

# GUARDIAN

## FALL PROTECTION

### PERFORMANCE SAFETY GEAR



## Ladder System

### DO NOT THROW AWAY THESE INSTRUCTIONS! READ AND UNDERSTAND BEFORE USING EQUIPMENT!

This manual should be read and understood in its entirety, and used as part of a training program as required by OSHA or any applicable state regulatory agency.

This and any other included instructions must be provided to the users of the equipment. The user must understand the proper equipment use and limitations.

This product meets all applicable OSHA and ANSI standards for fall protection.

Guardian Fall Protection Kent, WA  
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**GENERAL SYSTEM SELECTION CRITERIA:** Selection of fall protection shall be made by a Competent Person. All fall protection equipment shall be purchased new and unused.

The equipment is designed for use as a part of a personal fall protection system. Components shall not be used for any other operation other than that which it has been designed and approved.

Fall Arrest Systems shall be designed to comply with OSHA or applicable state regulatory limitations. Systems must be used in a compliant manner.

Fall Restraint systems shall be designed by a Qualified Person, and must be installed and used under the supervision of a competent person.

Consult a doctor if there is any reason to doubt a user's ability to withstand and safely absorb fall arrest forces. Age, fitness, and health conditions can seriously affect the worker should a fall occur. Pregnant women and minors should not use this equipment.

### WARNING!

#### DO NOT:

- ☐ Do not alter or misuse this equipment.
- ☐ Do not use combinations of components or subsystems that may affect or interfere with the safe, compatible function of each other.
- ☐ Do not expose the equipment to chemicals which may produce a harmful effect or degrade the equipment. Consult manufacturer in cases where doubt exists.
- ☐ Do not use the equipment around moving machinery or electrical hazards unless specifically designed for such use.
- ☐ Do not use the equipment around sharp edges or abrasive surfaces unless intended for such use.

**TRAINING REQUIREMENTS:** The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards. Relevant Federal, State, and local regulatory requirements, procedures, and standards shall also be a part of training.

The employer shall ensure that each employee has been trained, as necessary, by a Competent or Qualified Person in the nature of fall hazards in the work area, the correct erecting, maintaining, disassembling, and inspection of the fall protection systems being used, and the use of personal fall arrest systems.

**RESCUE PLAN:** The user is required to have a rescue plan and the means at hand to implement it when using the equipment. The plan shall be project specific. Employees shall be trained in self-rescue or alternate means shall be provided for prompt rescue in the event of a fall.

**IF EQUIPMENT IS SUBJECTED TO A FALL:** Remove the equipment from service immediately if it has been subjected to the forces of a fall arrest. Contact your distributor or Guardian about policies regarding replacement of Guardian components involved in a fall.

#### INSPECTION:

- ☐ Only the manufacturer of this equipment or persons or entities authorized in writing by the manufacturer shall make repairs to fall protection equipment.
- ☐ The date of first inspection should be recorded by the employer on the equipment, and any serial numbers shall be recorded on the Inspection Log.
- ☐ Formal inspections shall be made by either a Competent or Qualified Person on at least a semi-annual basis.

#### PRIOR TO EACH USE:

- ☐ Fall protection equipment shall be inspected by the user for defects, damage, or deterioration.
- ☐ Any suspected defective equipment shall be removed from service.
- ☐ If the manufacturer's label is not legible or is missing, the equipment shall be removed from service. Fall protection equipment shall be removed from service upon evidence of defects, damage, or deterioration, or upon expiration of the manufacturer's specified service limits, whichever comes first.

## WARNING!

Consult with your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age, fitness, and health conditions can seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use any Guardian Fall Protection equipment.

**MAINTENANCE, CLEANING, AND STORAGE:** Repairs to equipment can be made only by a Guardian representative or person or entity authorized by Guardian. Contact Guardian for maintenance and repair. Cleaning after use is important for maintaining the safety and life of the equipment. Cleanse the equipment of all dirt, corrosives, and contaminants. If the equipment cannot simply be wiped clean use a mild soap and water. Rinse, wipe, and hang to dry. Store equipment where it cannot be affected by heat, light, excessive moisture, oil, chemicals, or other degrading elements.

## DESCRIPTION OF PRODUCT:

The Ladder System is designed to provide fall arrest, fall restraint, or positioning capabilities for one user each. Combined components provide an anchorage connector, connecting lifeline, and full body harness. Product can be used anywhere that a compatible structure or system can be attached.

## PRODUCT APPLICATION INFORMATION:

The Ladder System is designed for use as an attachment for personal fall arrest, restraint, and work positioning.

- ☐ **PERSONAL FALL ARREST:** Means the product is used as a component of a personal fall arrest system to protect the user in the event of a fall. PFAS typically include a full body harness and a connecting component (energy absorbing lanyard). Maximum permissible free fall is six feet.
- ☐ **RESTRAINT:** Means the product is used as a component of a restraint system to prevent the user from reaching a fall hazard. Restraint systems typically include a full body harness and a lanyard or restraint line. **NO VERTICAL FREE FALL IS PERMITTED**
- ☐ **WORK POSITIONING:** Means the product is used as a component of a work positioning system to support the user at a work position. Work positioning systems typically include a full body harness, positioning lanyard, and a back-up personal fall arrest system. Maximum permissible free fall is two feet.
- ☐ **RESCUE:** If the anchor is used as a component of a rescue system, **NO VERTICAL FREE FALL IS PERMITTED**. Rescue systems are configured depending on the type of rescue.

## LIMITATIONS:

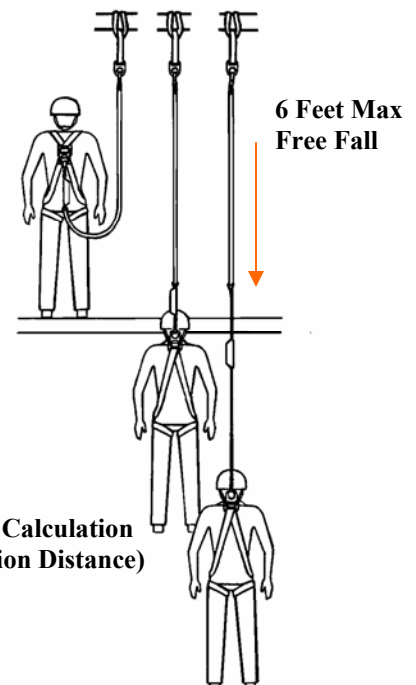
Consider the following application limitations before using this equipment.

- ☐ **Capacity:** The Ladder System is designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 310lbs. No more than 4 users can be attached at one time. This system can be used with 1 person in fall arrest and 3 users in fall restraint.
- ☐ **Free Fall:** Personal fall arrest systems (PFAS) used with this equipment must be rigged to limit the free fall to six feet as called out in ANSI Z359.1. Only qualified and trained personnel, on the proper use of fall protection such as this anchor, are allowed to use this product. **Restraint systems** must be rigged that no vertical free fall is possible. **Work positioning systems** must be rigged so that free fall is limited to two feet or less. **Rescue systems** must be rigged so that no vertical free fall is possible.
- ☐ **Fall Clearance:** There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction. The clearance required is dependent on some or all of the following factors. A hazard assessment by a trained and competent person is recommended before any work is started that would include the use of fall protection.

### Consider When Calculating Distance:

- ☐ Deceleration Distance
- ☐ Movement of harness attachment element (D-ring)
- ☐ Free Fall Distance
- ☐ Worker Height (how tall the worker is could affect the free fall distance)
- ☐ Elevation of Anchorage Connector
- ☐ Connecting Subsystems Length

### Total Fall Distance Calculation (Free Fall + Deceleration Distance)



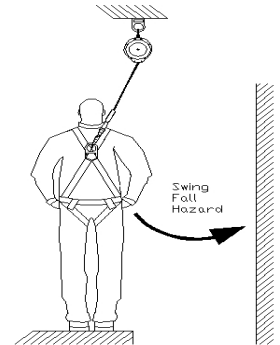
## APPLICABLE STANDARDS:

Refer to potential applicable standards. Standards might include OSHA regulations depending on the type of work, and also might include state regulations if applicable. Consult regulatory agencies for more information on personal fall arrest systems and associated components. This product is designed to comply with OSHA and ANSI Z359.1 standards when used properly, and in accordance with manufacturer's instructions.

## LIMITATIONS CONTINUED:

- ❑ **Swing Falls:** Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object in a swing fall may cause serious injury or death. Minimize the risk of swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. **Swing falls will significantly increase the clearance required when a self retracting lifeline or other variable length connecting system is used.**
- ❑ **Potential Environmental Hazards:** Use of fall protection 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: chemicals, corrosive environments, high voltage power lines, gases, moving machinery, and sharp edges.

**ATTACH TO OVERHEAD  
ANCHORS!  
SWING FALLS INCREASE  
FALL ARREST DISTANCE.**



## SYSTEM REQUIREMENTS:

- ❑ **Compatibility of Components:** Guardian Fall Protection equipment is designed to be used with Guardian approved components. Please contact Guardian if you have a question regarding compatibility. Making substitutions without approval from Guardian Fall Protection may lead to injuries and or death by compromising the safety and reliability of the complete system. A Qualified person can make a determination on compatibility of equipment from different manufacturers. If in doubt, please contact Guardian Fall Protection for clarification.
- ❑ **Compatibility of Connectors:** Connectors (D-rings, hooks, carabiners) must be capable of supporting at least 5,000 lbs. (22kN). Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. Self locking snap hooks and carabiners are required by ANSI and OSHA. Connectors must be compatible in size, shape, and strength.
- ❑ **Making Connections:** Only use self-locking snap hooks and carabiners with any Guardian Fall Protection equipment. Do not use equipment that is not compatible. If you have any questions on compatibility, please call Guardian Fall Protection at 800.466.6385.

### WARNING!

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.

## PERSONAL FALL ARREST INFORMATION:

- ❑ **Personal Fall Arrest System (PFAS):** Personal fall arrest systems used with this equipment must meet applicable state, federal, OSHA, and ANSI requirements. A full body harness must be worn when this equipment is used as a component of a personal fall arrest system. As required by OSHA, the personal fall arrest system must be capable of arresting the user's fall with a maximum arresting force of 1,800 lbs., and limit the free fall to six feet or less.

### WARNING!

If overhead tie off is not feasible, and an approved system has the potential for a free fall greater than six feet, and up to a maximum of ten feet, Guardian Fall Protection recommends using a personal fall arrest system incorporating a Guardian Fall Protection Heavy Duty Shock Absorbing Lanyard. The Heavy Duty Lanyard is designed to keep fall arresting forces below the required standard of 1,800 lbs. Standard type lanyards will generate impact fall forces in excess of the allowable requirements.

### ANCHORAGE STRENGTH REQUIREMENT:

The anchorage strength required is dependent on the application. Following are anchorage strength requirements for specific applications. Ensure that any anchorage point used in a personal fall protection system meet the following requirements.

- ❑ **Fall Arrest:** The structure to which the anchorage connector is attached must sustain static loads applied in the directions permitted by the fall arrest system of at least 3,600 lbs. with certification of a qualified person, or 5,000 lbs. without certification. Refer to OSHA and ANSI for specific definition. This anchor is to be used by one worker only. Do not tie off equipment. Anchorages used for attachment of a personal fall arrest system shall be independent of any anchorage being used to support or suspend platforms.
- ❑ **Restraint:** The structure to which the anchor point is attached must sustain static loads applied in the directions permitted by the restraint system of at least 3,000 lbs. When more than one restraint system is attached to an anchorage, the strengths stated above must be multiplied by the number of restraint system attached to the anchorage.
- ❑ **Work Positioning:** The structure to which the anchor point is attached must sustain static loads applied in the directions permitted by the work positioning system of at least 3,000 lbs., or twice the potential impact load, whichever is greater. When more than one work positioning system is attached to an anchorage, the strengths stated above must be multiplied by the number of work positioning systems attached to the anchorage.

### INSPECTION OF Ladder System:

#### WARNING!

If inspection reveals an unsafe or defective condition, remove the product from service and destroy it immediately.

- ❑ **Before each use of this equipment inspect it according to the following guidelines:**  
A formal inspection of fall protection products/components must be performed at least every six months by a competent person other than the user. The frequency of formal inspections should be based on conditions of use or exposure. Record the inspection results in the inspection and maintenance log at the end of this manual.
- ❑ **Inspecting the Anchor Point:**  
Step 1: Inspect the anchor points for distortion and structural damage, such as excessive bending, rust, or elongation.  
Step 2: Inspect the anchor points for damage or corrosion. Inspect for cracks or wear that may affect strength and operation.  
Step 3: Inspect the cable for any frays, rust or missing strands.  
Step 4: Inspect the system components according to the manufacturer's instructions.  
Step 5: Record the inspection results in the inspection log at the end of this manual.

#### WARNING!

### PLAN THE FALL PROTECTION SYSTEM:

Before installation plan your system. Consider all factors that will affect your safety during use of this equipment. The following list gives important points to consider when planning your system:

- **Anchorage:** Select a rigid anchorage capable of supporting the loads no less than 5,000 lbs. per worker attached.
- **Sharp Edges:** Avoid working where system components may be in contact with, or abrade against, unprotected sharp edges.
- **After a Fall:** Components which have been subjected to the forces of arresting a fall must be removed from service and destroyed.
- **Rescue:** The employer must have a rescue plan when using this equipment. The employer must have the ability to perform a rescue quickly and safely.

## USING THE LADDER SYSTEM:

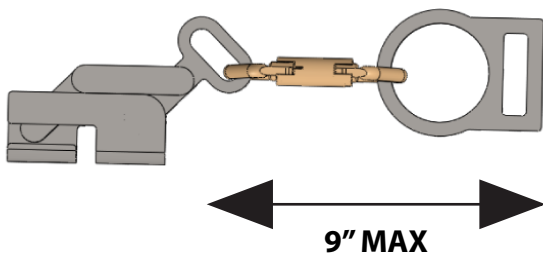
- The Ladder System can be installed onto any fixed ladder capable of supporting a 5,000lb load.
- Each anchor is designed for use as a component of a personal fall protection system, for use with one person in fall arrest
- Inspect tie off anchor placement structure for integrity and 5,000lbs. load capability in the direction of a fall before installation.
- Make only compatible connections.
- Avoid physical and chemical hazards that will deteriorate the equipment.
- MAXIMUM user weight capacity (including tools) is 310lbs. for safe use of PFAS.

## INSTALLATION OF THE LADDER SYSTEM:

- 1) Inspect contents, ensure that there are 3 mounting brackets, 6 U-Bolts, 12 nuts and lock washers for U-Bolts, 1 small ubolt for bottom assembly attachment with 2 nuts and lockwashers, 2 cable clamps with corresponding nuts and lock washers, 1 intermediary cable bracket for, every 25 feet of cable ordered.
- 2) Attach the top assembly with two mounting plates and supplied fasteners. Tighten using hand tools and do not over tighten.
- 3) Attach the bottom assembly with small ubolt and 1 mounting plate and supplied fasteners. Tighten with hand tools and do not over tighten.
- 4) Loop the unterminated end of the cable through the eyelette, pull tight and then terminate with the supplied cable clamps. Make sure that the eye bolt is at it's minimum adjustment. The eye will be at it's highest point in relation to the mounting bracket.
- 5) Tighten the eyelette until the two spring washers are sitting flush against each other.



- The Ladder System is to be attached to the structure using the supplied fasteners or a fastener that Guardian Fall Protection provides or an agreed upon alternative.
- Making Connections: When using a hook to connect to the Ladder System, ensure roll-out cannot occur. Roll-out occurs when interference between the hook and mating connector causes the hook gate to unintentionally open and release. Self-locking snap hooks and carabiners should be used to reduce the possibility of roll-out. Do not use hooks or connectors that will not completely close over the attachment object.



When connecting to the ladder system, do not use any connector that will allow a distance of more than 9" from your front D-Ring to the cable grab. Guardian strongly recommends the use of a 01813-S carabineer as shown in the picture to the left.

## TRAINING:

It is the responsibility of the user and the purchaser of this equipment to assure that they are familiar with these instructions, trained in the correct care and use of, and are aware of the operating characteristics, application limits, and the consequences of improper use of this equipment.

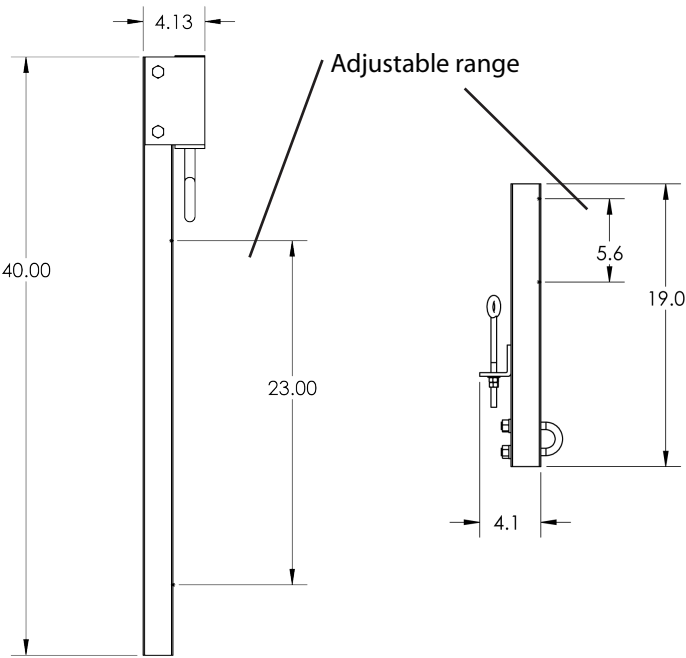
### WARNING!

Training should be conducted without exposing anyone to a fall hazard. Training should be repeated on a periodic basis in accordance with your organizations policy and compliance with OSHA regulations.

SPECIFICATIONS:

LADDER SYSTEM

**Material:** High tensile strength steel  
**Finish:** Galvanized  
**Fasteners:** Grade 5 Zinc plated



USER MUST INSPECT EQUIPMENT BEFORE EACH USE.  
COMPETENT PERSON TO INSPECT AND INITIAL AT LEAST EVERY 6 MONTHS.

Date of First Use												
YR.	J	F	M	A	M	J	J	A	S	O	N	D

Expiration Date is 5 years after recorded date of first use.

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