

INSTRUCTION MANUAL

CSA Z259.2.2, Type 1

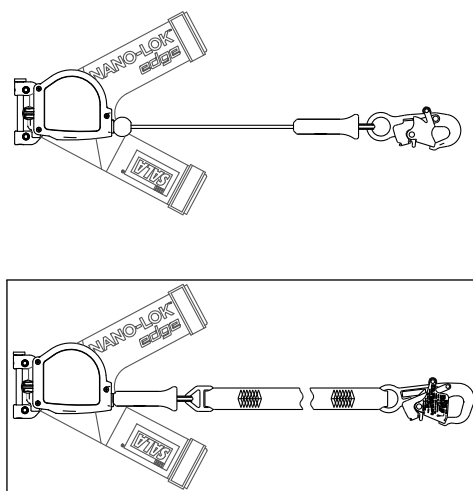
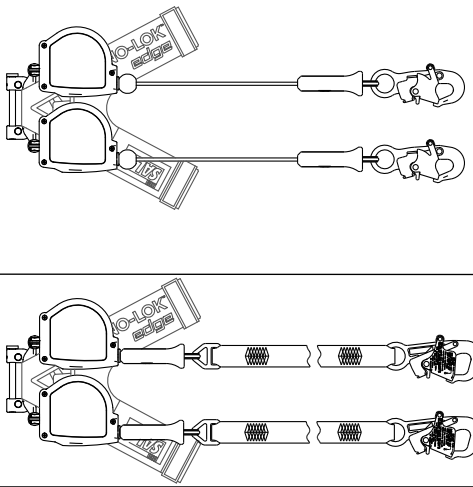
This manual is intended to meet the Manufacturer's Instructions as required by CSA Z259.2.2 and should be used as part of an employee training program.

NANO-LOK™

SELF RETRACTING LANYARDS

Model Numbers: (See Figure 1)

Figure 1 – Nano-Lok™ Edge Self Retracting Lanyard Models

		Nano-Lok Edge		Nano-Lok Edge WrapBax		9502116 Alloy Steel Snap Hook	9502195 Alloy Steel Swiveling Snap Hook	2000210 Alloy Steel Rebar Snap Hook	2000023 Aluminum Alloy Captive Eye Carabiner	9505254 Aluminum Alloy Snap Hook	2000209 Aluminum Alloy Rebar Snap Hook	2109193 Alloy Steel Rebar Snap Hook	9501804 WrapBax Alloy Steel Rebar Snap Hook		
Single SRL-LE Nano-Lok Edge Models		Model	Connectors - Lanyard End												
		3500217	1												
		3500218		1											
		3500219			1										
		3500221				1									
		3500222					1								
		3500223						1							
	3500252								1						
	WrapBax	3500220										1			
Twin SRL-LE Nano-Lok Edge Models		3500232	2												
		3500233		2											
		3500234			2										
		3500236				2									
		3500237					2								
		3500238						2							
		3500253								2					
	WrapBax	3500235											2		



WARNING: This product is part of a personal fall arrest, work positioning, or rescue system. The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. 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: Before using this equipment, record the product identification information from the ID label and iSafe RFID tag in the inspection and maintenance log of this manual.

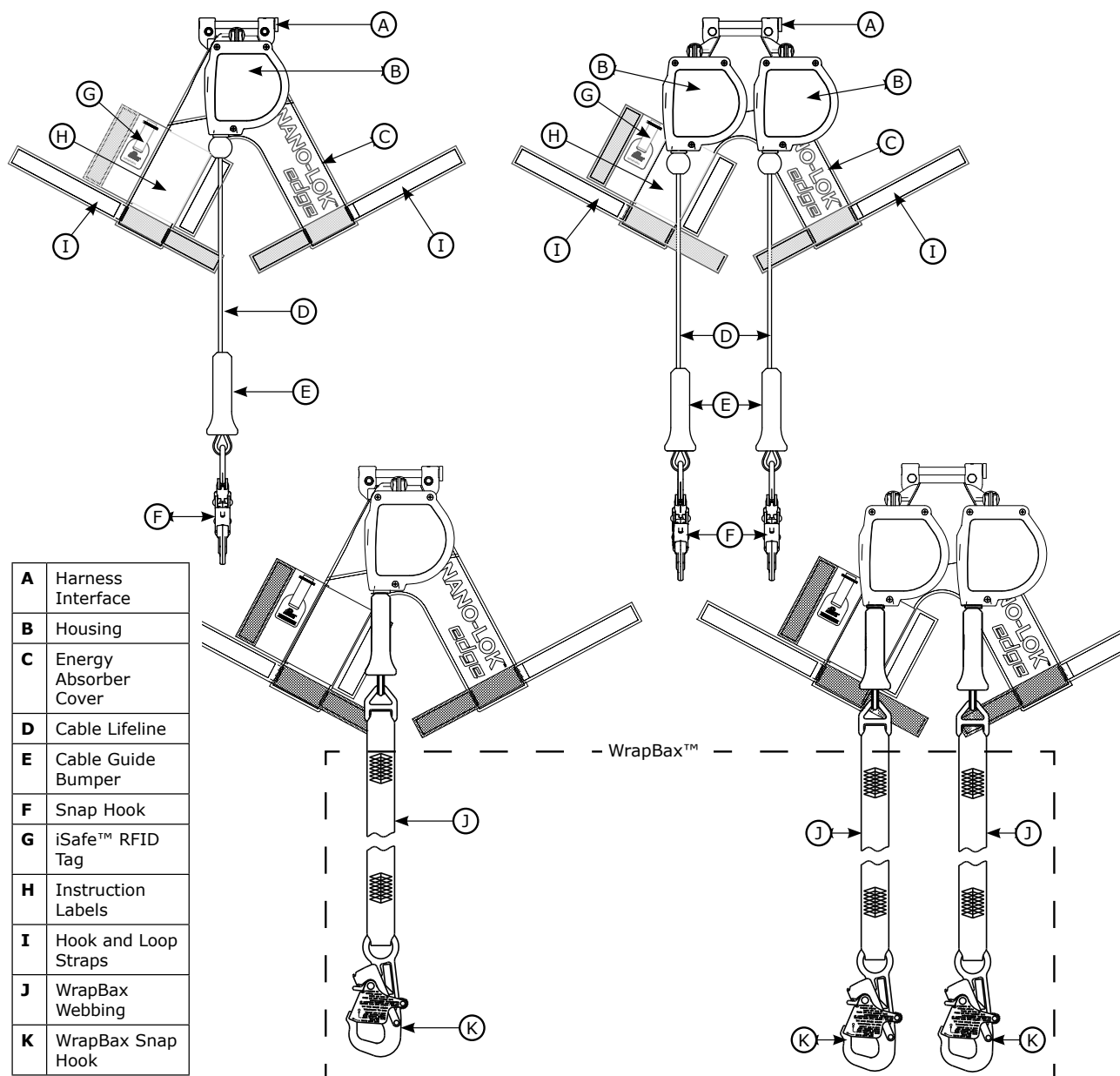
DESCRIPTIONS:

Figure 2 illustrates key components of Nano-Lok Edge™ Self Retracting Lanyards (SRL-LEs). The standard SRL-LEs contain 2.44 m (8 ft.) long galvanized wire rope lifelines of which 1.82 m (6 ft) retracts within the SRL-LE housing.

WrapBax™ SRL-LEs contain 1.8 m (6 ft.) long galvanized wire rope lifelines which retract within the SRL-LE housing. WrapBax™ SRL-LEs have an additional .91 m (3 ft) long web section that is used to attach to an anchorage.

The SRL-LEs are mounted at the dorsal D-ring location of the users full body harness. Models are available in both single and twin SRL-LE configurations which incorporate several snap hook, carabiner and WrapBax™ attachment options. The SRL-LEs include an integral energy absorber. The SRL-LEs automatically lock at the onset of a fall to arrest the falling worker, but pay out and retract during normal movement.

Figure 2 – Nano-Lok Edge Self Retracting Lifeline (SRL-LE) Components



1.0 APPLICATIONS

- 1.1 PURPOSE:** DBI/SALA Nano-Lok Edge™ Self Retracting Lanyards with leading edge capability (SRL-LEs) are designed for use in applications where falls may occur, including falls over edges, such as roofing, leading edge construction, etc. SRL-LEs are designed to be a component in a personal fall arrest system (PFAS). Figure 1 illustrates the SRL-LEs covered by this manual. SRL-LEs may be used in many situations where a combination of worker mobility and fall protection is required (i.e. inspection work, general construction, maintenance work, oil production, confined space work, etc.). The twin Nano-lok Edge models incorporate two SRL-LE units that can be used for applications where 100% tie-off is required.
- 1.2 STANDARDS:** Nano-lok Edge SRL-LEs conform to the national standard(s) identified on the ID label. Refer to local, provincial, and national requirements governing occupational safety for additional information regarding Personal Fall Arrest Systems. Refer to the following national standards on fall protection:

CSA	Z259.2.2	Self-Retracting Devices for Personal Fall Arrest Systems
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- 1.3 TRAINING:** This equipment is intended to be used by persons trained in its correct application and use. It is the responsibility of the user to assure they are familiar with these instructions and are trained in the correct care and use of this equipment. Users must be aware of the operating characteristics, application limits, and the consequences of improper use.

2.0 LIMITATIONS & REQUIREMENTS

Always consider the following limitations and requirements when installing or using this equipment:

- 2.1 CAPACITY:** The DBI/SALA Nano-Lok Edge Self Retracting Lanyard with Leading Edge capability (SRL-LE) is designed for use by one person with a combined weight (person, clothing, tools, etc.) of up to 141 kg (310 lbs) for all applications including Leading Edge. The DBI/SALA Nano-Lok Edge Self Retracting Lanyard may be used for capacities up to 190 kg (420 lbs) in limited applications but not for Leading Edge. See Section 2.12 and associated figures for use restrictions.
- 2.2 ANCHORAGE:** Anchorages selected for fall arrest systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
- 22.2 kN (5,000 lbs.) for non-certified anchorages, or
 - Two times the maximum arresting force for certified anchorages.

When more than one fall arrest system is attached to an anchorage, the strengths set forth in 2.2 1. and 2. above shall be multiplied by the number of systems attached to the anchorage.



WARNING: The anchor point must be located at the same height or above the edge over which a fall might occur. Workers over 141 kg (310 lbs) must not use these SRL-LEs where falls over edges may occur. Failure to heed this warning may result in equipment malfunction, serious injury, or death.

- 2.3 RESCUE PLAN:** When using this equipment, the employer must have a rescue plan and the means at hand to implement it and communicate that plan to users, authorized persons, and rescuers.



NOTE: Special rescue measures may be required for a fall over an edge.

- 2.4 INSPECTION FREQUENCY:** SRL-LEs shall be inspected by the authorized person¹ or rescuer² before each use. Additionally, inspections shall be conducted by a competent person³ other than the user. The competent person shall use the Nano-Lok Edge™ Self Retracting Lanyards Inspection Schedule and Checklist (Table 1) for appropriate inspection intervals and procedures. Results of the Competent Person inspection should be recorded in the "Inspection and Maintenance Log" on the back pages of these instructions or recorded with the i-Safe™ system (see Section 5).
- 2.5 LOCKING SPEED:** Situations which restrict the speed of a fall should be avoided. Working in confined or cramped spaces may not allow the body to reach sufficient speed to cause the SRL-LE to lock if a fall occurs. Working on slowly shifting material, such as sand or grain, may not allow enough speed buildup to cause the SRL-LE to lock. A clear path is required to assure positive locking of the SRL-LE.
- 2.6 NORMAL OPERATIONS:** Normal operation will allow the full length of the lifeline to extend and retract with no hesitation when extending and no slack when retracting as the worker moves at normal speeds. If a fall occurs, a speed sensing brake system will activate, stopping the fall. An external energy absorber will activate during fall arrest to absorb much of the energy created and reduce impact forces. Sudden or quick movements should be avoided during normal work operation, as this may cause the SRL-LE to lock up.
- 2.7 FREE FALL:** When anchored overhead, SRL-LEs will limit the free fall distance to 61 cm (2 ft.) or less. To avoid increased fall distances, anchor the SRL-LE directly above the work level. Avoid working where your lifeline may cross or tangle with that of another worker. Avoid working where an object may fall and strike the lifeline; resulting in loss of balance or damage to the lifeline. Do not allow the lifeline to pass under arms or between legs. Never clamp, knot, or prevent the lifeline from retracting or being taut. Avoid slack line. Do not lengthen SRL-LE by connecting a lanyard or similar component.
- 2.8 HAZARDS:** Use of this equipment in areas where surrounding hazards exist may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to: high heat, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, or overhead materials that may fall and contact the user or fall arrest system.

1 Authorized Person: A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard.

2 Rescuer: Person or persons other than the rescue subject acting to perform an assisted rescue by operation of a rescue system.

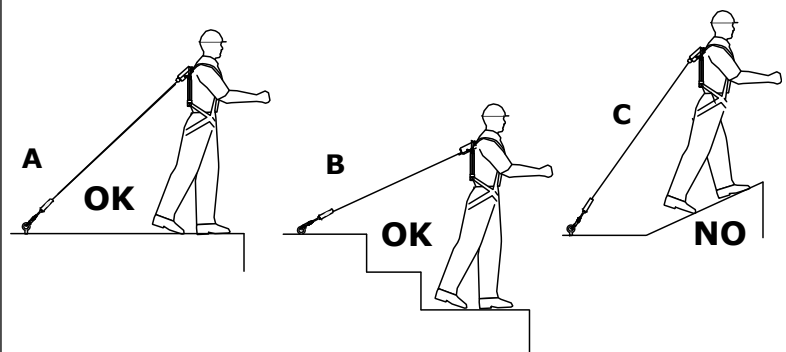
3 Competent Person: An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the employer's authority to take prompt corrective action with regard to such hazards.

- 2.9 SHARP EDGES:** The Nano-Lok Edge Self Retracting Lanyard has been successfully tested for horizontal use and for falls over a steel edge without burrs. As a result, the Nano-Lok Edge may be used in situations where a fall may occur over similar edges such as those found on steel shapes or metal sheeting. Tie-off (anchorage) level restrictions shown in Figures 5 and 6 must be observed. Avoid working where the lifeline will continuously or repeatedly abrade against sharp or abrasive edges. Eliminate such contact or protect edges using a heavy pad or other means.



WARNING: The allowable angle of redirection of the lifeline at the edge over which a fall might occur (see Figure 3 A, B and C.), measured between the two sides formed by the redirected lifeline (B in Figure 5D), must be at least 90 degrees. In other words, working above the level at which the SRL-LE is anchored (example: Figure 3 C) and being exposed to an edge hazard is dangerous because this will cause the lifeline to "redirect" at a sharper angle if a fall occurs and may cut or damage the lifeline. Failure to heed this warning may result in serious injury or death.

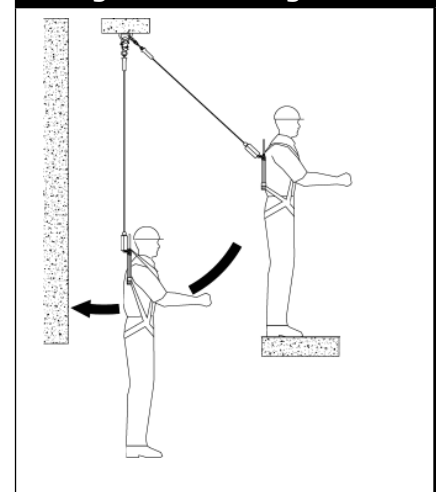
Figure 3 – Allowable Angle of Redirection



WARNING: Do not work on the far side of an opening, opposite the SRL-LE anchorage point. Failure to heed this warning may result in serious injury or death.

- 2.10 BODY SUPPORT:** A Full Body Harness must be used with the SRL-LE. The harness connection point must be above the user's center of gravity just below the harness back dorsal D-Ring. A body belt is not authorized for use with the Nano-Lok Edge SRL-LE. A fall occurring when using a body belt may cause unintentional release and/or injuries due to improper body support.
- 2.11 SWING FALLS:** Swing falls occur when the anchorage point is not directly above the point where a fall occurs (see Figure 4). The force of striking an object in a swing fall may cause serious injury. In a swing fall, the total vertical fall distance will be greater than if the user had fallen directly below the anchorage point, thus increasing fall clearance required to safely arrest the user. Use Figures 5A through 5D (6A through 6D for WrapBax) to determine the fall clearance for your application. Minimize swing falls by working as directly below the anchorage point as possible. Never permit a swing fall if injury could occur.
- 2.12 FALL CLEARANCE:** Figures 5A through 5D and 6A through 6D illustrate Fall Clearance requirements. Ensure adequate clearance exists in the fall path to prevent striking an object during a fall. If a user is working at a position that is not directly below the SRL-LE anchorage point, the clearance required and vertical fall distance increase. Figures 5D and 6D provide the clearance requirements when using the SRL-LE for leading edge applications.

Figure 4 – Swing Falls



DETERMINE FALL CLEARANCE REQUIRED: To determine the fall clearance required, measure the distance from the user's harness dorsal connection to the anchorage for the SRL-LE. Both horizontal and vertical distances are required. Use Figures 5A through 5D and 6A through 6D, depending on user total weight, to determine the required clearance. The dotted lines in the figures represent 0.3 m (1 ft) increments from the user's harness dorsal connection to the anchorage. For example, 2.4 m (8 ft) of clearance is required when the SRL-LE unit is anchored 1 m (3.5 ft) above and 1 m (3.5 ft) to the side of the user's harness dorsal connection for users up to 141 kg (310 lbs) and 3 m (10 ft) for users 141 kg (310 lbs) to 191 kg (420 lbs).



WARNING: The clearances provided above assume the fall occurs from the standing position. If the worker is kneeling or crouching an additional 0.9 m (3 ft) of clearance is needed. Failure to heed this warning may result in serious injury or death.

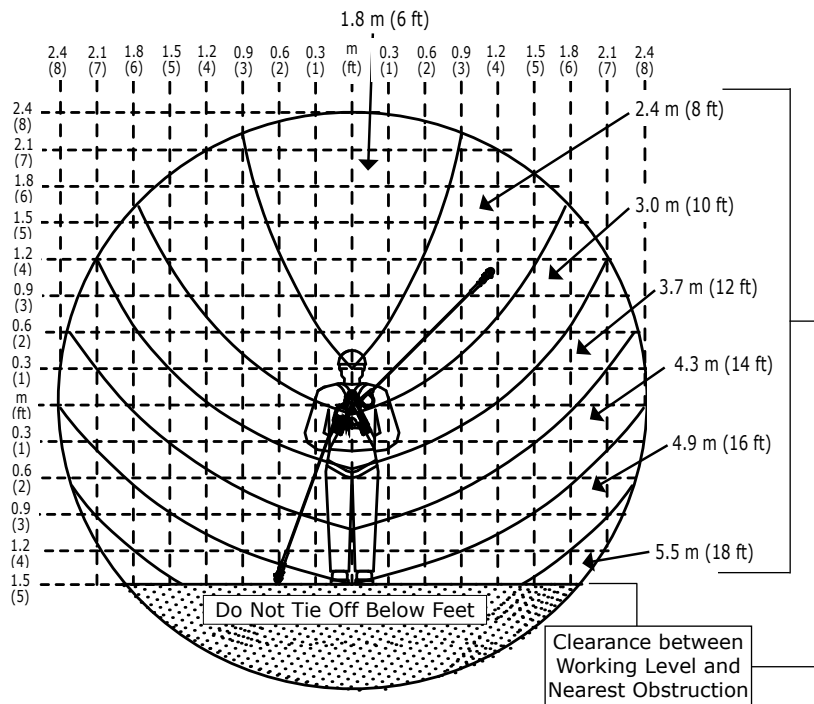


WARNING: Users between 141-191 kg (310 and 420 lbs): Users with a combined weight (person, clothing, tools, etc.) of 141-191 kg (310 lb to 420 lb) must never anchor the Nano-Lok more than 0.6 m (2 ft) below their harness dorsal connection. See Figure 5C and 6C. Failure to heed this warning may result in serious injury or death.

Figure 5 – Fall Clearance

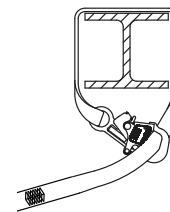
Figure 5A: User Total Weight up to 100 kg (220 lbs).

Clearance required in meters (feet) between working level and nearest obstruction for user with total weight up to 100 kg (220 lbs).



WrapBox Configuration

See Figure 5A
WrapBox webbing wrapped around anchor.



For straight connection of a Wrapbox hook to an anchor, see Figure 6A.

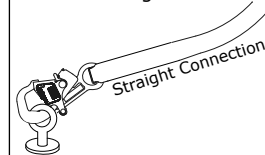
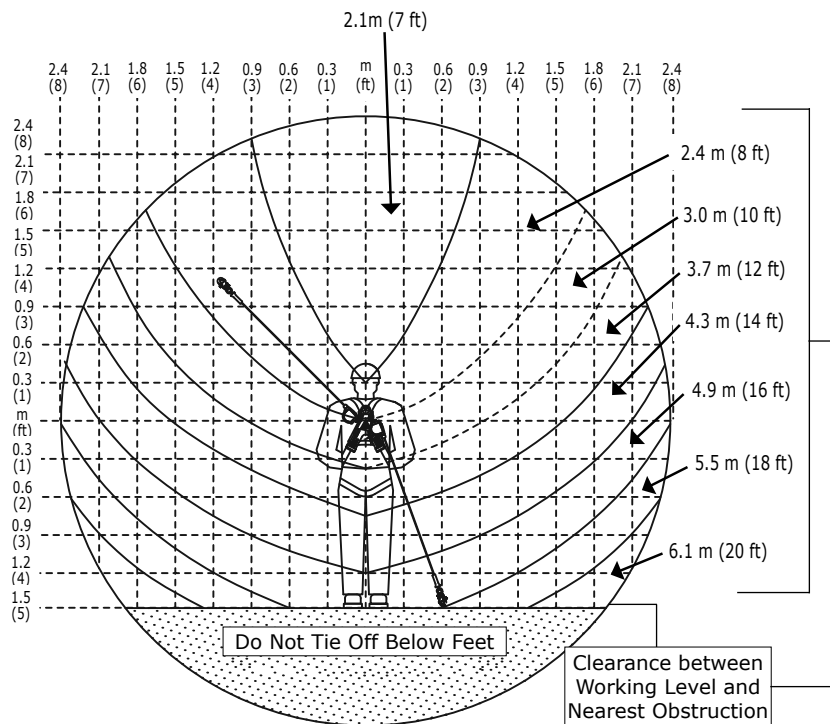


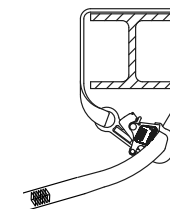
Figure 5B: User Total Weight up to 141 kg (310 lbs)

Clearance required in meters (feet) between Working Level and Nearest Obstruction for User with total weight up to 141 kg (310 lbs).



WrapBox Configuration

See Figure 5B
WrapBox webbing wrapped around anchor.



For straight connection of a Wrapbox hook to an anchor, see Figure 6B.

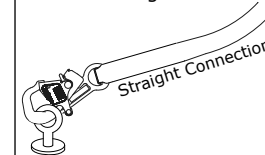


Figure 5 – Fall Clearance

Figure 5C: User Total Weight up to 191 kg (420 lbs)

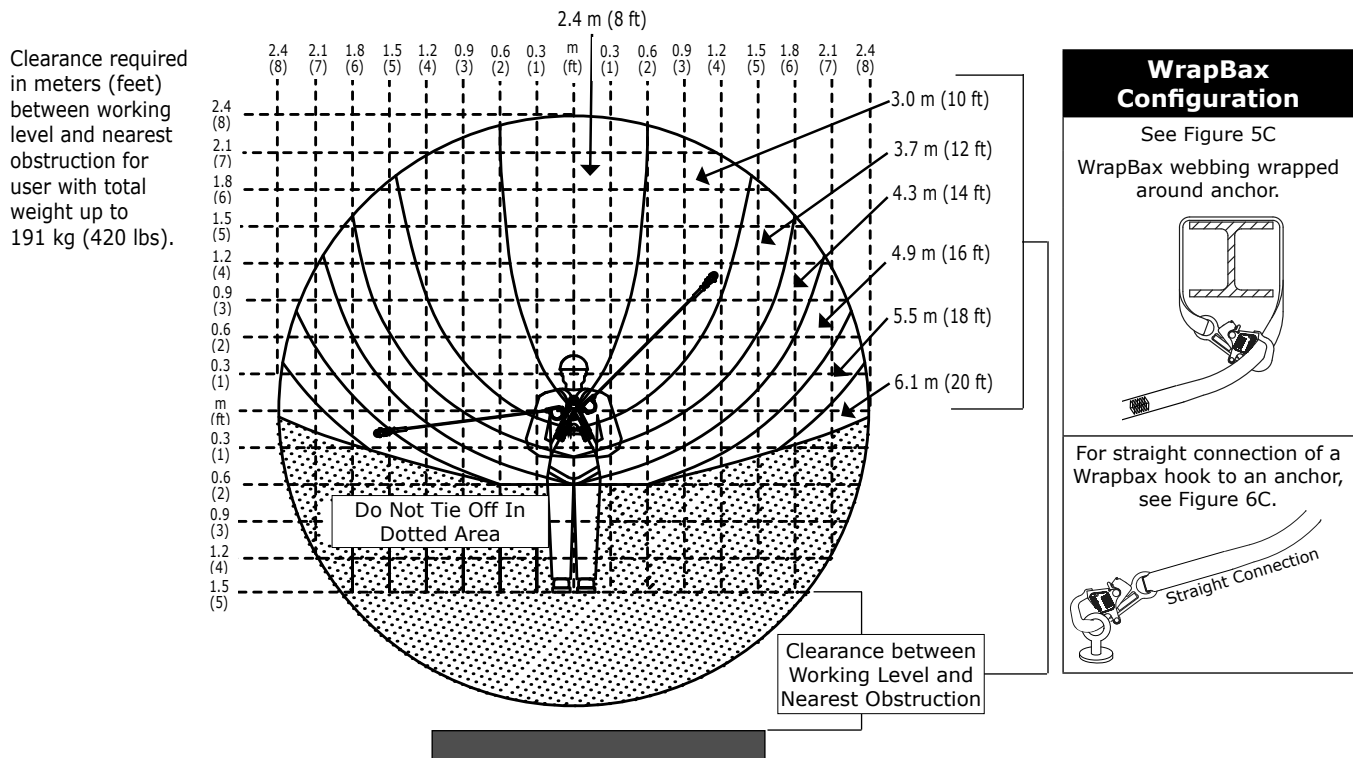


Figure 5D: Edge Clearance, All Models Except WrapBox

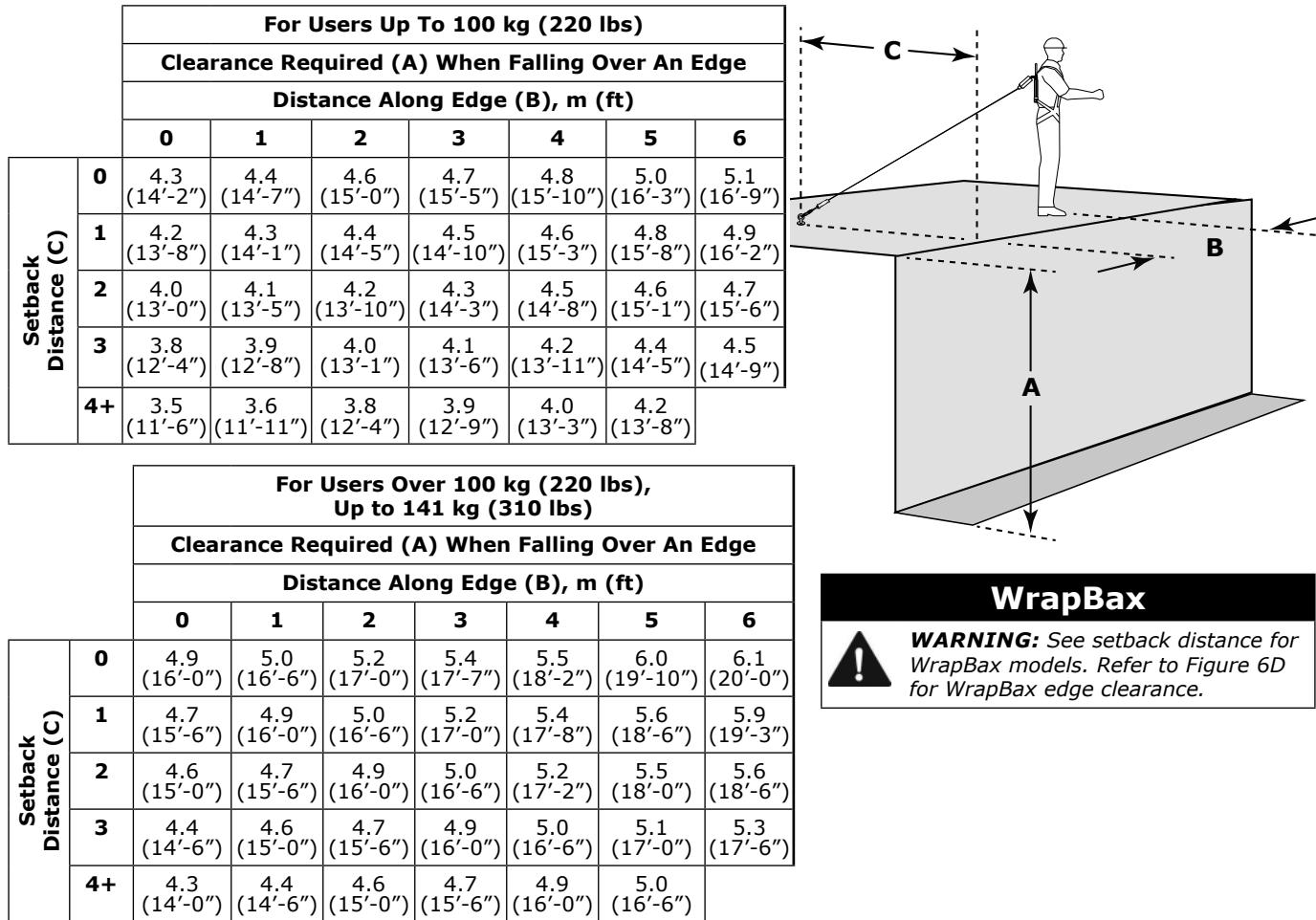


Figure 6 – Fall Clearance - WrapBax Snap Hook to Anchor, Straight Connection

Figure 6A: User Total Weight up to 100 kg (220 lbs).

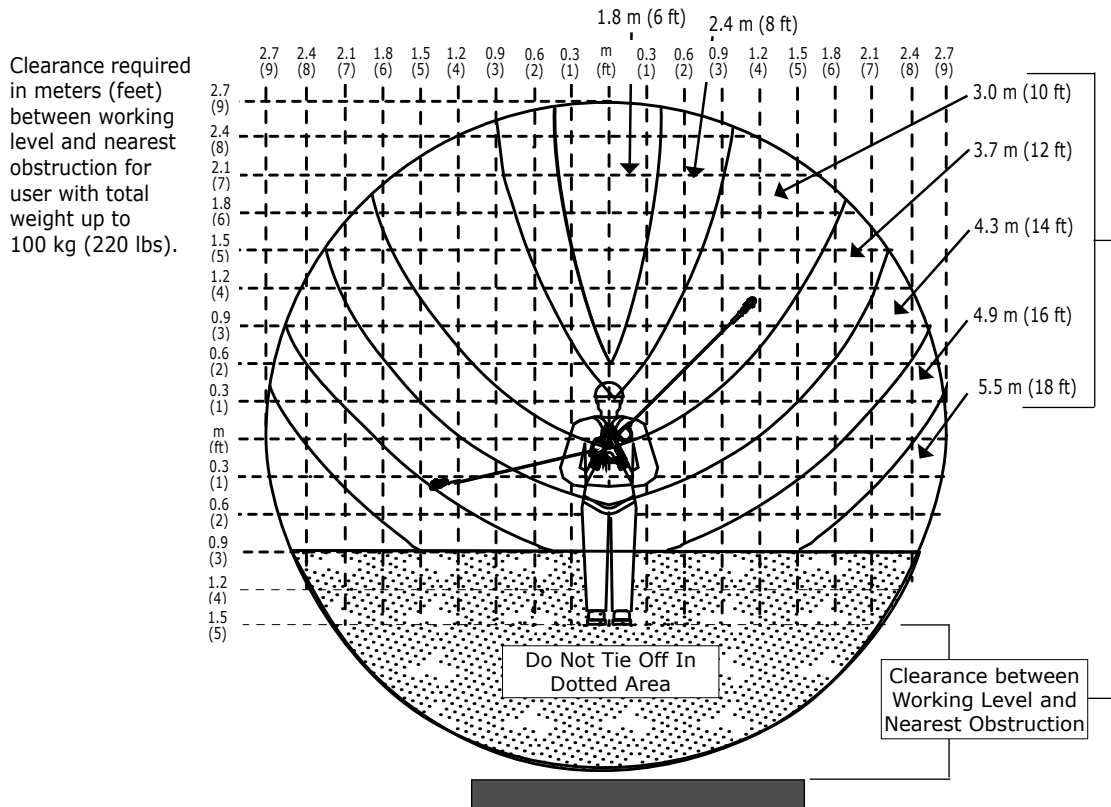


Figure 6B: User Total Weight up to 141 kg (310 lbs)

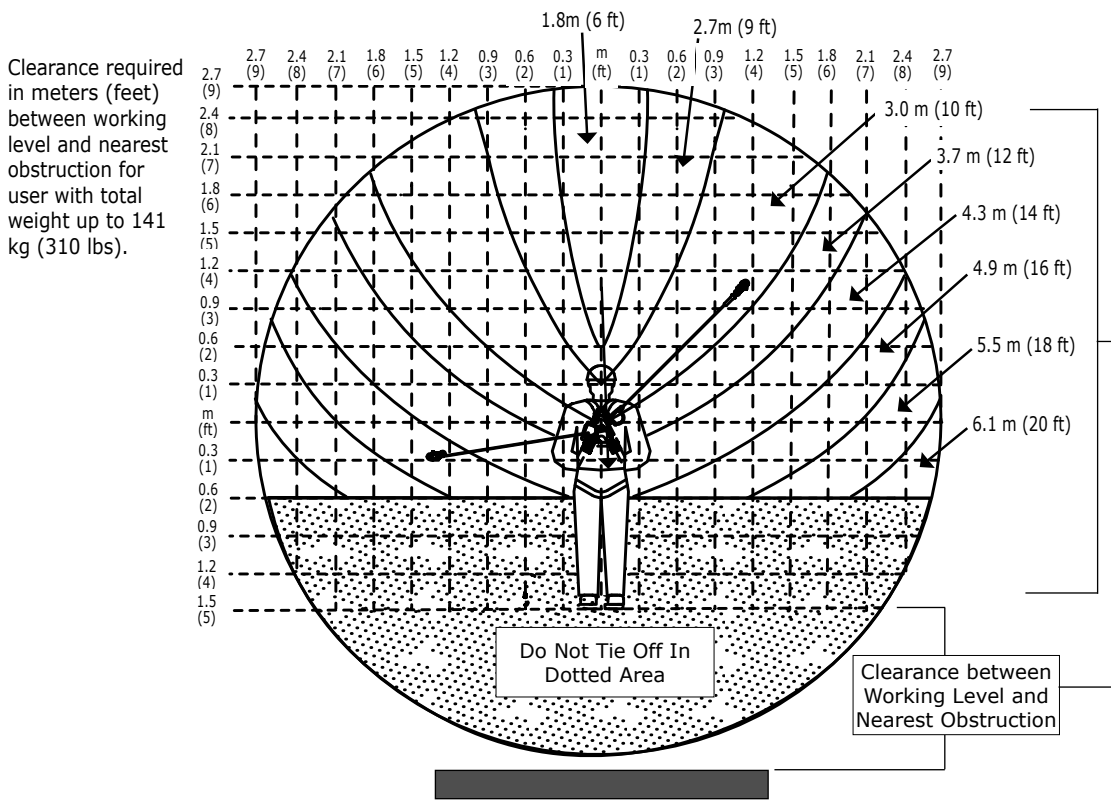


Figure 6 – Fall Clearance - WrapBax Snap Hook to Anchor, Straight Connection

Figure 6C: User Total Weight up to 191 kg (420 lbs)

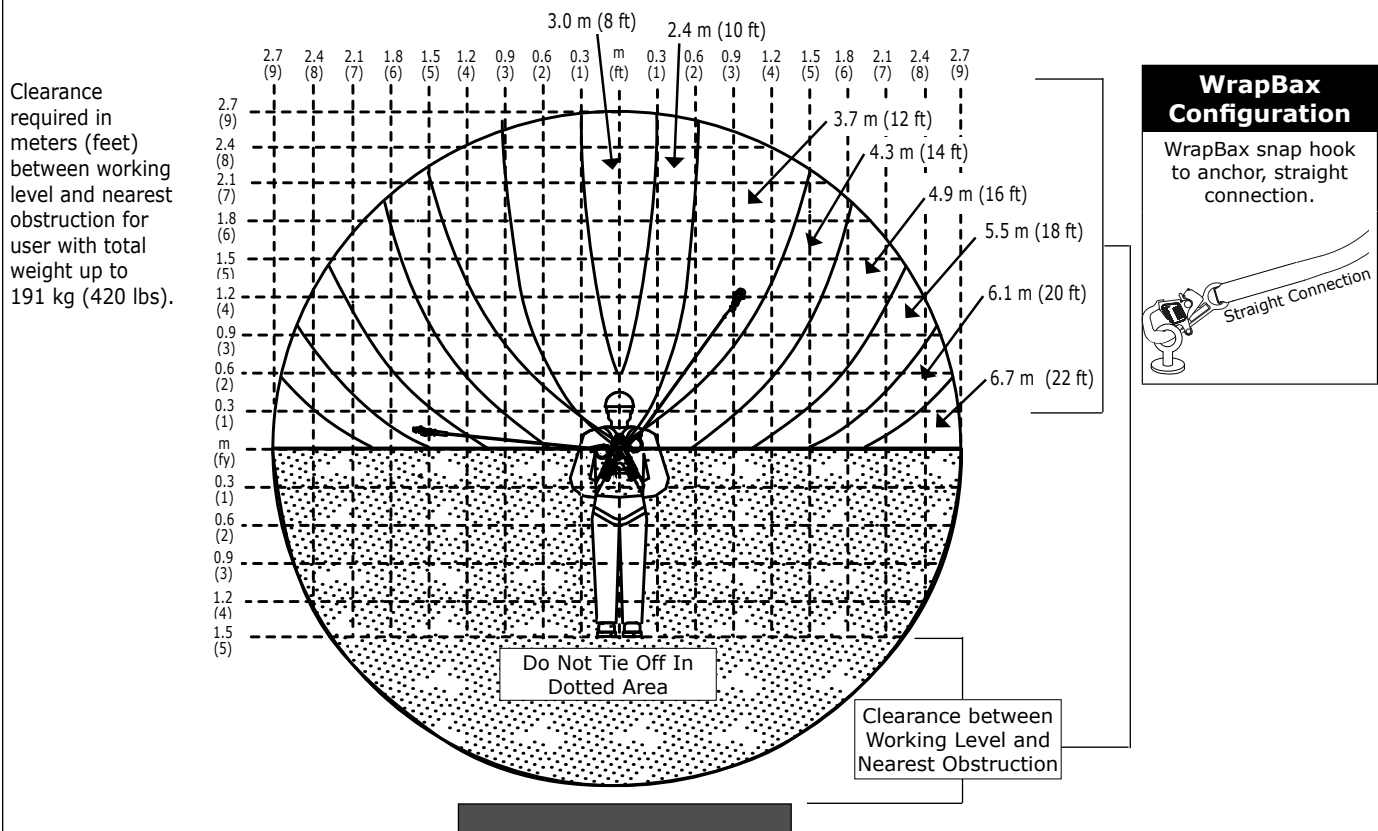
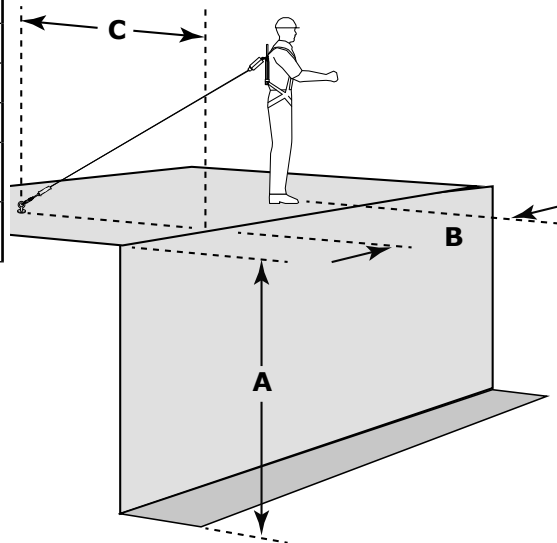


Figure 6D: Edge Clearance, WrapBax Models

For Users Up To 100 kg (220 lbs)							
Clearance Required (A) When Falling Over An Edge							
Distance Along Edge (B), m (ft)							
	0	1	2	3	4	5	6
Setback* Distance (C)	2	4.0 (13'-0")	4.1 (13'-5")	4.2 (13'-10")	4.3 (14'-3")	4.5 (14'-8")	4.6 (15'-1")
	3	3.8 (12'-4")	3.9 (12'-8")	4.0 (13'-1")	4.1 (13'-6")	4.2 (13'-11")	4.4 (14'-5")
	4+	3.5 (11'-6")	3.6 (11'-11")	3.8 (12'-4")	3.9 (12'-9")	4.0 (13'-3")	4.2 (13'-8")

For Users Over 100 kg (220 lbs), Up to 141 kg (310 lbs)							
Clearance Required (A) When Falling Over An Edge							
Distance Along Edge (B), m (ft)							
	0	1	2	3	4	5	6
Setback* Distance (C)	2	4.6 (15'-0")	4.7 (15'-6")	4.9 (16'-0")	5.0 (16'-6")	5.2 (17'-2")	5.5 (18'-0")
	3	4.4 (14'-6")	4.6 (15'-0")	4.7 (15'-6")	4.9 (16'-0")	5.0 (16'-6")	5.1 (17'-0")
	4+	4.3 (14'-0")	4.4 (14'-6")	4.6 (15'-0")	4.7 (15'-6")	4.9 (16'-0")	5.0 (16'-6")



* A minimum setback distance of .6 m (2 ft) is required when using Nano-Lok Edge Self Retracting Lifelines incorporating WrapBax attachment.

2.14 COMPATIBILITY OF COMPONENTS: Unless otherwise noted, Capital Safety equipment is designed for use with Capital Safety approved components and subsystems only. Substitutions or replacements made with non approved components or subsystems may jeopardize compatibility of equipment and may affect safety and reliability of the complete system.



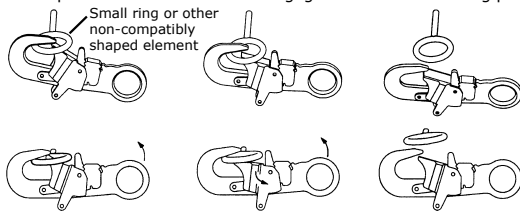
IMPORTANT: Read and follow manufacturer's instructions for associated components and subsystems in your personal fall arrest system.

2.15 COMPATIBILITY OF CONNECTORS: Connectors are 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. Contact Capital Safety if you have any questions about compatibility.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 22.2 kN (5,000 lbs). 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 7). Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required by CSA.

Figure 7 – Unintentional Disengagement

If the connecting element to which a snap hook (shown) or carabiner attaches 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.

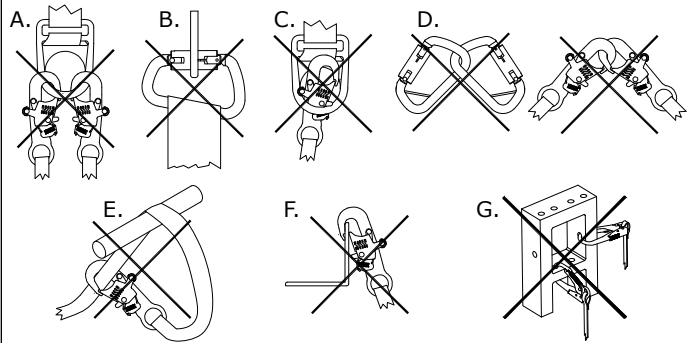


Force is applied to the Snap Hook.

The Gate presses against the Connecting Ring.

The Gate opens allowing the Snap Hook to slip off.

Figure 8 – Inappropriate Connections



2.16 MAKING CONNECTIONS: Snap hooks and carabiners used with this equipment must be self-locking. 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's instructions. See Figure 8 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- A. To a D-ring to which another connector is attached.
- B. In a manner that would result in a load on the gate.



NOTE: Large throat snap hooks must 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, unless the snap hook is equipped with a 16 kN (3,600 lb) gate. Check the marking on your snap hook to verify that it is appropriate for your application.

- 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. By wrapping cable lifeline around anchorage and securing to lifeline except as allowed for WrapBax models. (See Section 4.5)
- 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.
- G. In a manner that does not allow the connector to align properly while under load.

3.0 INSTALLATION

- 3.1 PLANNING:** Plan your fall protection system before starting your work. Account for all factors that may affect your safety before, during, and after a fall. Consider all requirements and limitations defined in Section 2.
- 3.2 HARNESS MOUNTING:** Nano-Lok Edge SRL-LEs include an interface for mounting on a Full Body Harness just below the Dorsal D-Ring. The worker can then connect the lifeline end of the SRL-LE to anchorage points located throughout the work site. To mount the Nano-Lok Edge SRL-LE on a Full Body Harness (see Figure 9):

- 1. Loosen the Harness Webbing:** Pull out on both Shoulder Straps (A) where they pass through the bottom of the Dorsal D-Ring (B) until there is sufficient space to slide the locking pin between the Shoulder Straps and Back Pad.
- 2. Open the Harness Interface:** Push down on the Locking Buttons (C) simultaneously and slide the Locking Pin (D) out.



NOTE: Both locking buttons must be fully depressed to allow the locking pin to slide out. To slide the locking pin open, apply firm pressure to both locking buttons with the thumbs while simultaneously pulling on the locking pin head with an index finger.

- 4. Insert the Locking Pin Through the Shoulder Straps:** With the Locking Buttons (C) facing out and the Locking Pin facing up, insert the Locking Pin (D) of the Harness Interface (E) behind the Shoulder Straps (A) and lock in place. Pull the Shoulder Straps back through the Dorsal D-Ring and Back Pad to remove slack.
- 5. Connect Hook and Loop Straps around the Shoulder Straps:** Open the hook and loop straps located on the bottom of the Energy Absorber Pack. Wrap the hook and loop straps (F) around the shoulder straps and secure.



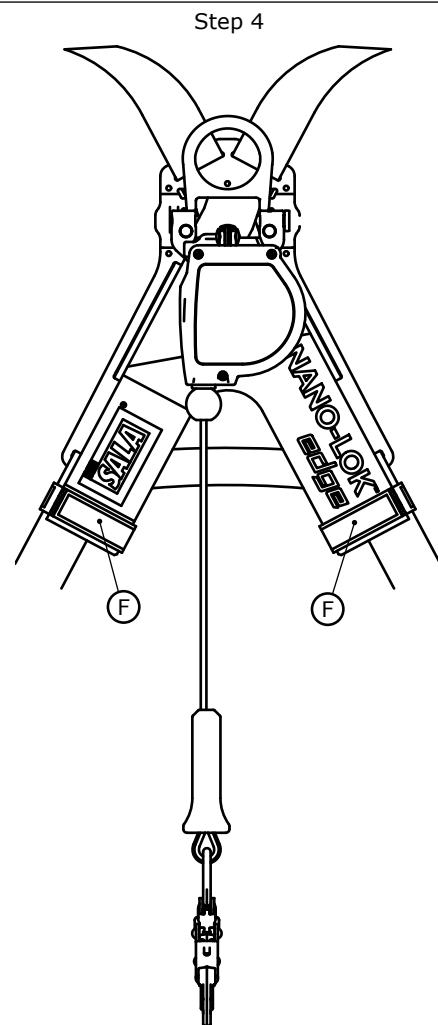
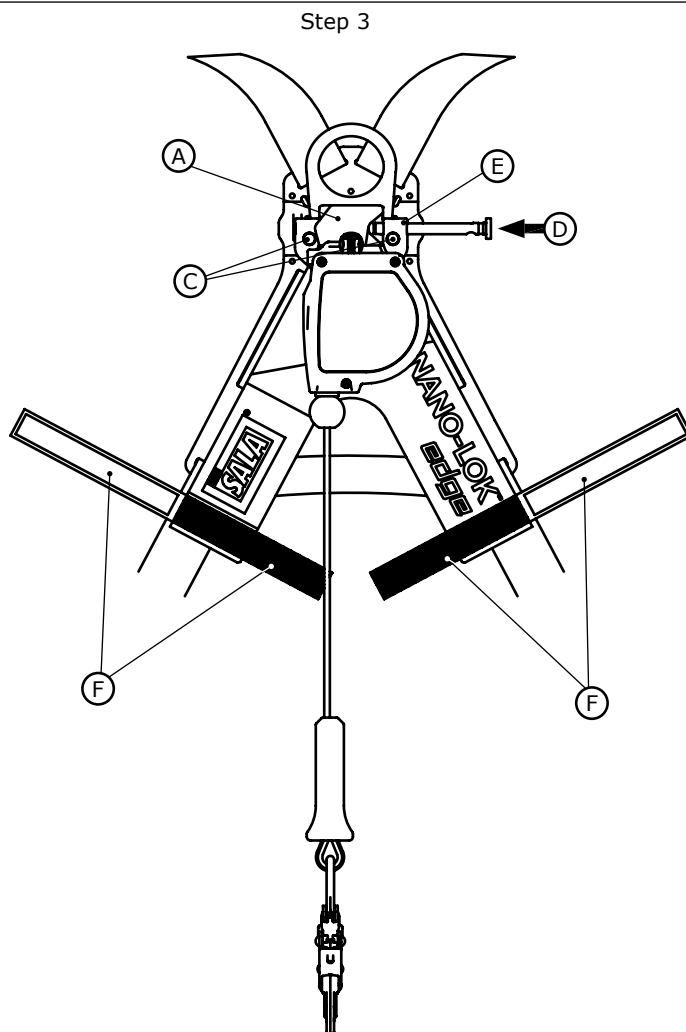
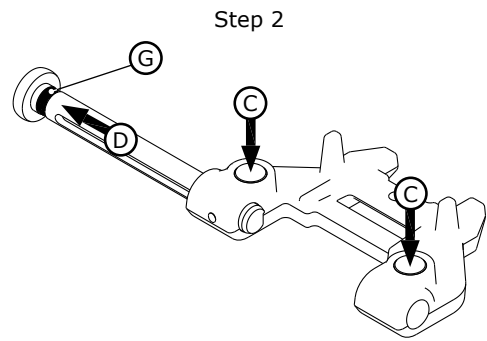
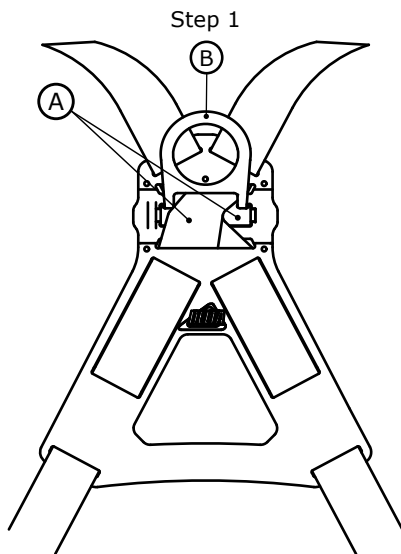
WARNING: The Red Band (G) on the knob end of the Harness Interface Locking Pin will be exposed if the Harness Interface is unlocked. To avoid accidental release of the connection, always make sure the Harness Interface is locked (the Red Band will not be visible) before using the Harness and attached Nano-Lok Edge SRL-LE. Failure to do so could result in serious injury or death.



NOTE: It is also acceptable to connect the Nano-Lok Edge SRL-LE to the Harness Dorsal D-Ring with the Adapter Loop (P/N 3500046). Attachment Strap (P/N 3100184) can be used to secure the bottom of the Nano-Lok Edge Pack when the harness geometry precludes the use of the integral hook and loop straps. See Appendix A For more information.

- 3.3 ANCHORAGE:** Figure 10 illustrates typical Nano-lok Edge lifeline anchorages and connections. Select an anchorage location with minimal free fall and swing fall hazards (see Section 2). Select a rigid anchorage point capable of sustaining static loads as defined in Section 2.2. Where anchoring overhead is not feasible, Nano-Lok Edge SRL-LEs may be secured to anchorage points below the level of the user's Dorsal D-Ring. For users up to 141 kg (310 lbs), the anchorage point must not be more than 1.52 m (5 ft) below the Dorsal D-Ring. For users exceeding 141 kg (310 lbs), up to 191 kg (420 lbs), the anchorage point must not be more than 0.6 m (2 ft) below the Dorsal D-Ring and higher when connecting off to the user's left or right side. See Figure 3 A, B and C.

Figure 9 – Single SRL-LE Harness Interface



A - Shoulder Straps **B** - Dorsal D-Ring **C** - Locking Buttons **D** - Locking Pin **E** - Harness Interface **F** - Hook and Loop Straps
G - Red Band on Locking Pin

4.0 USE



WARNING: Do not alter or intentionally misuse this equipment. Consult Capital Safety when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, sharp edges, or overhead materials that may fall onto the lifeline. Do not loop the lifeline around structural members. Only the WrapBax models may be used to wrap around structural members (see Section 4.5). Failure to heed this warning may result in equipment malfunction, serious injury or death.



WARNING: Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use DBI-SALA self retracting lifelines. Failure to heed this warning may result in serious injury or death.

- 4.1 OPERATION:** Prior to use, inspect the SRL-LE as described in Section 5.0. Figure 10 shows system connections for typical Nano-Lok Edge SRL-LE applications. Mount the Nano-lok Edge SRL-LE on the back of a Full Body Harness per the instruction in Section 3.2. Connect the snap hook, carabiner or WrapBax™ attachment to a suitable anchorage. Ensure connections are compatible in size, shape, and strength (see Section 2.15). Ensure hooks are fully closed and locked. Once attached, the worker is free to move about within the recommended working area. If a fall occurs the SRL-LE will lock and arrest the fall. Upon rescue, remove the SRL-LE from use. When working with an SRL-LE, always allow the lifeline to retract back into the device under control.



WARNING: Do not tie or knot the lifeline. Avoid lifeline contact with sharp or abrasive surfaces. Inspect the lifeline frequently for cuts, fraying, burns, or signs of chemical damage. Dirt, contaminants, and water can lower dielectric properties of the lifeline. Use caution near power lines. Failure to heed this warning may result in serious injury or death.

- 4.2 AFTER A FALL:** Any equipment which has been subjected to the forces of arresting a fall or exhibits damage consistent with the effect of fall arrest forces as described in Section 5, must be removed from service immediately, marked "UNUSABLE", and disposed of in the recommended manner (see "Section 5.6 - Disposal").
- 4.3 BODY SUPPORT:** A full body harness must be worn when using Nano-Lok Edge SRL-LEs. Connect the Nano-lok Edge SRL-LE to the user's harness shoulder straps just below the back (dorsal) D-ring. See Section 3.2.



IMPORTANT: Do not use a body belt for free fall applications.

- 4.4 MAKING CONNECTIONS:** Figure 10 illustrates harness and anchorage connections for Nano-Lok Edge SRL-LE Fall Arrest Systems. When using a snap hook to make a connection, ensure unintended disengagement cannot occur (see Sections 2.14, 2.15 and 2.16). Do not use snap hooks or carabiners that will not completely close over the attachment object. Do not use non-locking snap hooks. The anchorage must meet the anchorage strength requirements stated in Section 2.2. Follow the manufacturer's instructions supplied with each system component.
- 4.5 WRAPBAX™ ATTACHMENT:** WrapBax snap hooks operate in the same manner as many conventional snap hooks. (See Figure 10D.) Gripping the hook in one hand, the index finger depresses the locking mechanism (E). With the thumb, the gate latch is pulled back (F). As the gate latch is pulled back, the gate will open. Release the grip and the gate will close. Wrap the WrapBax portion of the lifeline around an appropriate anchor (G), then open the gate of the WrapBax snap hook and pass the WrapBax web portion of the lifeline through the snap hook. The lifeline may only pass through the WrapBax hook once. Make sure the Wrapbax portion of the lifeline is captured and the gate closes completely.

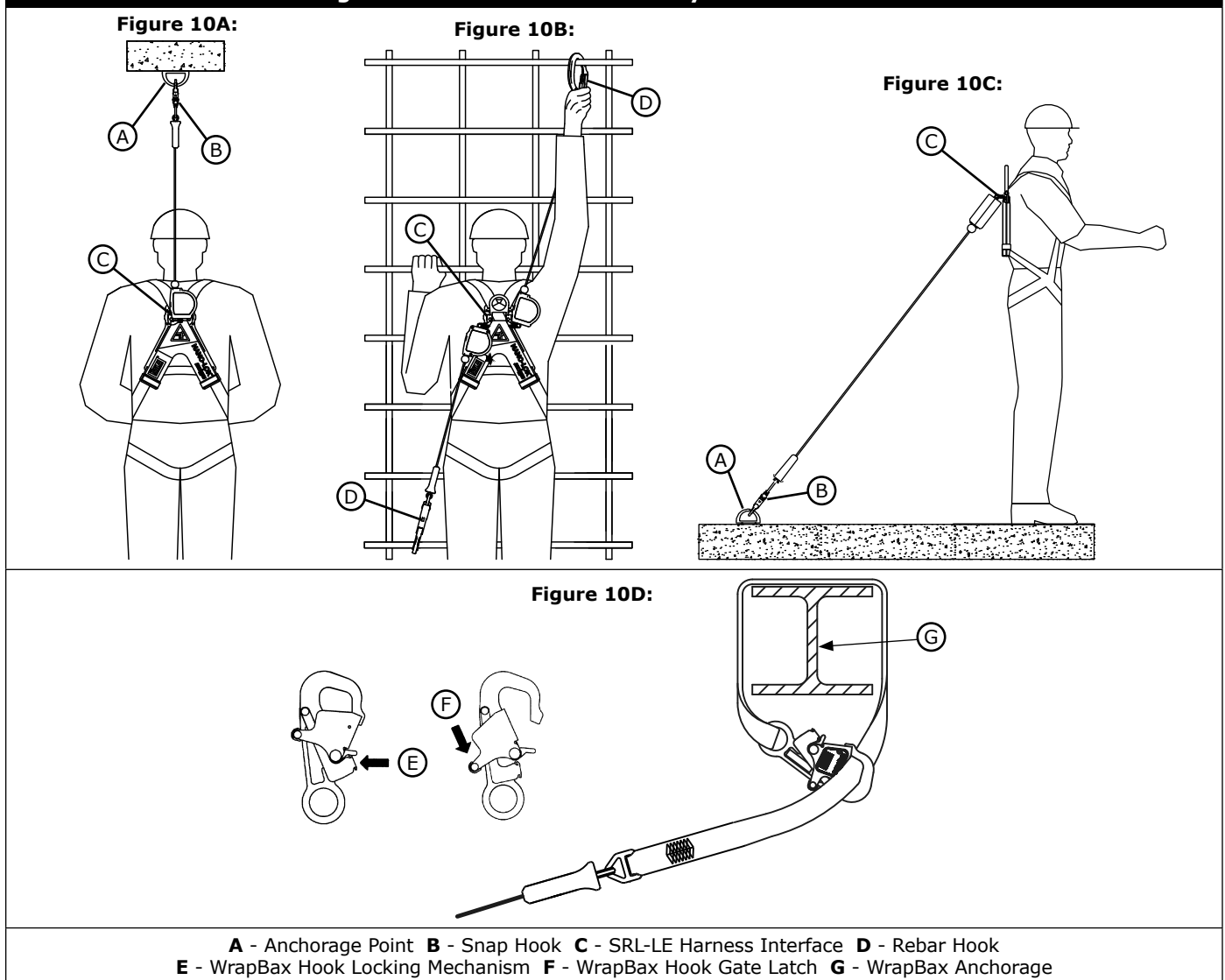


WARNING: Only the WrapBax hook may be used to snap back onto the WrapBax portion of the SRL-LE Lifeline. When installed, the WrapBax hook must contact the heavy web section (WrapBax portion of the lifeline). If the anchor structure is so large that the WrapBax hook contacts the lifeline above the WrapBax portion of the lifeline, a different anchor structure must be used. Failure to heed this warning may result in equipment malfunction, serious injury, or death. Failure to heed this warning may result in equipment malfunction, serious injury or death.



WARNING: Never connect the WrapBax snap hook of one SRL-LE to the lifeline of another SRL-LE or lanyard. Failure to heed this warning may result in equipment malfunction, serious injury or death.

Figure 10 – Nano-Lok SRL-LE System Connections



4.6 TWIN LEG NANO-LOK EDGE SRL-LEs: With the twin leg Nano-Lok Edge SRL-LEs mounted on the back of a Full Body Harness, the user can have continuous fall protection (100 % tie-off) while ascending, descending, or moving laterally (see Figure 10B). With the lifeline leg of one SRL-LE attached to an anchorage point, the worker can move to a new location, attach the unused lifeline leg of the other SRL-LE to another anchorage point, and then disconnect from the original anchorage point. The sequence is repeated until the worker reaches the desired location. Considerations for twin leg 100% tie-off applications include the following:

- Connection of each SRL-LE leg to a separate anchorage point is acceptable.
- Never connect more than one person at a time to the twin-leg system.
- Do not allow the lifelines to become tangled or twisted together as this may prevent them from retracting.
- Do not allow the lifelines to pass under arms or between legs during use.

4.7 HORIZONTAL SYSTEMS: In applications where the Nano-Lok Edge SRL-LE is used in conjunction with a horizontal system (i.e. Horizontal Lifeline, Horizontal I-Beams Trolley), the SRL-LE snap hook and horizontal system components must be compatible. Horizontal systems must be designed and installed under the supervision of a qualified engineer. Consult the horizontal system equipment manufacturer's instructions for details.

5.0 INSPECTION

5.1 BEFORE EACH USE: Before each use of this fall protection equipment carefully inspect it to assure it is in good working condition. Check for worn or damaged parts. Ensure all bolts are present and secure. Check that the lifeline is retracting properly by pulling out the line and allowing it to slowly retract. If there is any hesitation in retraction, remove the SRL-LE from service, mark "UNUSABLE", and dispose of in the recommended manner (see "Section 5.5 - Disposal"). Inspect the lifeline for cuts, frays, burns, crushing and corrosion. Check locking action by pulling sharply on the line. See this Table 1 for inspection details.

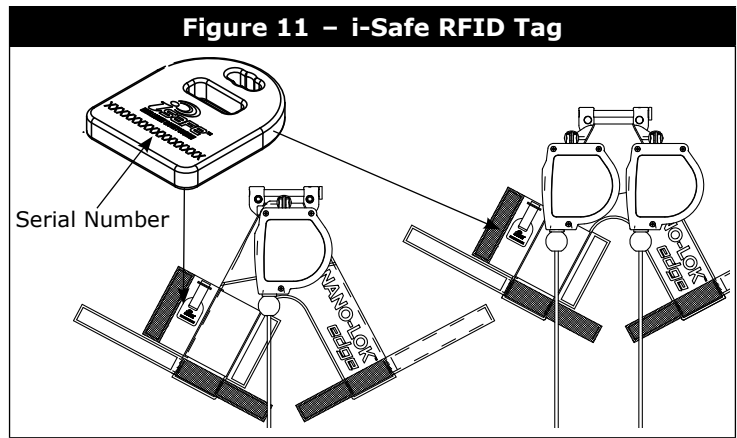
5.2 i-Safe™ RFID TAG: The Nano-Lok Edge SRL-LE includes an i-Safe™ Radio Frequency Identification (RFID) tag. (See Figure 11) The RFID tag can be used in conjunction with the i-Safe handheld reading device to simplify inspection and inventory control and provide records for your fall protection equipment. If you are a first-time user, contact a Capital Safety Customer Service representative (see back cover); or if you have already registered, go to isafe.capitalsafety.com. Follow the instructions provided with your i-Safe handheld reader or software to transfer your data to your database.

5.3 INSPECTION FREQUENCY: The Nano-Lok Edge SRL-LE must be inspected at the intervals defined in "Section 2.4 - Inspection Frequency". Inspection procedures are described in the "Nano-Lok Edge™ Self Retracting Lanyards Inspection Schedule and Checklist" (Table 1).

5.4 UNSAFE OR DEFECTIVE CONDITIONS: If inspection reveals an unsafe or defective condition remove the SRL-LE from service, mark "UNUSABLE" and dispose of in the recommended manner (see "Section 5.6 - Disposal").

5.5 PRODUCT LIFE: The functional life of Nano-Lok Edge SRL-LEs is determined by work conditions and maintenance. As long as the SRL-LE passes inspection criteria, it may remain in service.

5.6 DISPOSAL: Dispose of the Nano-Lok Edge SRL-LE if it has been subjected to fall arrest forces or inspection reveals an unsafe or defective condition. Before disposing of the SRL-LE, cut the cable lifeline in half or otherwise disable the SRL-LE to eliminate the possibility of inadvertent reuse.



6.0 MAINTENANCE, SERVICING, AND STORAGE

6.1 CLEANING: Cleaning procedures for the Nano-Lok SRL-LE are as follows:

- Periodically clean the exterior of the SRL-LE using water and a mild soap solution. Position the SRL-LE so excess water can drain out. Clean labels as required.
- Clean the cable lifeline (and WrapBax web life) with water and mild soap solution. Rinse and thoroughly air dry. Do not force dry with heat. The cable lifeline should be dry before allowing it to retract into the housing. An excessive buildup of dirt, paint, etc. may prevent the cable lifeline from fully retracting back into the housing and create a potential free fall hazard.



IMPORTANT: If the lifeline contacts acids or other caustic chemicals, remove the SRL-LE from service and wash with water and a mild soap solution. Inspect the SRL-LE per Table 1 before returning to service.

6.2 SERVICE: Nano-Lok Edge SRL-LEs are not repairable. If the SRL-LE has been subjected to fall arrest forces or inspection reveals an unsafe or defective condition, remove the SRL-LE from service, mark "UNUSABLE", and dispose of in the recommended manner (see "Section 5.6 - Disposal").

6.3 STORAGE: Store Nano-Lok Edge SRL-LEs in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the SRL-LE after any period of extended storage.

7.0 SPECIFICATIONS

7.1 PERFORMANCE: Nano-Lok Edge SRL-LEs have been tested and certified to the performance requirements of the standard(s) identified on their ID labels. See "Section 2.0 - Limitations & Requirements" for performance specifications.

7.2 MATERIALS: Material specifications for the Nano-Lok SRL-LE are as follows:

Housing:	Super Tough Nylon, UV Resistant	Motor Spring:	Stainless Steel
Drum:	Aluminum Alloy	Swivel:	Zinc Plated Steel
Fasteners:	Zinc Plated Alloy Steel Screws; Stainless Steel Rivets	Lifeline:	3/16" 7 X 19 Galvanized Cable
		Wrapbax Web:	Kevlar/Dyneema
Locking Pawls:	Stainless Steel	Energy Absorber	Web: Vectran/Polyester Cover: Polyester and Nylon fabric Stitching: Nylon Thread
Main Shaft:	Stainless Steel		
End Connectors:	See Figure 1 for End Connector options.		
Harness Connector	Aluminum Alloy Frame and Alloy Steel Locking Pin		

- 7.4 DIMENSIONS:** Average working range for the Nano-Lok Edge SRL-LE is 2.44 m (8 ft), but will vary slightly with length differences in the various End Connector options.
- 7.5 LABELING:** Figure 12 illustrates Nano-Lok Edge SRL-LE labeling. All labels on the Nano-Lok Edge SRL-LE must be present and fully legible.

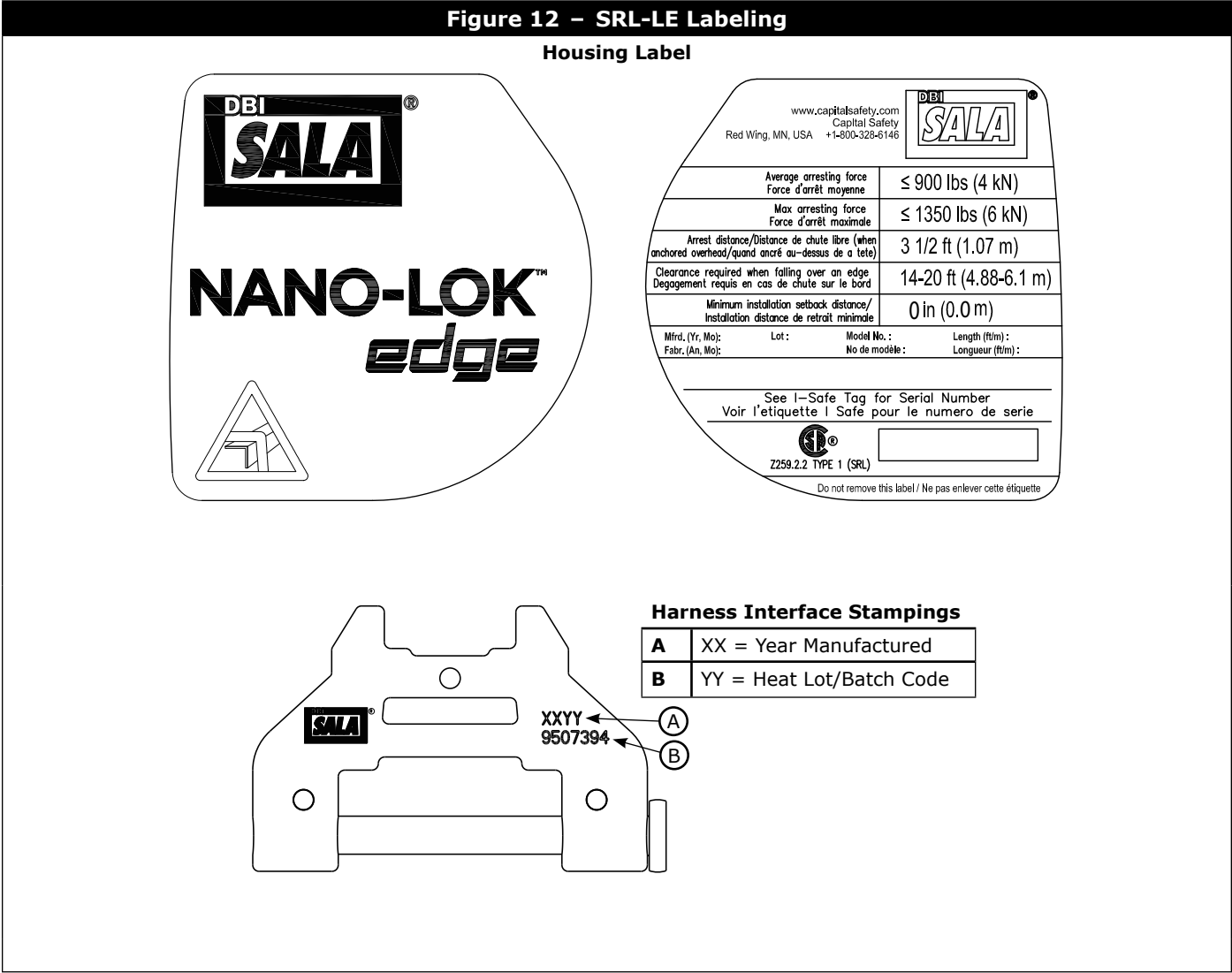


Figure 12 – SRL-LE Labeling

Specifications/Inspection Label

DO NOT REMOVE THIS LABEL / Ne pas enlever cette étiquette		9508061 Rev. D	
SPECIFICATIONS / CARACTÉRISTIQUES:			
Lifeline Material: Material: 3/16 in (5mm) dia. 7x19 galvanized steel cable Matériau de la corde d'assurance: Câble de diam. 3/16 po (5 mm) 7 x 19 en acier galvanisé			
Capacity (when anchored overhead): 75 - 420 lb (34 - 191 kg) Capacité (quand ancré au-dessus de la tête): 75 à 420 lb (34 à 191 kg)			
Capacity (when anchored at foot level): 75 - 310 lb (34 - 141 kg) Capacité (quand ancré au niveau de pied): 75 à 310 lb (34 à 141 kg)			
Free fall limit: 75 - 310 lb (34 - 141 kg) users = 5 ft (1.52 m) 310 lb - 420 lb (141 kg - 191 kg) users = 3 ft (.91 m)			
Limite de chute libre: 75 à 310 lb (34 à 141 kg) utilisateurs = 5 ft (1,52 m) 310 lb à 420 lb (141 kg à 191 kg) utilisateurs = 3 ft (0,91 m)			
Average locking speed: 4.5 ft/s (1.4 m/s) Vitesse de blocage moyenne: 4,5 ft/s (1,4 m/s)			
This product is i-Safe enabled and contains an electronic tag that can be read by compatible readers - providing inspection logs, inventory management and other safety information. Ce produit est validé dans i-Safe et contient une rondelle d'identification électronique qui peut être lue par des lecteurs compatibles - en fournissant des registres d'inspection, de l'information sur la gestion des stocks et d'autre information relative à la protection.			
			

Inspection Label

DO NOT REMOVE THIS LABEL / Ne pas enlever cette étiquette		9508061 Rev. D	
INSPECTION: Before each use, and at least monthly, inspect in accordance with the User Manual including locking function (pull sharply to test), retraction, lifeline condition, function and condition of connector, housing and fasteners, legibility of labels, and any evidence of defects, damage or missing parts. Inspect for ruptured or torn webbing extending from load indicator cover. Ruptured or torn webbing is an indicator that an impact has occurred and the unit must be removed from service. Inspection by a competent person required at least annually. See User Manual. Do not use if inspection reveals an unsafe condition. Not user repairable. Avant chaque utilisation et au moins une fois par mois, procédez à l'inspection du matériel conformément au manuel de l'utilisateur, ce qui inclut la fonction de verrouillage (tirez fermement pour la tester), le mécanisme de rétraction, l'état de la corde d'assurance, le fonctionnement et l'état du connecteur, du boîtier et des dispositifs de fixation et la lisibilité des étiquettes. Assurez-vous en outre qu'il n'y ait aucun défaut, dommage ou aucune pièce manquante. Vérifiez s'il y a une rupture ou déchirement de la sangle qui dépasse du couvercle de l'indicateur de charge. Une rupture ou un déchirement de la sangle indique qu'un impact s'est produit et qu'on doit mettre le dispositif hors de service. Une inspection par une personne compétente doit être réalisée au moins une fois par an. Reportez-vous au manuel de l'utilisateur. Si lors d'une inspection il est remarqué que l'équipement peut représenter un danger, ne l'utilisez pas. N'est pas réparable par l'utilisateur. This product is i-Safe enabled and contains an electronic tag that can be read by compatible readers - providing inspection logs, inventory management and other safety information. Ce produit est validé dans i-Safe et contient une rondelle d'identification électronique qui peut être lue par des lecteurs compatibles - en fournissant des registres d'inspection, de l'information sur la gestion des stocks et d'autre information relative à la protection.			

Anchorage and Use Label

DO NOT REMOVE THIS LABEL / Ne pas enlever cette étiquette		9508061 Rev. D	
USE/UTILISATION: Anchorage strength requirement 22 kN (5000 lb). Anchor unit as directly above work area as possible to reduce swing fall hazard. Users over 310 lb (141 kg) must not use this device for leading edge work. Do not work above anchorage level. Full body harness required for use with this device. Capacity is single user only. For use by trained persons only. This unit is suitable for use with horizontal lifelines. See user manual for additional information including suitability for horizontal use. Contact Capital Safety with any questions about the proper use of this product. L'ancrage doit avoir une résistance de 22kN (5000 lb). L'ancrage doit être aussi directement que possible au-dessus de la zone de travail pour réduire le risque de chute par balancement. Les utilisateurs plus de 310 lb (141 kg) ne doivent pas utiliser cet appareil pour travail de pointe. Ne pas travailler au-dessus du niveau de l'ancrage. On doit porter un harnais de sécurité avec ce dispositif. Capacité un seul utilisateur. Doit être utilisé seulement par des personnes formées. Cette unité est conçue pour être utilisée avec des lignes de vie horizontales. Pour en savoir plus, y compris sur l'efficacité d'une utilisation horizontale, référez-vous au manuel d'utilisateur. Pour de plus amples renseignements au sujet de l'utilisation de ce produit, veuillez communiquer avec Capital Safety.			
▲ WARNING/AVERTISSEMENT Read instructions before use. Manufacturer's instructions supplied with this product must be followed for proper use. Failure to follow instructions may result in serious injury or death. This device shall be removed from service when the impact indicator is deployed. Lisez les instructions avant utilisation. Pour bien utiliser ce produit, on doit observer les instructions du fabricant fournies avec le produit. Négliger d'observer les instructions peut occasionner des blessures graves, voire mortelles. On doit mettre ce dispositif hors de service lorsque l'indicateur de charge est déployé.			

Table 1 - Nano-Lok Edge™ Self Retracting Lanyards Inspection Schedule and Checklist

Type of Use	Application Examples	Conditions of Use	Inspection Frequency
			Competent Person
Infrequent to Light	Rescue and Confined Space, Factory Maintenance	Good Storage Conditions, Indoor or Infrequent Outdoor Use, Room Temperature, Clean Environments	Annually
Moderate to Heavy	Transportation, Residential Construction, Utilities, Warehouse	Fair Storage Conditions, Indoor and Extended Outdoor Use, All Temperatures, Clean or Dusty Environments	Semi-Annually to Annually
Sever to Continuous	Commercial Construction, Oil and Gas, Mining	Harsh Storage Conditions, Prolonged or Continuous Outdoor Use, All Temperatures, Dirty Environment	Quarterly to Semi-Annually

Component:	Inspection:	User	Competent Person
SRL-LE (Figure 13)	Inspect for loose or missing fasteners and bent or damaged parts.	☐	☐
	Inspect the Housing (B) for distortion, cracks, or other damage.	☐	☐
	Inspect the Harness Interface (A) for distortion, cracks, or other damage. The Interface should pivot freely.	☐	☐
	The Lifeline (D) should pull out and retract fully without hesitation or creating a slack line condition.	☐	☐
	Ensure the SRL-LE locks up when the Lifeline is jerked sharply. Lockup should be positive with no slipping.	☐	☐
	All labels (G) must be present and fully legible (labels identified in Figure 14).	☐	☐
	Inspect the entire SRL-LE for signs of corrosion.	☐	☐
Lifeline (Figures 13 and 14)	Inspect the lifeline wire rope (D) for cuts, kinks, broken wires, bird-caging, corrosion, welding splatter, chemical contact areas, or severely abraded areas. Slide up Cable Guide Bumper (E) and inspect ferrules for cracks or damage. The lifeline must be free of knots throughout its length.	☐	☐
WrapBax Models, Webbing Portion of Lifeline (Figure 15)	The webbing material must be free of frayed, cut, or broken fibers. Check for tears, abrasions, mold, burns, or discoloration, etc. The webbing must be free of knots, excessive soiling, heavy paint buildup, and rust staining. Check for chemical or heat damage indicated by brown, discolored, or brittle areas. Check for ultraviolet damage indicated by discoloration and the presence of splinters or slivers on the webbing surface. All of the above factors are known to reduce webbing strength. Inspect stitching for pulled or cut stitches. Broken stitches may be an indication the energy absorbing lanyard or energy absorber component has been impact loaded and must be removed from service.	☐	☐
Harness Interface (Figure 13)	Inspect the Locking Pin (I) to ensure it is securely closed and locked around the harness shoulder straps.	☐	☐
Hook and Loop Straps (Figure 13)	Inspect the Hook and Loop Straps (H) for excessive wear.	☐	☐
Lanyard End Connectors (Figure 1)	Figure 1 identifies the Lanyard End Connectors that may be included on your Nano-Lok Edge SRL-LE model. Inspect all Snap Hooks and Rebar Hooks for signs of damage, corrosion, and proper working condition. Where present: swivels should rotate freely and gates should open, close, lock and unlock properly.	☐	☐

Figure 13 – SRL-LE Inspection

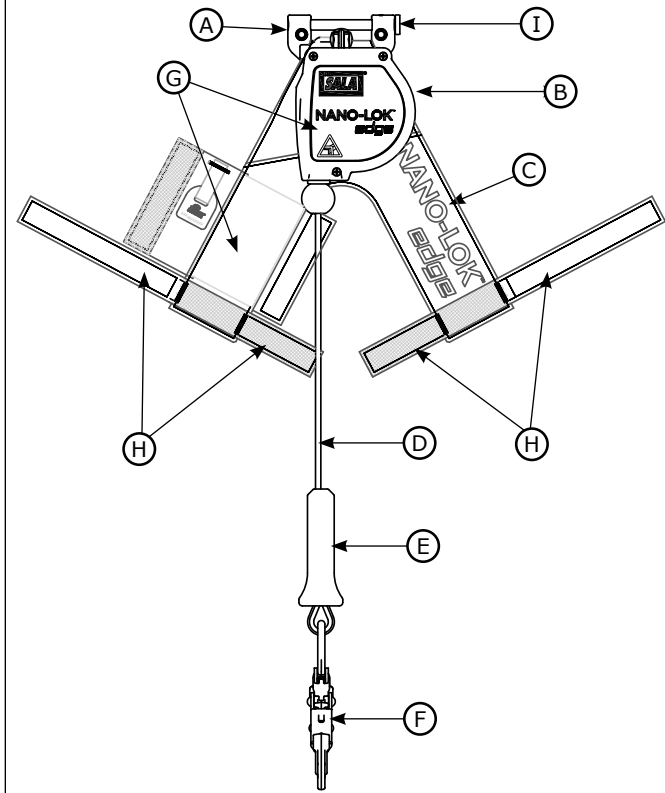


Figure 14 – Cable Lifeline

Kinked Wire Rope



Broken Wires



Bird-Caging



Welding Splatter



Figure 15 – WrapBax Webbing

Cut



Frayed



Heavily Soiled



Welding Burns



NANO-LOK EDGE SRL-LE WEB LOOP HARNESS ADAPTER

The Nano-Lok Edge SRL-LE Web Loop Harness Adapter (P/N 3500046) (see Figure A) is a web loop that allows the SRL-LE to be used on harnesses that are not compatible with the SRL-LE Harness Interface connector. (See Figure 2.) This applies primarily to harnesses with fixed D-Rings that do not have enough slack in the harness web to allow the pin of the connector to pass through. (See Harness Mounting procedure, IFU 5903545, Section 3.2.)

Figure A

Nano-Lok Edge SRL-LE Web Loop Harness Adapter (P/N 3500046)

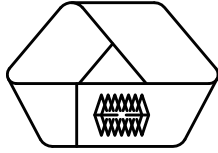


Figure B

STEP 1: Position harness D-Ring (1) as shown.



Figure C

STEP 2: From behind and at the bottom of the D-Ring, insert the Web Loop up through the D-Ring and fold the top of the loop down (2).



Figure D

STEP 3: Pull the top of Web Loop (3) down through the bottom of the Web Loop.



Figure E

STEP 4: Open the Nano-Lok Edge SRL-LE Harness Interface. Push down on the Locking Buttons (4) simultaneously and slide the Locking Pin (5) out.

Position the Web Loop between the sides of the Harness Interface as shown.



Figure F

STEP 5: Insert the Locking Pin (6) Through the Web Loop. Confirm that the Locking Pin has locked in the closed position.

If properly closed, the Red Band on the Locking Pin will not be visible.



APPENDIX A - NANO-LOK EDGE SRL-LE ATTACHMENT STRAP

Nano-Lok Edge SRL-LE Attachment Strap (P/N 3100184)

(See Figure G) The Attachment Strap has hook ends (7) and loop ends (8).

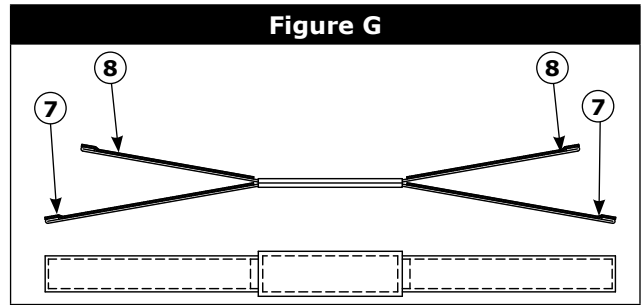


Figure H

STEP 1: Position Attachment Strap hook ends (7) under harness shoulder straps and loop ends (8) over energy absorber covers as shown.

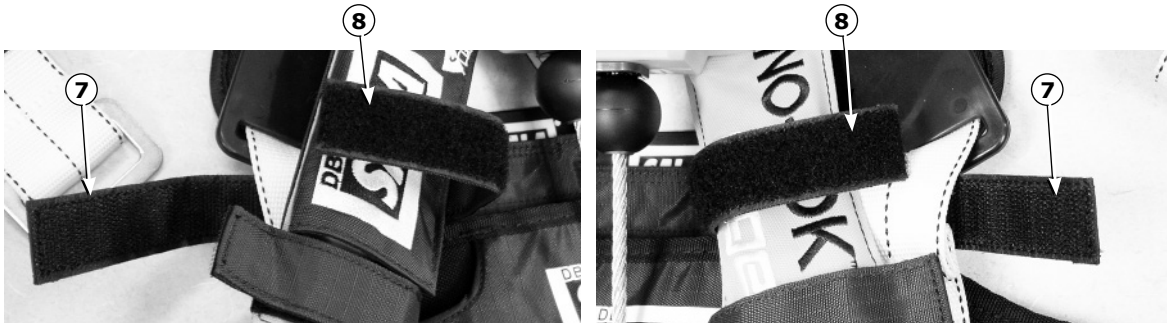


Figure I

STEP 2: Wrap loop straps over energy absorber cover and harness shoulder straps. Secure snugly with hoop straps.



INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:

MODEL NUMBER:

DATE PURCHASED:**DATE OF FIRST USE:**[illegible]

INSPECTION AND MAINTENANCE LOG

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

[illegible]

LIMITED LIFETIME WARRANTY

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