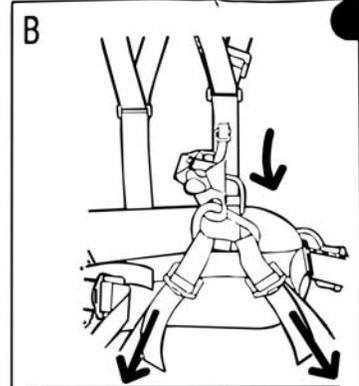
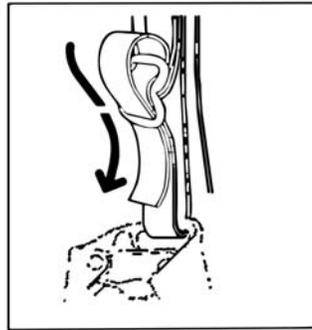
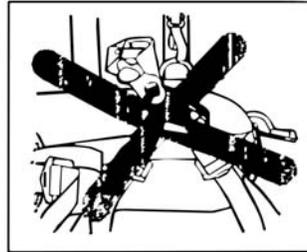
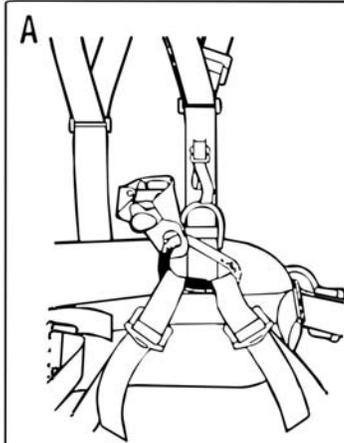
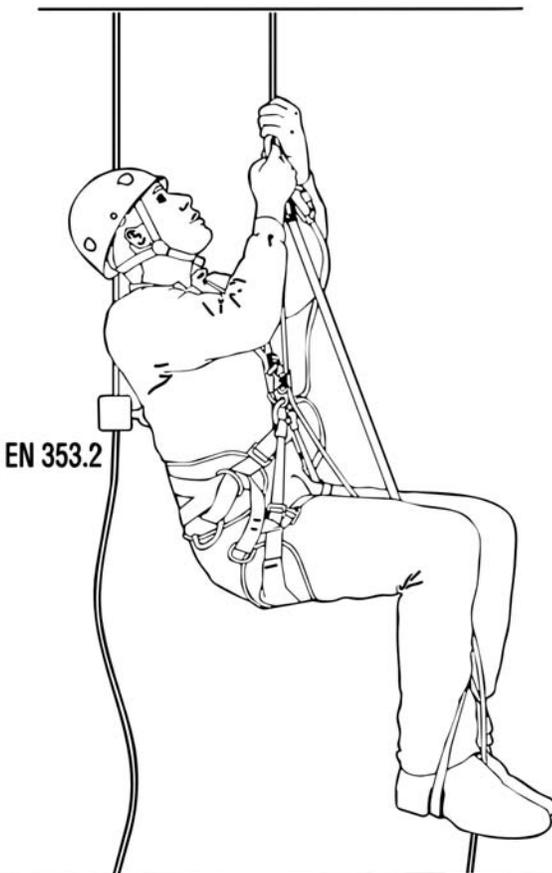
4 - Rope climbing



EN 567
CROLL B16



EN 362
EN 12275 type H (HMS)
ATTACHE M20-22
WILLIAM M24-25-26



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PETZL – Navaho V2 BOD Harness

Important: Specific training is essential before use

This technical notice should be kept in a safe place for reference after being removed from the harness and any user of the harness should be provided with a copy for reference before and after each use. This technical notice illustrates ways of using this product. Only the techniques shown are advised, all other uses are excluded due to danger of death. In case of doubt or question of understanding the use of this product, please contact Petzl. Activities at height may be hazardous. Gaining an adequate apprenticeship in appropriate techniques and methods of safety is your own responsibility.

You personally assume all risks and responsibilities for all damage, injury or death which may occur during or following use of our products in any manner whatsoever. If you are not able, or not in a position to assume this responsibility or to take this risk, do not use this equipment.

Use

This product must only be used by competent and responsible persons, or those placed under the direct and visual control of a competent and responsible person.

Check that this product is compatible with the other components of your system. To prolong the life of this product, care in use is necessary. Avoid rubbing against abrasive surfaces or sharp edges.

Safety = verification

- To ensure the good maintenance of this product it is best to allocate its use to a sole user.
- The user must put his equipment on and test it out (walking, sitting, standing, plus in suspension) to ensure a good fit and appropriate level of comfort for the intended use.
- It is important that the user checks buckles and other fastenings regularly during use.
- Before and after each use it is necessary to check the condition of webbing, ropes and stitching, including the less accessible areas. Do not hesitate to discard a product showing signs of wear which might affect its strength, or limit its function.
- Any modification or repair outside our production facilities is forbidden.

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- It is the responsibility of the user to foresee situations requiring rescue in case of difficulties encountered while using this product.

Major shock load

Do not continue to use this product after a significant shock loading: even though no visible signs are evident, internal damage may have occurred, thus reducing its strength and its margin of safety. Do not hesitate to contact PETZL in case of doubt.

Cleaning, maintenance, storage

A dirty product should be cleaned, by hand or in a machine, on a delicate cycle wash and rinsed in clean water (maximum temperature 30. C). Then dried in a cool, ventilated, dark room. Grease spots may be removed with trichlorethylene. Webbing which has been wetted, then dried, shrinks very slightly. Always carry and store a product in its bag. Despite its UV protection it is recommended that this product is stored away from direct light, in a well ventilated place away from extreme temperatures. Ensure that it is not too crumpled or twisted during storage.

Chemicals

All chemical products, corrosive materials and solvents should be regarded as harmful. If it is absolutely necessary, or if there is a risk of contact with chemical products, please contact us, stating the precise name, concentration and temperature of the chemicals concerned. After study we will give you an appropriate reply.

Lifetime

After first use this product may have a life of up to 5 years, without taking wear into account. However wear or damage could occur on the first use which limits its life to that use. Shelf-life of this product in good conditions is up to 5 years before first use. In addition to checks before and after use, we recommend complete inspection every 3 months. Check for:

- The fabric: cuts, tears, abrasion and damage caused by use, heat, chemicals etc,
- The stitching: cut, torn, worn or loose threads, -The buckles: proper functioning of the buckles.

Temperature

Use this product above a minimum of -40 C and below a maximum of +80 C. Exposure of the harness to direct flame or temperatures beyond these limits could cause the harness to fail.

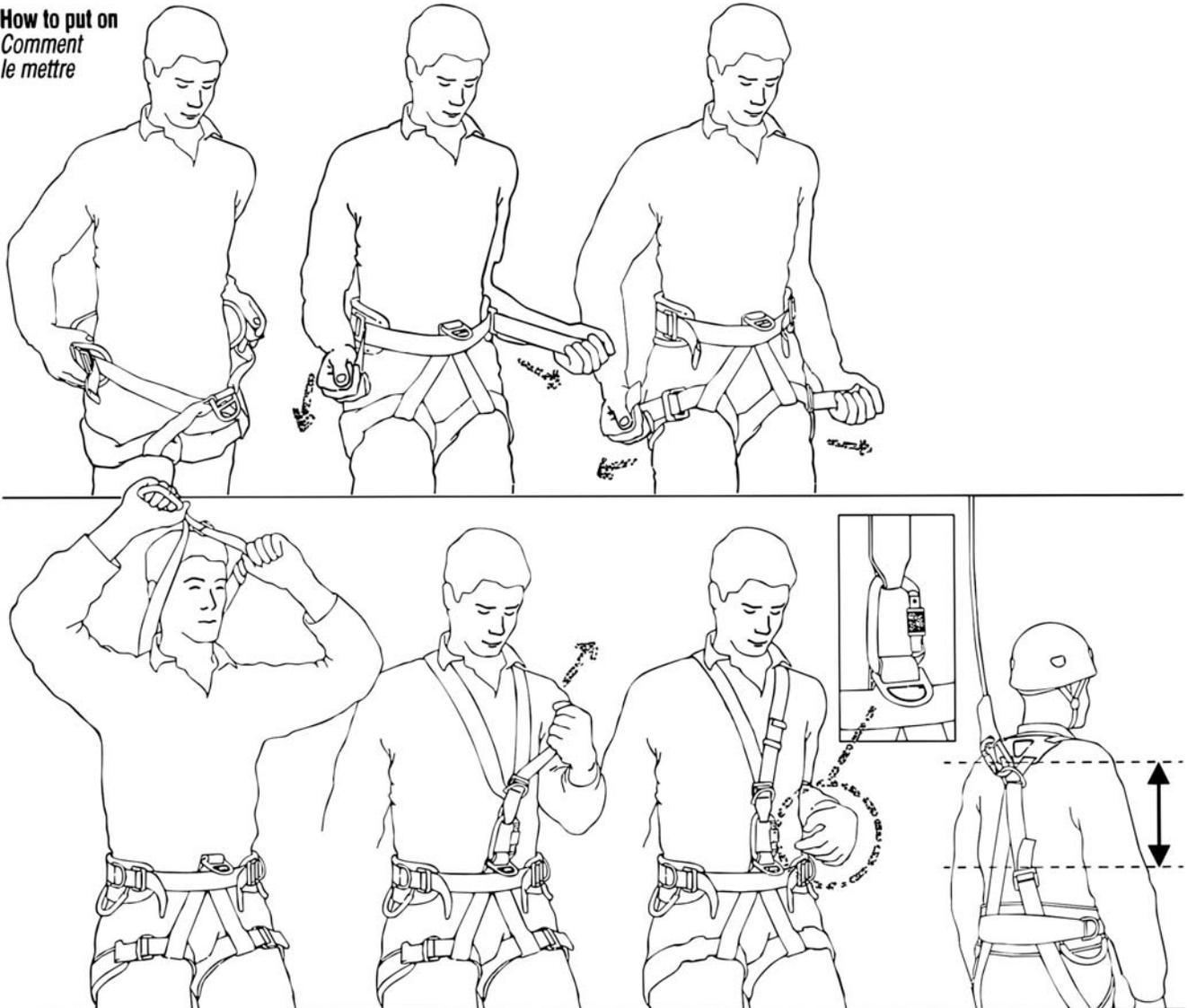
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Disinfection

If it is necessary to disinfect the product, use a disinfectant that is compatible with polyamide, polyester, polycarbonate, PVC etc. Use in a solution diluted with clean water at a maximum temperature of 20 C. Allow to soak for an hour, then rinse in clean cold water. Dry slowly, away from direct heat sources.

PETZL - Navaho V2 BOD Harness

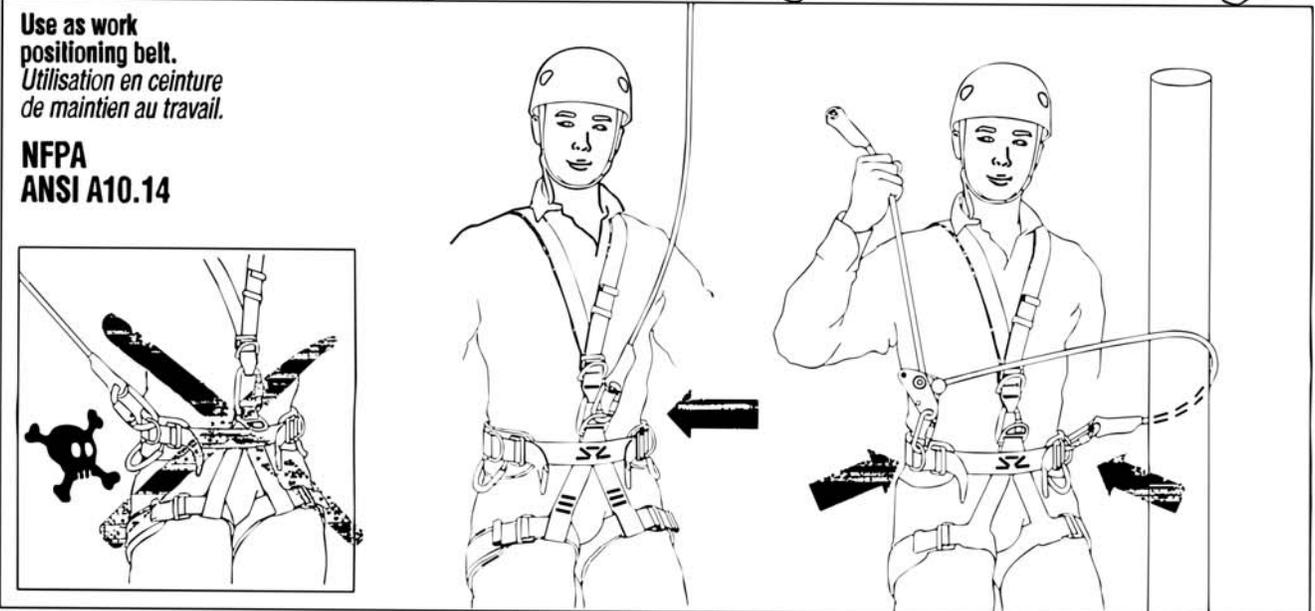
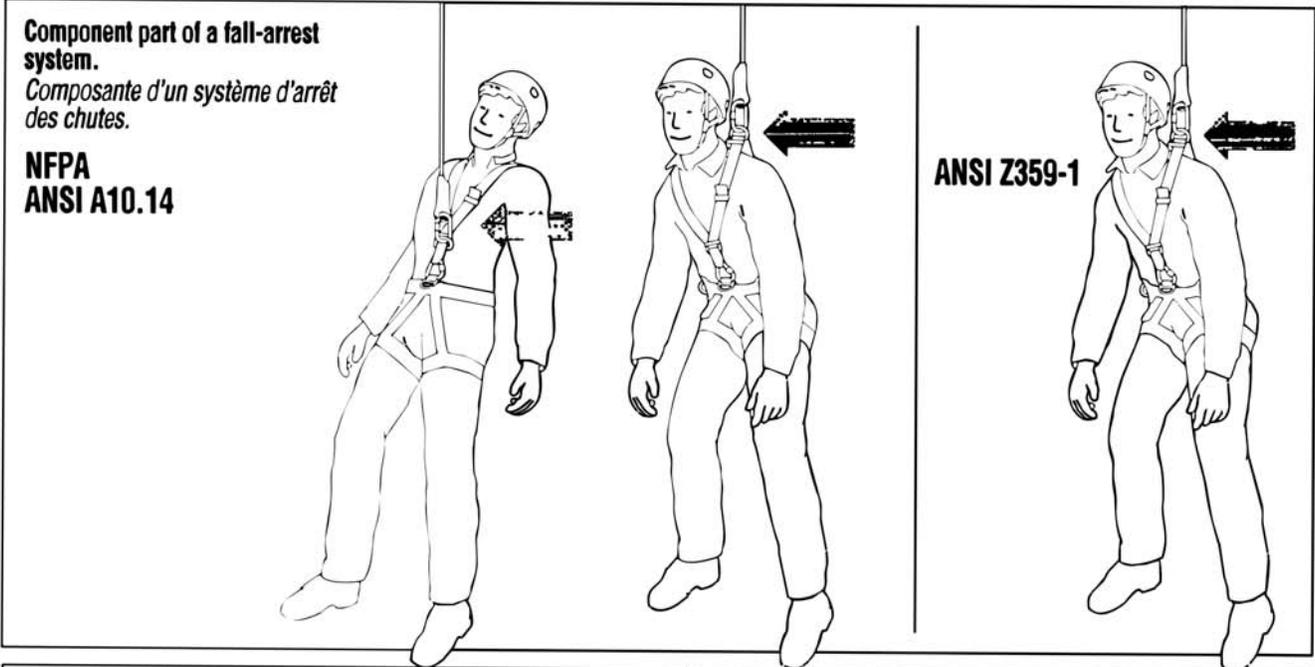
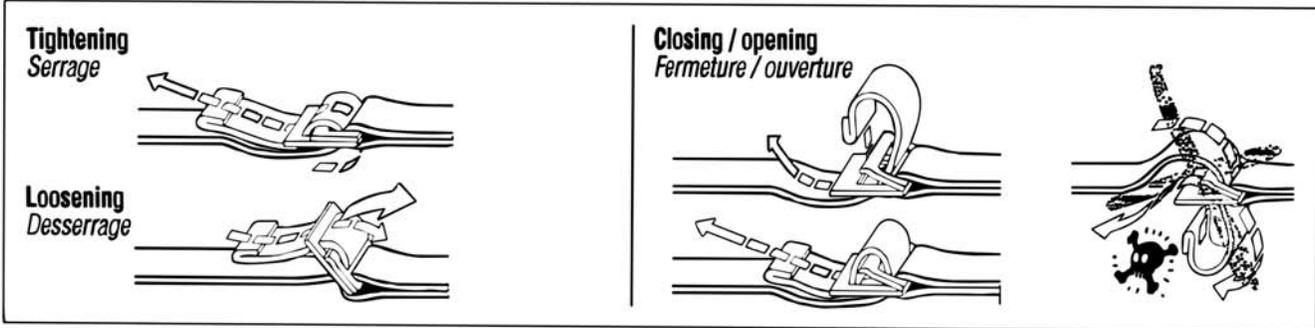
How to put on
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FR7267 120598R

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PETZL - Navaho V2 BOD Harness



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MILLER® Lanyards

INSTRUCTION AND WARNING INFORMATION FOR ALL TITAN MODELS

WARNING:

All persons using this equipment must read and understand all instructions. Failure to do so may result in serious injury or death. Call 1-800-873-5242 if you have any questions.



I. REQUIREMENTS

A. WARNINGS AND LIMITATIONS

Proper use of fall arrest systems can save lives and reduce the potential of serious injury from a fall. The user must be aware that forces experienced during the arrest of a fall or prolonged suspension may cause bodily injury. Consult a physician if there is any question about the user's ability to use this product. Pregnant women and minors must not use this product. Proper precautions should always be taken to remove any obstructions, debris and other material from the work area that could cause injuries or

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interfere with the operations of the unit. Caution should also be taken to insure that all equipment will be clear of all other recognized hazards.

- Users should be familiar with pertinent regulations governing this equipment. All individuals who use this product must be correctly instructed and trained on how to use this product and must read and understand all instructions before use. All users must understand all OSHA regulations, ANSI standards, and other relevant regulations and standards pertaining to fall hazards, and the selection, use and maintenance of fall protection equipment.
- If this device is permanently attached to another product or device, the instructions and warnings provided with that product or device must also be read, understood, and followed.
- This product is designed for personal fall protection. Full body harnesses and shock absorbing lanyards are for fall arrest. Body belts and non-shock absorbing lanyards are for positioning only. Never use fall protection equipment for purposes other than those for which it was designed. For use by one person only. The designed working load is 310 lbs., unless labeled otherwise. Fall protection equipment should never be used for towing or hoisting.
- To ensure that accidental disengagement cannot occur, a competent person must ensure system compatibility.
- All equipment must be visually inspected before each use and by a competent person on a regular basis. Any product exhibiting deformities, unusual wear, or deterioration must be immediately discarded. Equipment must not be altered. Repairs must be performed only by the manufacturer or authorized agent.
- Employers must provide for prompt rescue in the event of a fall. Any equipment subjected to fall arresting forces must be removed from service.
- All synthetic material must be protected from slag, hot sparks, open flames, or other heat sources. The use of heat resistant materials is recommended.
- Environmental hazards must be considered when selecting fall protection equipment. Consult the manufacturer in case of doubt.
- Use in a corrosive or caustic environment dictates a more frequent inspection program to ensure product integrity.

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- This device must be attached to a structure capable of supporting a 5000 lb. static load per employee in the direction of pull.
- Allow for sufficient clearance in the event of a free fall. Note: Shock absorbers may elongate 3 1/2 feet upon activation.

- Fall arrest systems used with this device must be rigged in accordance to regulatory requirements (6' maximum fall distance).

- Work directly under the anchor point to avoid the hazards of a swing fall.

- Use only locking snaphooks or locking carabiners with this product. Never disable or restrict locking keeper or alter connecting device in any way.

- Always visually check that each snap hook or carabiner freely engages the anchor point and that its keeper is completely closed.

- Synthetic material (rope & webbing) must not come in contact with high temperature surfaces, welding, heat sources, electrical hazards, or moving machinery. Use caution when working around electrical hazards.

- Visually check all buckles to assure proper and secure connections before each use. All straps must be connected and adjusted to provide a snug fit.

- Fall protection connecting devices must be attached to the back D-ring of a full body harness. Side, front, and chest D-rings are for positioning only. Shoulder D-rings should be used for retrieval only.

- Do not attach multiple lanyards together or attach a lanyard back onto itself unless it is specifically designed for such a connection.

- Do not tie knots in lanyards. Do not wrap lanyards around sharp or rough edges. Use a cross- arm strap or other compatible anchorage connector and connect to lanyard snaphook. Anchor points must be capable of supporting 5,000 pounds per worker.

- The use of a shock absorber is recommended to reduce fall arresting forces. Non-shock absorbing lanyards are for positioning purposes only unless used in conjunction with a shock absorber.

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- Never use natural materials (manila, cotton, etc.) as part of a fall protection system.
- Do not tie-off to an object that is not compatible with lanyard snaphooks or carabiners. Make sure that snaphooks and carabiner keepers are never load bearing and they close completely.
- Snap hooks with gate openings larger than one inch (1") must not be connected to d-rings on harnesses and belts.

B. SYSTEM COMPATIBILITY

Miller products are designed for use with other Miller approved components. Substitution or replacement with non-approved components will endanger the compatibility within the system and affect the reliability and safety of the total system.

II. INSTALLATION

Titan full body harnesses are to be worn with the fall arrest O-ring located in the center of the back between the shoulder blades. All buckles are to be properly connected and the webbing adjusted so the harness fits snug. Titan body belts are to be worn about the waist and adjusted to a snug fit.

WARNING

Titan belts are to be used for positioning only. They are not to be used for fall arrest purposes. The Titan lanyard is to be connected to the user's harness by attaching the snap hook to the appropriate O-ring. Back O-rings are for fall arrest. All other O-rings are for positioning.

Note; some models may have the lanyard permanently attached.

WARNING

T5000 series and T6000 series shock absorbing lanyards are designed for fall arrest purposes. T9000 series lanyards are for positioning only. The opposite end of the lanyard is then connected to the anchorage or anchorage connector. Make sure connections are compatible in regards to size, strength, and shape. Anchorage cross-arm straps (T7000 series) are to be installed around the anchorage in a choking fashion by passing the O-ring through the web loop and pulling tight. Care must be taken to ensure that the anchorage does not have rough or sharp surfaces, which could damage the webbing. The lanyard snaphook is to be connected to the O-ring of the anchorage strap.

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WARNING

DO NOT ATTACH REBAR SNAPS TO D-RINGS.

Positioning device systems (T8000 series) are designed to be rigged to support an employee on elevated work surfaces by attaching to the positioning side d-rings on a harness or belt and connecting to a compatible anchorage. An independent fall arrest system must be used in conjunction with a positioning device system if the potential for a free fall exists.

III. INSPECTION

Titan products are to be visually inspected prior to every use and replaced if any of the following defective conditions exist. Check all webbing and rope for damaged fibers, cuts, frayed edges, pulled or loose stitches, burns, and chemical damage. Check all hardware for distortions, cracks, bends, breaks, rough or sharp edges, pitted surfaces, unusual wear, loose components, and corrosion. Check snaphooks keepers to ensure they operate freely and lock properly. Check shock absorbers (T5000 & T6000 series) for indications of impact loading due to a fall by measuring the length of the unit and comparing it to that of the original stated length of the product. A difference of more than two inches (2") indicates the unit has been subjected to fall arresting forces. Units that do not pass this inspection or have been subjected to fall arresting forces must be removed from service. In addition to the daily inspection, a regular inspection by a competent person is recommended.

IV. TRAINING

It is the responsibility of the user to assure that they read, understand, and follow all instructions and are trained in the care and use of this device. Training should be repeated periodically and any time there is a change of components within the system. Training must be conducted without exposing the trainee to a fall hazard.

V. MAINTENANCE

A. SERVICING

A record log of all servicing and inspection dates for this product should be maintained by the company safety officer. This product and all its components must be withdrawn from service if subjected to fall arresting forces or if the product fails inspection. Contact Dalloz Fall Protection's Customer Service Department at 1-800-873-5242 if you have any questions.

SAFETY

B. CLEANING AND STORAGE

Clean product with a sponge using warm water and a mild commercial soap or detergent. Air dry. Clean the device to remove any dirt, paint, or other materials that may have accumulated. Store in a clean, dry area when not in use.

TITAN	WARNING: MANUFACTURER'S INSTRUCTIONS SUPPLIED WITH THIS PRODUCT AT TIME OF SHIPMENT MUST BE FOLLOWED: FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH. CONTACT DFP IF INSTRUCTION MANUAL IS NEEDED. INSPECT BEFORE EACH USE. REMOVE FROM SERVICE IF PRODUCT DOES NOT PASS INSPECTION OR IF THE MEASURED LENGTH EXCEEDS THE ORIGINAL STATED LENGTH BY MORE THAN TWO INCHES (2").	MODEL: T5122 DATE: 1/00 LENGTH: 6 FT.
	ADVERTENCIA: DEBEN SEGUIRSE LAS INSTRUCCIONES DEL FABRICANTE PROVISTAS CON ESTE PRODUCTO AL MOMENTO DE DES-PACHO: EL NO HACERLO PUEDE RESULTAR EN LESIONES GRAVES O L A MUERTE. SI SE REQUIERE EL MANUAL DE INSTRUCCIONES CONSULTE CON DALLOZ FALL PROTECTION.	MATERIAL: POLYESTER CAPACITY: 310 LBS.
	ADVERTISSEMENT: VOUS DEVEZ RESPECTER LES INSTRUCTIONS DU FABRICANT QUE VOUS AVEZ RECUES AVEC LE PRODUIT. DANS LE CAS CONTRAIRE, VOUS RISQUEZ DES BLESSURES GRAVES OU MEME LA MORT. CONTACTEZ DALLOZ FALL PROTECTION SI VOUS AVEZ BESOIN D'UN NOUVEAU MANUAL.	OSHA 1926.502, ANSI A10.14 MADE IN USA
		MAX ARREST FORCE: 1800LBS.
		MAX. FREE FALL DISTANCE OF NO MORE THAN 6'
		MAX EXTENTION 3'-6" BEYOND STATED LENGTH

SAFETY



IMPORTANT INSTRUCTIONS PLEASE READ AND SAVE

CMC Rescue **BYPASS LANYARD**

- USE ONLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- INSPECT AFTER EACH USE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- REPAIR ONLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.

Designed for tower climbing operations, the CMC Rescue Bypass Lanyard allows the user to maintain fall protection while climbing or traversing structures. Only disconnect and move one snap hook at a time. At all times, the user's center of mass should remain below the anchor point.

USER INSTRUCTIONS

NFPA Standard 1983 recommends separating the user instructions from the lanyard and retaining them in a permanent record. The standard also recommends making a copy of the instructions to keep with the lanyard and that the instructions should be referred to before and after each use.

INSPECTING YOUR BYPASS LANYARD

Inspect the lanyard according to your department's policy for inspecting fall protection equipment. The lanyard should be inspected after each use. Record the date of the inspection and the results in the equipment log or on a tag that attaches to the lanyard. Each user should be trained in equipment inspection and should do a cursory inspection before each use.

When inspecting the lanyard, check the webbing for cuts, worn or frayed areas, broken fibers, soft or hard spots, discoloration, or melted fibers. Check the stitching for pulled threads, abrasion, or breaks. Check the hardware for damage, sharp edges, and proper operation. If any of the above are noted, or if the lanyard has been subjected to shock loads, fall loads, or abuse other than normal use, remove the lanyard from service and destroy it. If there is any doubt about the serviceability of the lanyard, remove the lanyard from service and destroy it.

SAFETY

USING YOUR BYPASS LANYARD

Connect the oval link to the waist connection of your harness. For ascending or descending, secure one snap hook while moving the second one to the next step. When stationary, maintain both snap hooks connected to the structure for fall protection back up.

MAINTENANCE

If the lanyard becomes soiled, it can be washed in cold water with a mild detergent. CMC recommends the use of LIFELINE Cleaner. Dry out of direct sunlight. Do not dry in an automatic dryer.

REPAIR

CMC recommends that all repair work be done by the manufacturer. All other repair work or modifications may void the warranty and shall release CMC Rescue, Inc. from all liability and responsibility as the manufacturer.

SAMPLE INSPECTION AND MAINTENANCE LOG

The sample log suggests records that should be maintained by the purchaser or user of a life safety lanyard.

Equipment Inspection and Maintenance Log			
Item _____ # _____		Date In Service _____	
Brand/Model _____		Strength _____	
Date	How Used or Maintained	Comments	Name

WARNING

- **Serious injury or death may result from the improper use of this equipment**
- **This equipment has been designed and manufactured for use by experienced professionals only**
- **Do not attempt to use this equipment without proper training.**



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