

QUADRO HORIZONTAL LIFELINE

Part # 30800



Instruction Manual



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✗ Do not throw instructions away.

⚠ Read and understand instructions before using this equipment.

Product Specific Applications



Fall Arrest: May be used to support a MAXIMUM 4 **Personal Fall Arrest System (PFAS)** for use in Fall Arrest applications. Structure must be capable of withstanding a minimum load of 5,000 lb (22,2 kN). Maximum free fall is 6 ft (1,8 m), or up to 12 ft (3,6 m) if used in combination with equipment explicitly certified for such use.

D-ring: Dorsal



Travel Restraint: May be used in Restraint applications by a MAXIMUM 4 users. Restraint systems prevent workers from reaching the leading edge of a fall hazard. Always account for fully deployed length of lanyard/SRL. Structure must withstand loads applied in the directions permitted by the system of at least 1,000 lb (4,4 kN). No free fall is permitted. Restraint systems may only be used on surfaces with slopes up to 4/12 (vertical/horizontal).

D-rings: Dorsal, Sternal, Hip (Pairs Only)

⚠ WARNING NEVER for simultaneous use in Fall Arrest and Restraint.

Applicable Safety Standards

Meets or exceeds:

- OSHA 1926.502
- OSHA 1910.140

Worker Classifications

- **Qualified Person:** A person with an accredited degree or certification, and with extensive experience or sufficient professional standing, who is considered proficient in planning/reviewing the conformity of fall protection and rescue systems.
- **Competent Person:** A highly trained and experienced person who is ASSIGNED BY THE EMPLOYER to be responsible for all elements of a fall safety program, including, but not limited to, its regulation, management, and application. A person who is proficient in identifying existing and predictable fall hazards, and who has the authority to stop work in order to eliminate hazards.
- **Authorized Person:** A person who is assigned by their employer to work around or be subject to potential existing fall hazards.

It is the responsibility of a Qualified or Competent person to supervise the job site and ensure all applicable safety regulations are complied with.

Permitted User Weight

- **User weight range (per user, including all clothing, tools, and equipment) is:**
Per User - 100-310 lb (45-141 kg)
- **Structure must be capable of withstanding a minimum load of 5,000 lb (22,2 kN).**
- ⚠ **NOTE** Always defer to applicable connecting device to determine permitted worker weight capacity range for complete system.

Limitations

Fall Clearance: There must be sufficient clearance below the work surface to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for a MINIMUM 2 ft (0,6 m) safety factor, deceleration distance, user height, length of connecting devices, harness stretch, free fall, and all other applicable factors.

See Diagram A on page 9.

Swing Falls: Prior to installation or use, make considerations for eliminating or minimizing all swing fall hazards. Swing falls occur when the anchor is not directly above the location where a fall occurs. Always work as close to in-line with the anchor point as possible. Swing falls significantly increase the likelihood of serious injury or death in the event of a fall.

Compatibility

When making connections to the harness, eliminate all possibility of roll-out. Roll-out occurs when interference between a connector and the attachment point causes the connector gate to unintentionally open and release.

See Diagram B on page 9.

All connections must be selected and deemed compatible with the harness by a Competent Person.

All connector gates must be self-closing, self-locking, and withstand a minimum load of 3,600 lb (16 kN).

Components



Materials

Polyester, galvanized steel, and powder-coated aluminum.

Specifications

⚠ WARNING! Never use tools to tension horizontal lifeline.

⚠ WARNING! Never pull tensioning lever away from device.

Part #	Length	Contents
30800	82 ft (25 m)	O-rings (4), Cross Arm Straps (2), Carabiners (2), Rope Vise Tensioner, Double-braided Rope, Carrying Bag

Installation and Use

Prior to use, plan your system:

- ⚠ WARNING!** For use in personal fall protection systems only. NEVER use for material handling and/or lifting.
- ⚠** Do not install at any angle other than horizontal.
- ⚠** Do not use in combination with pass-through anchors.
- ⚠** Do not use for Fall Arrest and Fall Restraint simultaneously.
- ⚠** Installation, set-up, and use of the Quadro Horizontal Lifeline system must be done under the supervision of a Qualified Person
- ⚠** Ensure all PFAS equipment is selected and deemed compatible by a Competent Person.

Step 1

Determine desired location for Quadro HLL; ensure location is free of debris, rot, decay, cracking, and hazardous materials. Eliminate or minimize all risk of swing fall.

Step 2

Ensure rope is properly threaded in tensioner by adhering to steps 3, 4, and 5.

Step 3

Unscrew knob on tensioner housing and open housing plate to reveal rope threading diagram as shown.

Step 4

Thread rope such that the anchor (live) and terminated (dead) end exit ensioner as indicated. Rope must sit in groove of drum. Close tensioner plate and tighten knob until snug.



Anchor (live) End



Terminated (dead) End



■ Step 5

Install compatible anchorage connector at first horizontal lifeline span termination point. Then, connect anchor (live) end of the Quadro Horizontal Lifeline to anchorage connector with a carabiner. Repeat at second horizontal lifeline span termination point by connecting the Quadro Horizontal Lifeline tensioner to second compatible anchorage connector.



Compress Tensioner Handle

■ Step 6

Pull initial rope slack through tensioner by hand. This step is only to remove excess rope slack, not to achieve proper tension.

■ Step 7

Compress and hold tensioner handle and rotate handle until correct tension is reached. Apply force to handle in turning direction only, as shown by arrow on handle.

■ Step 8

To confirm proper tension, locate midpoint of horizontal lifeline span. Rope sag must match data specified graph and table on pages 10-11. Never exceed specified sag. Sag less than specified is acceptable, but be sure to never over-tension rope. Always use sag method to ensure system is set correctly. Rope will slip to prevent over-tensioning, however it is not necessary to tension to this point. Never extend handle in any way to increase leverage.

See Diagrams C, D, and E on pages 10-11.



⚠ WARNING! Never use tools to tension horizontal lifeline.

⚠ WARNING! Never pull tensioning lever away from device.

Safety Information

⚠ WARNING! Failure to understand and comply with safety regulations may result in serious injury or death. Regulations included herein are not all-inclusive, are for reference only, and are not intended to replace a Competent Person's judgment or knowledge of federal or state standards.

⚠ CAUTION! Understand the definitions of those who work near, or who may be exposed to, fall hazards.

⚠ WARNING! Use of equipment in unintended applications may result in serious injury or death. Maximum 1 attachment per O-ring connection point.

Do not alter or misuse equipment.

Workplace conditions, including, but not limited to, corrosive chemicals, electrical shock, sharp objects or edges, machinery, flame/high heat, abrasive or uneven surfaces, UV exposure, and severe or prolonged weather conditions, must be assessed by a Competent Person (CP) before fall protection equipment is selected. The presence of any/all of these conditions may have negative effects on product performance or service lifetime.

The analysis of the workplace must anticipate where workers will be performing their duties, the routes they will take to reach their work, and the potential and existing fall hazards they may be exposed to. Fall protection equipment must be chosen by a C.P. Selections must account for all potential hazardous workplace conditions. All fall protection equipment should be purchased new and in an unused condition.

Fall protection systems must be designed and used in compliance with all safety regulations and must be selected and installed under the supervision of a CP. Forces applied to anchors must be calculated by a CP.

Harnesses and connectors selected must be compliant with manufacturer's instructions, and must be of compatible size and configuration. Snap hooks, carabiners, and other connectors must be selected and applied in a compatible fashion. All risk of disengagement must be eliminated. All snap hooks and carabiners must be self-locking and self-closing, and must never be connected to each other.

See Diagram B on page 9.

A pre-planned rescue procedure in the case of a fall is required. The rescue plan must be project-specific. The rescue plan must allow for employees to rescue themselves, or provide an alternative means for their prompt rescue to minimise post fall suspension time. Store rescue equipment in an easily accessible and clearly marked area.

Training of Authorised Persons (APs) to correctly erect, disassemble, inspect, maintain, store, and use equipment must be provided by a CP. Training must include the ability to recognise fall hazards, minimise the likelihood of fall hazards, and the correct use of personal fall arrest systems.

NEVER use fall protection equipment of any kind to hang, lift, support, or hoist tools or equipment, unless explicitly certified for such use.

Equipment subjected to forces of fall arrest must immediately be removed from use.

Age, fitness, and health conditions can seriously affect the worker should a fall occur. Consult a doctor if there is any reason to doubt a user's ability to safely withstand fall arrest forces or perform set-up of equipment. Pregnant women and minors MUST NOT use this equipment.

Physical harm may still occur even if fall safety equipment functions correctly. Sustained post-fall suspension may result in serious injury or death. Use trauma relief straps to reduce the effects of suspension trauma.

Labels

1



1

Guardian
Quadro Horizontal Lifeline
OSHA 1910.140 & 1926.502
U.S. Patent No. D819,429 S
Part # 30800 Serial # XX-XXXXX
DOM MM/YYYY Max # of Users: 4
Max User Weight: 310 lb (per user)
WARNING Anchorages must be sufficiently strong to withstand a load of 5,000 lb (22.2 kN)

guardianfall.com
90780 Rev. C

2



2

Warning! Do not pull lever away from device.
91454 (Rev. A-1)

3



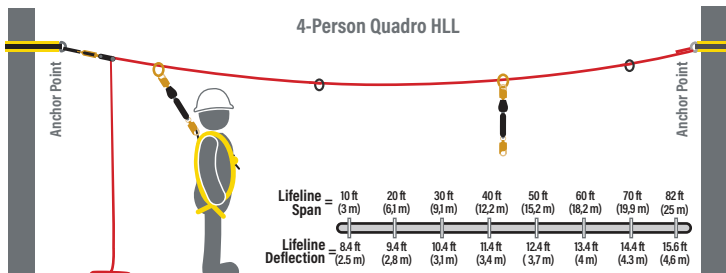
3

Do not use tools.
91454 (Rev. A-2)

Diagram A - Fall Clearance

Fall clearance calculation shown below is an example ONLY.

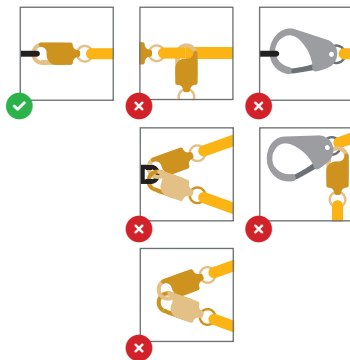
4-Person Quadro HLL



Note: In restraint applications, deflection is approximately 2% of the span length when tensioned correctly.

- Lifeline Deflection
- Free Fall
- Maximum Arrest Distance
- Harness Stretch - 1.5 ft
- Safety Factor - 2 ft
- Swing Fall

Diagram B - Connections



⚠ WARNING! Eliminate Swing Fall whenever possible! If swing fall exists, always account for additional fall clearance.

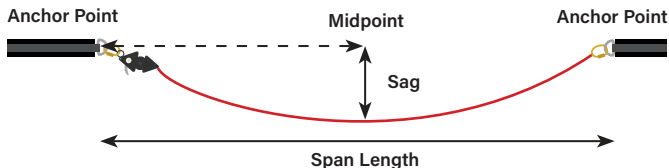
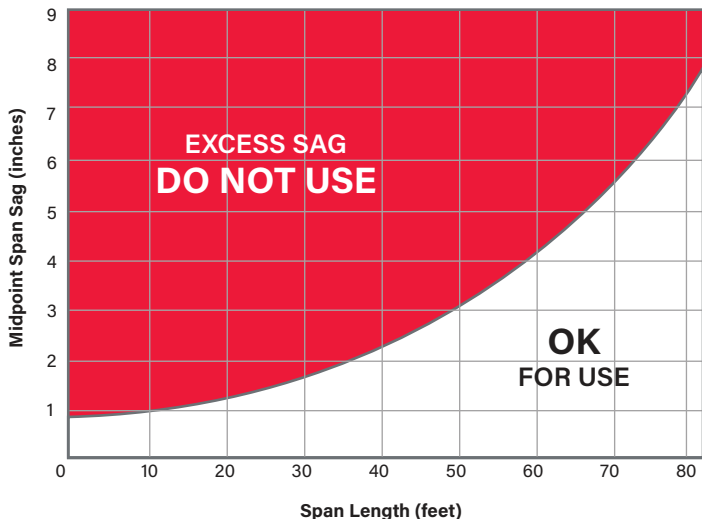
Diagram C - Span Sag Calculation**Diagram D - Span Sag Graph****Quadro Horizontal Lifeline Tension Guide**

Diagram E - Required Sag

Span Length	Required Sag at Midpoint
10 ft (3 m)	1.0 in (2,54 cm)
20 ft (6 m)	1.3 in (3,3 cm)
30 ft (9 m)	1.7 in (4,3 cm)
40 ft (12,2 m)	2.3 in (5,8 cm)
50 ft (15,2 m)	3.1 in (7,8 cm)
60 ft (18,2 m)	4.1 in (10,4 cm)
70 ft (21,3 m)	5.5 in (14 cm)
82 ft (25 m)	7.7 in (19,5 cm)

Inspection

See Inspection Log on page 11

Prior to EACH use, inspect the Quadro HLL, lifeline, and connection points for signs of deficiencies, including, but not limited to, corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, broken stitching, fraying, and missing or illegible labels. Careful inspection should be made at location where ratchet contacts web lifeline; excessive turns of ratchet drum may accelerate webbing wear. If webbing shows signs of wear, please replace only with Guardian-supplied webbing.

IMMEDIATELY remove Quadro HLL from service if defects or damage are found, or if exposed to forces of fall arrest.

If inspection shows distance between edge of black webbing on shock-pack is greater than 5 cm, the product has been exposed to excessive force and must not be used. See image below.

Any visual evidence of deployment is a primary indicator of excessive load - IMMEDIATELY remove Quadro HLL from service.

Ensure that applicable work area is free of all damage, including, but not limited to, debris, rot, rust, decay, cracking, and hazardous materials. Ensure that selected work area will support the application-specific minimum loads set forth in this instruction manual. Work area MUST be stable.

CP other than user must complete thorough inspection at least every 12 months or every 3 months if used in offshore or corrosive environments. In addition local regulations in regard to inspection must be followed. CP to inspect and initial. This inspection log must be specific to one Quadro HLL. Separate inspection logs must be used for each Quadro HLL. All inspection records must be made visible and available to all users at all times. If equipment fails thorough inspection it must be immediately from service and discarded or repaired.

During inspection, consider all applications and hazards the Quadro HLL has been subjected to. Ensure that device certification is current before use, this device must only be repaired by a Competent Person authorised by the manufacturer.



Inspection Log

Serial #:	Date of First Use:
Model #:	User:

Date:	Inspected By:	Results/Condition:	Next Inspection Date:

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WARRANTY: Guardian warrants to Buyer that all products are free from defects in material, workmanship, and design (if a Supplier-responsible design), however this warranty does not cover conditions resulting from normal wear and tear, neglect, abuse, accident or otherwise. Guardian's obligations under this warranty apply for the lifetime of the products and are limited to the replacement of product only. This warranty is not transferable to any other Guardian service and does not apply to product that is resold after having been put into service. No other person, firm, entity, or the like is authorized to assume or assign for Guardian any other liability in connection with the sale or use of Guardian's products. Furthermore, this warranty is void if any product is changed or altered in any way, or if the product is used in a manner other than for which it is intended. There are no implied warranties of merchantability or fitness for a particular purpose, which are specifically disclaimed.