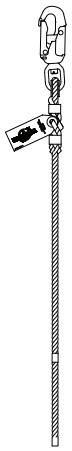
PROTECTA

A Capital Safety Brand



5/8" ROPE Vertical Lifelines

MODELS: *(see Table 2)*

This manual is intended to meet the Manufacturer's Instructions as required by the following standards and should be used as part of an employee training program as required by OSHA:

ISO 9001 Certificate No. FM 39709 — ANSI Z359.1-2007

CSA — CSA Z259.2.1-98

WARNING: *This product is part of a Personal Fall Arrest[1] or Restraint[2] system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Users must follow the manufacturer's instructions for each component of the system. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.*

IMPORTANT: *If you have questions on the use, care, or suitability of this equipment for your application, contact Capital Safety.*

IMPORTANT: *Record the product identification information from the product labeling (see 'Labeling') in the 'Inspection and Maintenance Log" included in these instructions.*

DESCRIPTION

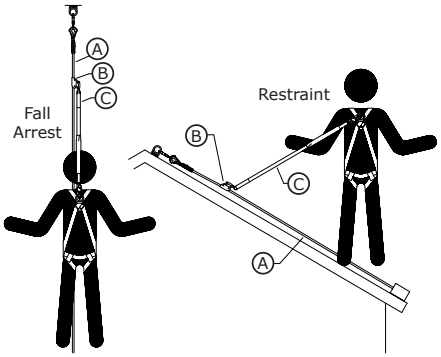
Protecta 5/8" Rope Vertical Lifelines consist of a 5/8" diameter polyester and polypropylene rope terminated on one end with an alloy steel, 3,6000 lb. (16 kN) gate snaphook. See Table 2 for a list of available models and their respective lengths.

APPLICATIONS

PURPOSE: Vertical Lifelines and Vertical Lifeline Subsystems are used as part of a Personal Fall Arrest or Restraint system (see Figure 1). The lifelines and lifeline subsystems described in this document are not designed for use in horizontal lifeline systems. Applications include: inspection work, construction, demolition, maintenance, oil production, confined space rescue, window washing.

- **Fall Arrest:** The Lifeline or Lifeline Subsystem is used as part of a complete Fall Arrest System, which typically includes a Lifeline, Rope Grab, Lanyard, and Full Body Harness. Maximum permissible free fall is 6 ft. (1.8 m).
- **Restraint:** The Lifeline or Lifeline Subsystem is used as part of a restraint system. Restraint Systems typically include a Full Body Harness and a Lanyard to prevent the user from reaching a fall hazard (leading edge roof work). No vertical free fall is permitted.

Figure 1 - Applications



A Lifeline **B** Rope Grab **C** Shock Absorbing Lanyard

REQUIREMENTS: Consider the following requirements before using this product:

- **Capacity:** The Vertical Lifeline is designed for use by persons with a combined weight (clothing, tools, etc.) of 130 - 310 lbs. (59 - 140 kg). No more than one personal protective system may be connected at one time.
- **Anchorage:** Select a rigid anchorage point that meets the strength requirements of your application:

Fall Arrest Anchorage Strength	
Non-Certified Anchorages:	5,000 lbs (22.2 kN)
Certified Anchorages:	2 times the Maximum Arresting Force

NOTE: *When more than one Fall Arrest system is attached to an anchorage, the strength specified above shall be multiplied by the number of systems attached to the anchorage.*

FROM OSHA 1926.500 & 1910.66: *Anchorages used for attachment of personal fall arrest systems shall be independent of any anchorage used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per attached user; or, be designed, installed, and used as part of a complete Personal Fall Arrest System which maintains a safety factor of at least two and is under the supervision of a qualified person.*

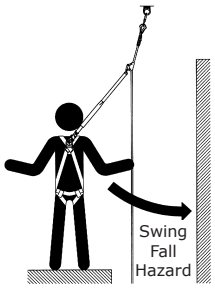
Restraint Anchorage Strength	
Non-Certified Anchorages:	1,000 lbs (4.5 kN)
Certified Anchorages:	2 times the foreseeable force

NOTE: *When more than one Restraint system is attached to an anchorage, the strength specified above shall be multiplied by the number of systems attached to the anchorage.*

- **Free Fall:** Restraint systems must be rigged so that no vertical free fall is possible. Personal fall arrest systems used with this equipment must limit free fall to 6 ft. (1.8 m) per ANSI 7359.1. See the personal fall arrest system manufacturer's instructions for more information.
- **Fall Clearance:** Ensure that adequate clearance exists in your fall path to prevent striking an object. The amount of clearance required is dependent on the type of connecting subsystem (Rope Grab, Lanyard), the anchorage location, and the amount of stretch in the lifeline. See the subsystem manufacturer's instructions for more information.
- **Swing Falls:** Swing falls occur when the anchorage point is not directly above the point where a fall occurs (see Figure 2). The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur.
- **Sharp Edges:** Avoid working where your lifeline, lifeline subsystem, or other system components will be in contact with, or abrade against, unprotected sharp edges. Do not loop a lifeline around small diameter structural members. If working with this equipment around sharp edges is unavoidable, provide protection by using a heavy pad over the exposed sharp edge.
- **Hazards:** Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to; heat, chemicals, corrosive environments, high voltage power lines, gases, moving machinery, and sharp edges. Contact Capital Safety if you have questions about using this equipment where environmental hazards exist.
- **Training:** This equipment must be installed and used by persons trained in its correct application and use. It is the responsibility of user to assure they are familiar with these instructions and are trained in the correct care and use of this equipment. The user must always be aware of the operating characteristics, application limits, and consequences fo improper use of this equipment.

IMPORTANT: *Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated periodically.*

Figure 2 - Swing Falls



1 *PERSONAL FALL ARREST SYSTEM: An assembly of components and subsystems used to arrest a person in a free fall.*
2 *RESTRAINT SYSTEM: An assembly of components and subsystems that limits travel so the user is not exposed to a fall hazard.*

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COMPATIBILITY

STANDARDS: Refer to national standards i(ncluding ANSI Z359.1), local, state, and federal requirements for more information on personal fall arrest systems and associated components.

ROPE GRABS: Only Capital Safety 5/8" Rope Grabs should be used with Protecta 5/8" Rope Vertical Lifelines.

BODY SUPPORT: Capital Safety strongly recommends the exclusive use of Protecta or DBI-SALA Full Body Harnesses with all of their fall protection systems. A body belt is not authorized for use with the Vertical Lifeline. If a fall occurs when using a body belt, it may cause unintentional release and possible suffocation due to improper body support. Substitutions fo equipment or components must not be made without the written consent of Capital Safety

CONNECTOR COMPATIBILITY: Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. If the connecting element that a snap hook or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point. Contact Capital Safety if you have any questions about compatibility.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2 kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage (see Figure 3). Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required by ANSI Z359.1 and OSHA.

MAKING CONNECTIONS: Use only self-locking snap hooks and carabiners with this equipment. Use only connectors that are suitable to each application. Ensure all connections are compatible in size, shape, and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked. Capital Safety connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user instructions. Figure 4 illustrates inappropriate connections. Capital Safety snap hooks and carabiners should not be connected:

Figure 3 - Unintentional Disengagement

If the connecting element that a snaphook (shown) or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snaphook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snaphook) to open, allowing the snaphook or carabiner to disengage from the connecting point.

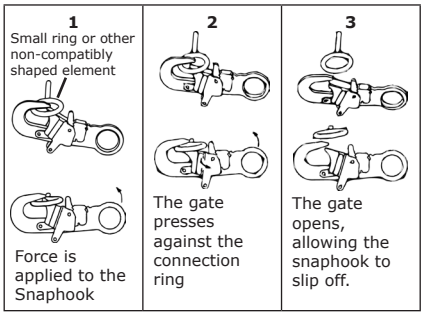
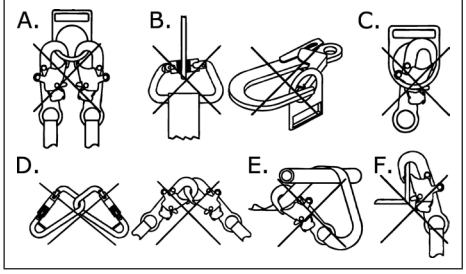


Figure 4 - Inappropriate Connections



A. To a D-ring to which another connector is attached.

B. In a manner that would result in a load on the gate.

C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.

D. To each other.

E. Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allow such a connection).

F. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.

NOTE: *Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.*

INSTALLATION AND USE

WARNING: *Do not alter or intentionally misuse this equipment; your safety depends on it. Consult with Capital Safety if using this equipment with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment.*

WARNING: *Consult with your doctor if you doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness can seriously affect your ability to withstand falls. Pregnant women and minors must not use this equipment.*

PLANNING: Plan your system before installation. Review the *"Requirements"* defined in this instruction. Consider all factors that will affect your safety during use of this equipment. Important points to consider when planning your system include the following:

A. Select an anchorage that meets the requirements specified in *"Requirements - Anchorage"*.

B. Avoid working where system components may be in contact with, or abrade against, unprotected sharp edges. Inspection frequency should be increased when an anchorage connector is installed around sharp edges.

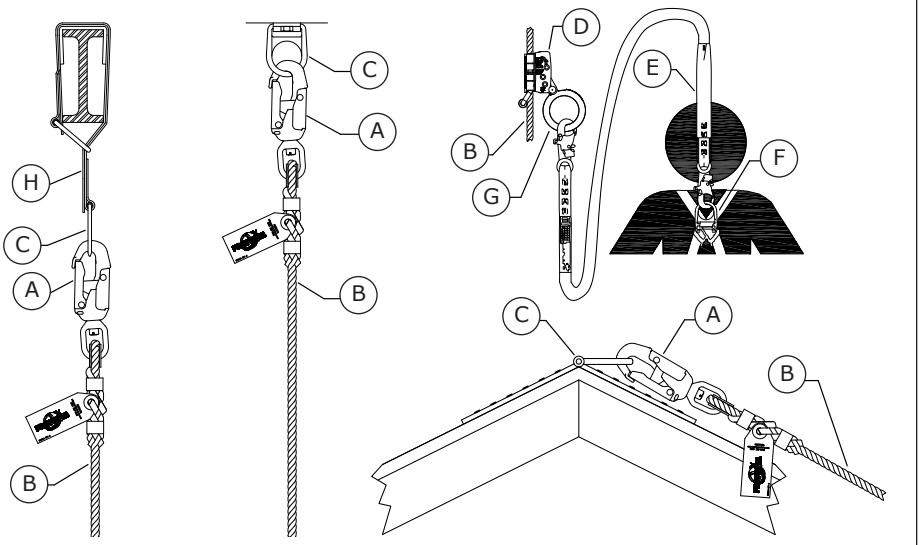
C. Components which have been subjected to the forces of arresting a fall must be removed from service and destroyed

D. The employer must have a rescue plan when using this equipment. The employer must have the ability to perform a rescue quickly and safely.

INSTALLATION & USE: Figure 1 illustrates typical Fall Arrest and Restraint applications of the Vertical Lifeline. anchorage and subsystem connections are illustrated in Figure 5. General procedures for installing and using the Vertical Lifeline system are as follows:

1. **Prior to Each Use:** Inspect all components of the Vertical Lifeline system per the *"Inspection List"* (Table 1). Do not use the Vertical Lifeline system if inspection reveals an unsafe condition.
2. **Connect to Anchorage:** Connect the Snap Hook (A) on the Vertical Lifeline (B) to a rigid Anchorage Point (C) that meets the requirements defined in *"Requirements - Anchorage"*. To ensure safe reliable connections, observe the guidelines in *"Connector Compatibility"* and *"Making Connections"*.
3. **Attach the Rope Grab:** Attach the Protecta Rope Grab (D) to the Vertical Lifeline (B) per the instructions in the *Protecta Rope Grab User Instruction Manual*.
4. **Don the Full Body Harness:** A Full Body Harness should always be used with the Vertical Lifeline. Inspect and don the Full Body Harness per the manufacturer's instructions.
5. **Connect the Shock Absorbing Lanyard:** Connect the Snap Hook on the Shock Absorber end of the Lanyard (E) to the back Dorsal D-Ring (F) on the Full Body Harness. Connect the Snap Hook on the other end of the Lanyard to the Attachment Eye (G) on the Protecta Rope Grab.
6. **Move the Rope Grab along the Vertical Lifeline as you work:** See the *Protecta Rope Grab User Instruction Manual* for instructions.

Figure 5 - Vertical Lifeline System Connections



A Snap Hook **B** Lifeline **C** Anchorage Point **D** Rope Grab **E** Shock Absorbing Lanyard **F** Dorsal D-Ring
G Attachment Eye **H** Tie-Off Adaptor

WARNING: *If the Vertical Lifeline is subjected to fall arrest forces, it should be removed from service and destroyed.*

INSPECTION

BEFORE EACH USE: Inspect the Vertical Lifeline and connected subsystem(s) per the *Inspection Procedures* in Table 1.

ANNUAL INSPECTION: The Vertical Lifeline and connected subsystem(s) must be inspected per the I*nspection Procedures* in Table 1 by a competent person[3], other than the user, at least annually. Record the results of each inspection in the *Inspection and Maintenance Log* on the back page of this instruction.

NOTE: *Cal/OSHA requires personal fall arrest systems be inspected prior to each use for wear, damage, and defects and inspected by a competent person[3] at least twice a year, in accordance with the manufacturer's recommendations, with inspection dates documented.*

MAINTENANCE & STORAGE

CLEANING: Clean the Vertical Lifeline with water and a mild detergent. Wipe hardware dry with a clean, dry cloth and hang to air dry. Do not force dry with heat. An excessive build-up of dirt, paint, etc. may prevent the Vertical Lifeline from working properly, and in severe cases, weaken the rope.

STORAGE: Store the Vertical Lifeline in a cool, dry, clean environment, out of direct sunlight. Avoid areas where chemical vapors may be present. Thoroughly inspect the Vertical Lifeline per the procedures in Table 1 after extended storage.

Table 1 - Inspection Procedures

Hardware	Inspect lifeline hardware (snap hooks, ferrules, thimbles, etc.). These items must not be damaged, broken or distorted. These items must be free of sharp edges, burrs, cracks, worn parts, or corrosion. Hook gates must move freely and lock upon closing.
Rope	Inspect the lifeline rope for concentrated wear. Material must be free of frayed strands, broken yarns, cuts, abrasions, burns, and discoloration. The rope must be free of knots, excessive soiling, paint build-up, and rust staining. Rope splices must be tight, with five full tucks, and thimbles must be held firmly by the splice. Check for chemical or heat damage; indicated by brown, discolored, or brittle areas. Check for ultraviolet damage; indicated by discoloration and splinters and slivers along the rope surface. All of the above factors are known to reduce rope strength. Damaged or questionable rope should be replaced.
Labels	Inspect labels. All labels must be present and fully legible (see *"Labeling"*).
Subsystems	Inspect each system component or subsystem per the manufacturer's instructions

AFTER INSPECTION: *Record the results of each inspection in the "Inspection & Maintenance Log". If inspection reveals any damage, the Vertical Lifeline must be removed and disposed of immediately.*

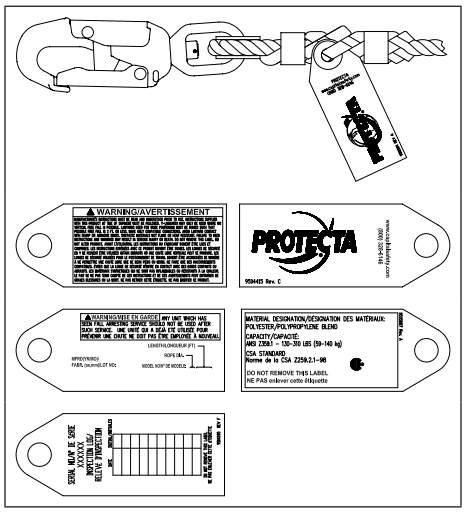
SPECIFICATIONS

Table 2 - Models & Specifications

Model/ Length	Rope	Snap Hook
1299996 25' (7.6m)	• 5/8" Diameter • Polyester & Polypropylene Blend • 7,000 lbs (31kN) Minimum Breaking Strength • 5-15 lbs (22-67 N) Hardness	• 3/4" (1.9cm) Throat • Zinc Plated Alloy Steel with Clear Chromate • 3,600 lb (16kN) Gate • 5,000 lbs (22kN) Tensile Strength
1299991 30' (9.1m)		
1299997 50' (15.2m)		
1299992 75' (22.9m)		
1299998 100' (30.5m)		

LABELING:

All labeling must be securely attached to the Vertical Lifeline and must be fully legible.



MEDICAL WARNING

For user safety, workers with physical disabilities or muscular problems should receive medical advice prior to using fall arrest equipment. UNDER NO CIRCUMSTANCES should pregnant women or minors use Capital Safety fall arrest systems.

A worker's ability to accommodate arrest forces inflicted on the body in the event of a fall are seriously affected by age and fitness of the user. Only those in good health should work at heights. Please contact your physician should there be reason to doubt your ability to absorb the shock load on your body in the event of a fall.

3 COMPETENT PERSON: An individual knowledgeable of a manufacturer's recommendations, instructions and manufactured components who is capable of identifying existing and predictable hazards in the proper selection, use and maintenance of fall protection.

LIMITED LIFETIME WARRANTY

Warranty to End User: D B Industries, Inc., dba CAPITAL SAFETY USA ("CAPITAL SAFETY") warrants to the original end user ("End User") that its products are free from defects in materials and workmanship under normal use and service. This warranty extends for the lifetime of the product from the date the product is purchased by the End User, in new and unused condition, from a CAPITAL SAFETY authorized distributor. CAPITAL SAFETY'S entire liability to End User and End User's exclusive remedy under this warranty is limited to the repair or replacement in kind of any defective product within its lifetime (as CAPITAL SAFETY in its sole discretion determines and deems appropriate). No oral or written information or advice given by CAPITAL SAFETY, its distributors, directors, officers, agents or employees shall create any different or additional warranties or in any way increase the scope of this warranty. CAPITAL SAFETY will not accept liability for defects that are the result of product abuse, misuse, alteration or modification, or for defects that are due to a failure to install, maintain, or use the product in accordance with the manufacturer's instructions.

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INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:	
MODEL NUMBER:	
DATE PURCHASED:	DATE OF FIRST USE:

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
Approved By:			
Approved By:			
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