



Instructions for Safe Approach SRL's



Warning!

THE USER OF THIS EQUIPMENT, AND THE USER'S EMPLOYER MUST READ AND COMPLY WITH THESE INSTRUCTIONS. FURTHERMORE, THE USER AND THE USER'S EMPLOYER MUST READ AND COMPLY WITH ALL INSTRUCTIONS, LABELS WARNINGS AND MARKINGS INCLUDED WITH EACH COMPONENT OF THE FALL ARREST SYSTEM OF WHICH THIS PRODUCT IS A PART. FAILURE TO UNDERSTAND AND COMPLY WITH THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

IF THESE INSTRUCTIONS ARE UNCLEAR TO YOU, PLEASE CONSULT A COMPETENT PERSON. SHOULD THESE INSTRUCTIONS BECOME LOST OR DAMAGED, OR SHOULD AND LABELS, INSTRUCTIONS OR MARKINGS BECOME ILLEGIBLE, PLEASE CONTACT SAFE APPROACH FOR REPLACEMENTS. SHOULD YOU NEED FURTHER ASSISTANCE WITH UNDERSTANDING THE PROPER EMPLOYMENT OF THIS PRODUCT, PLEASE CONTACT Safe Approach Inc. FOR ASSISTANCE:

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 1-800-471-1157
 1-207-345-9900
www.safeapproach.com

Safe Approach Inc. SRL's

Model #	Description	Cable Type	Housing Type	Max. Capacity	3,600 lb. Gate
2410-01-01	10' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2420-01-01	20' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2430-01-01	30' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2440-01-01	40' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2450-01-01	50' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2460-01-01	60' Lightweight SRL	Galvanized	Poly/Steel	310 lbs	Y
2220-01-01	20' Aluma-Lite SRL	Galvanized	Aluminum	310 lbs	Y
2230-01-01	30' Aluma-Lite SRL	Galvanized	Aluminum	310 lbs	Y
2240-01-01	40' Aluma-Lite SRL	Galvanized	Aluminum	310 lbs	Y
2250-01-01	50' Aluma-Lite SRL	Galvanized	Aluminum	310 lbs	Y
2260-01-01	60' Aluma-Lite SRL	Galvanized	Aluminum	310 lbs	Y

Table of Contents

Section 1: Warnings and Advisories

Section 2: Fall Protection Basics – ABCD's

- 2.1: Anchorage
- 2.2: Body wear
- 2.3: Connectors/Connecting devices
- 2.4: Deceleration devices
- 2.5: Fall Arrest
- 2.6: Fall Restraint
- 2.7: Work Positioning
- 2.8: Free-fall
- 2.9: Clear-fall
- 2.10: Swing-fall

Section 3: Use and Limitations

- 3.1: General Guidelines
- 3.2: Approved applications
- 3.3: Restricted Applications
- 3.4: Installation and use

Section 4: Product Selection

Section 5: Anchorage Considerations

Section 6: Employer and User Training

- 6.1: Special notes for the employer
- 6.2: User training

Section 7: Fall Protection Plan

- 7.1: The fall protection plan
- 7.2: Suspension trauma
- 7.3: Rescue plan

Section 8: Product Inspection

- 8.1: Issuing
- 8.2: Daily/Incidental use
- 8.3: Mandatory semi-annual inspection

Section 9: Maintenance and Storage

Section 10: Specifications

- 10.1: Mandatory disclosures
- 10.2: Performance specifications
- 10.3: Labels and markings
- 10.4: Standards and references

Section 1: Warnings and Advisories

This product is to be used as a part of a personal fall arrest system, and should be used only with compatible components. Please see Advisory #3 in this section for further details. Failure to use compatible components can result in a failure of the system to perform as intended, which may result in serious injury or death.

Throughout the OSHA regulations for safety and health, there are references to Competent Persons and Qualified Persons. ANSI Z359.0-2007 goes on to further define the roles and qualifications of these individuals; as well as Authorized Persons and their importance in the workplace. These terms are also used in these instructions. Below is a brief description of the part these individuals play in the employment of fall protection equipment:

Authorized Person - a person who is exposed to fall hazards during the course of their work. This individual requires formal training in the use of personal fall protection equipment and systems.

Competent Person – a trained and experienced person who is designated to supervise, implement and monitor an employer's managed fall protection program. This individual is capable of identifying and addressing fall hazards and is authorized to make decisions and take corrective action in the workplace.

Qualified Person – a person possessing a degree or professional certificate and having extensive training, knowledge and experience with fall protection and who is capable of designing and specifying fall protection equipment and systems to address fall hazards.

Please read these instructions and be sure that you understand them prior to utilizing this equipment. Also be sure to read the instructions included with other components which are being utilized in your Personal Fall Arrest System (Harnesses, connectors, anchorage connectors, etc.). Failure to understand and comply with manufacturer's instructions may result in serious injury or death.

IF YOU DO NOT UNDERSTAND ANY PART OF THESE INSTRUCTIONS, PLEASE HAVE THEM EXPLAINED TO YOU BY A COMPETENT PERSON OR EXPERIENCED SUPERVISOR OR FOREMAN.

This product is to be used as part of a complete fall arrest system in accordance with industry-recognized best-practices and your

employer's fall protection plan, as required by the Occupational Health and Safety Administration. Be aware of your employer's fall protection plan and rescue plan. Be aware of the specific fall hazards on your jobsite and work deliberately to avoid these hazards in the course of your work. Also be aware of hazards and obstructions in your fall path, and work with your employer to eliminate these hazards where possible. Failure to be aware of and to address these hazards may result in serious injury or death.

Do's and Don'ts

- **Do** use this device only with compatible components of a comprehensive fall arrest system.
 - **Do** use this device only in a system which limits free fall distance to 5 ft or less.
 - **Do** use extreme caution when rigging this device.
 - **Do** rig this device to avoid the hazards of "swing fall" (see Section 2.9)
 - **Do** inspect the entire lifeline of the SRL for cuts, abrasions, kinks, wear, or other damage.
 - **Do** wear gloves when handling wire rope.
 - **Do** inspect the load indicating swivel snap hook for the red fall indicator band.
 - **Do** use this device only when your clearance distance is a minimum of 2 ft AFTER you have calculated the total fall distance (see section 2.8 for details on clear fall distances).
 - **Do** check the brake mechanism by "hand locking" the device before each use. Pull out 4 ft of line from the SRL and give a swift pull to activate the brake. Then allow the line to retract SLOWLY back into housing.
 - **Do** make compatible connections (see Advisory #3 at the end of this Section).
 - **Do** use a tagline, if the SRL is remotely mounted, to access cable and control the retraction speed of cable after use (see Section 7)
 - **Do** call Safe Approach Inc. if the device is damaged, does not pass inspection (see Section 6), or has arrested a fall.
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- **Don't** use this device as a load arrestor when hoisting materials or equipment.
 - **Don't** use this device if it has been exposed to corrosion, chemicals, excessive heat, flames, or electrical charge or shows signs of any physical damage or deformation.

- **Don't** allow the lifeline to wrap around your body. Severe injury or death could result.
- **Don't** loop the lifeline under an arm or leg, turn toward the SRL and walk toward the SRL. If a fall should occur while the line is under an arm or leg, severe injury may result.
- **Don't** move too quickly when using this device. The brake may activate and cause the loss of footing or a fall.
- **Don't** leave lifeline exposed when the device is not in use. Retract lifeline fully into the housing using a tagline when needed
- **Don't** use oil on the carabiner or any part of the device, except the cable. If needed, use only 100% silicone lubricant for the load indicating swivel snap hook.
- **Don't** use any type of cable in this device if you are working near high voltage power lines or other energized electrical equipment. Extreme caution must be taken when working under these conditions, even when equipped with a Safe Approach Inc. approved high-tech rope
- **Don't** use this device if you are pregnant, a minor, or have a reduced tolerance to fall forces by reason of age, physical medical condition, or other pre-existing disorders.
- **Don't** use this device if you weigh less than 75 lbs.
- **Don't** use this device if your total combined weight (body, clothes, tools, etc) exceeds 310 lbs.
- **Don't** release the lifeline allowing it to "free wheel" (see Section 7) or retract back uncontrolled into the device.
- **Don't** attempt to open, repair or alter this device in any way unless trained and certified to do so by Safe Approach Inc..
- **Don't** knot, clamp, or rig lifeline in any fashion as to inhibit its automatic retraction function.
- **Don't** use the device if it does not lock or retract automatically.
- **Don't** use this SRL with the cable fully extended. This product has a red coating on the cable. If this red cover is exposed, then your operating at the maximum allowable extension of the cable. **DO NOT ATTEMPT TO PULL ADDITIONAL CABLE OUT OF THE UNIT!**

Advisory #1: Further Reading

If you have access to the internet, please go to www.osha.gov. This website is an exceptional resource, and has a great deal of information which is easy to access. Use the search field to find information on fall arrest, including standards, news, interpretations and other valuable tools. The more you know about how this product works and how it is supposed to be used, the safer you will be during the course of your work.

Advisory #2: Proper product selection

Product selection is an important element of fall protection. Fall Arrest products are like any other tools that you may use in the course of your work – there is a proper tool for every application. You may find that while this product is suitable for some applications, it may not be suitable for others. Please be sure to pay close attention to sections 2, 3, and 4, for greater detail on this point.

Advisory #3: Connector Compatibility

Making compatible connections may mean the difference between life and death. Connectors (snap hooks, rebar hooks and carabiners), must be of the locking type and require two distinct actions to open the gate. Your connectors must be sized and shaped so that the rings or structural members to which they are attached will not pose a risk of forcing the gate open, and must fully captivate the connector so that it cannot become disengaged, slide or shift during use or in the event of a fall.

Certain connections are forbidden and should never be attempted with this product or any other unless there is a specific allowance in the manufacturer's instructions. Forbidden connections include, but are not limited to:

- Two or more connectors to one d-ring are a forbidden connection.
- A connection that rests on or loads the gate is a forbidden connection.
- A connection that does not allow the gate to close and lock is a forbidden connection.
- Two or more connectors attached to one another are a forbidden connection.
- Connecting directly to webbing, rope, cable (wire rope) is a forbidden connection.
- Connecting directly to a horizontal lifeline is a forbidden connection.
- Tie-back with your *Safe Approach Inc. SRL* is a forbidden connection.
- Connecting to any ring or structure that does not fully captivate and completely restrict the movement your connector is a forbidden connection.

Section 2: ABCD's

Every Personal Fall Arrest System consists of four basic elements – Anchorage, Body-wear, Connectors/Connecting Devices and Deceleration Devices. Each of these four elements is discussed in greater detail below. If, after reading though this section, you do not fully understand these items and how they work together to form a compatible fall arrest system, please be sure to have this explained to you by a Competent Person.

It is absolutely critical that you be familiar with the proper wear and/or use of each component of your Personal Fall Arrest System (PFAS). Failure to read, understand and adhere to instructional materials and warnings provided with each of these components could lead to catastrophic failure of your PFAS, possibly resulting in serious injury or death.

2.1: Anchorage

The selection of an anchor point and anchorage connector is critical to the successful function of any Personal Fall Arrest System (PFAS). OSHA 1926.502 (d) (15) states that:

“Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as follows: as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.”

Ensure that the structure to which you are attaching your anchorage connector is capable of meeting the above requirements and that your anchorage connector is installed in accordance with the manufacturer's instructions. Also be sure to check that the anchorage connector is compatible with your *Safe Approach Inc. SRL* and that it securely retains the *SRL* without inhibiting its function. If you are unable to determine whether your *SRL* and your anchorage are compatible, please immediately consult with a competent person or your immediate supervisor. For more details on anchorages, please see section 5 of this instruction manual.

2.2: Body-wear

Body wear for any application where this SRL is to be used will be defined as a full body harness specifically manufactured for fall arrest. This SRL should only be attached to the back d-ring of your full body harness for fall arrest applications. The only allowable exception would be in situations where the free fall is limited to an absolute maximum of two feet – in this case, the attachment-end carabiner may be connected to the front d-ring of a full body harness that is so equipped. Under no circumstances should the SRL ever be attached to a side or hip d-ring: Such a connection could cause serious injury or death. Be sure to read and follow the manufacturer's instructions included with your full body harness at the time of purchase.

2.3: Connectors/Connecting Devices

Connectors and Connecting Devices are terms that are sometimes used interchangeably. It is important to note the differences between these two terms in order to help distinguish the parts that these components play in the rigging of your PFAS. In both cases, these products/components are required to have a minimum static strength of 5,000 lbs. For additional details on requirements for connectors and connecting devices, see OSHA 1926.502 at www.osha.gov as referenced in section 1, advisory #1.

A **connector** is any metallic, mechanical element such as a carabiner, snap hook or rebar hook that physically links one or more elements of a your PFAS together in a manner such that they will remain engaged to one another unless they are intentionally disengaged.

A **connecting device** is an element that connects your full body harness to the anchorage in an effort to ensure that you remain attached or tethered to the structure upon which you are working. In other words, the connecting device is that element which secures you to your anchorage.

2.4: Deceleration Devices

A **deceleration device** is the element of a Personal Fall Arrest System (PFAS) which is activated during a fall event and reduces the forces exerted on the user's body and on the anchorage during the arrest of the fall. In the case of your *Safe Approach Inc. SRL*, this product is both a connecting device and a deceleration device as it will keep you attached to your anchorage and will reduce the forces on your body in the event of a fall. For more details on the capabilities and specifications of your *Safe Approach Inc. SRL*, please see section 10 of this instruction manual.

2.5: Fall Arrest

Fall Arrest is an area of Fall Protection which focuses on stopping a fall once it has occurred. Personal Fall Arrest Systems typically consist of an anchorage, a full body harness and a self-retracting lifeline, shock-absorbing lanyard or other deceleration device designed to bring a falling user to a stop in the shortest possible distance while limiting the force imparted to the user's body.

2.6: Fall Restraint

Fall Restraint is an area of Fall Protection devoted to restraining the user of the system in a manner which restricts his or her access to the fall hazard in a manner such that they cannot be subjected to a fall. A typical Fall Restraint System consists of an anchorage, a full body harness or a restraint belt and a restraint lanyard. An SRL should never be utilized in a restraint application as it is not capable of restricting a user's access to fall hazards.

2.7: Work Positioning

Work Positioning is an area of Fall Protection devoted to allowing a user to work on a vertical surface by means of a positioning assembly, and restricting the user's exposure to a fall of no more than two feet. Typical positioning assemblies consist of a large rebar hook and a length of chain, rope, wire rope or webbing with a double locking snap hook on either end. These snap hooks are attached to d-rings on the hips or on the waist of the user's full body harness, with the rebar hook attached to the structure upon which the user is working. An SRL should never be used for work positioning, nor should it ever be attached to a side or hip d-ring on a full body harness.

2.8: Free-Fall

Free-Fall is the distance that a worker will fall before the connecting device or deceleration device elements of the PFAS will begin to engage during a fall event. OSHA allows a maximum Free-Fall Distance of 6' (6 feet) when rigging a Personal Fall Arrest System (PFAS). In some cases, exceptions may be allowed when there is no practical way to limit the Free-Fall Distance to 6', such as a job-site where no overhead anchor-point is available. Tying off in a manner that would create a Free-Fall greater than 6' should always be a last resort. If you are rigging a system that allows more than 6' of Free-Fall, make sure your Connecting Device/Deceleration Device is rated for this application.

Safe Approach Inc. SRL's ARE NOT rated for Free-Falls greater than 5'!

2.9: Clear-Fall

Clear-Fall or Clear-Fall Distance is the distance that is required to safely arrest the fall of a user. When working at heights and using a PFAS, it is important to consider the distance between the walking/working level and the next lower level to ensure that the components selected are capable of arresting the user's fall before they hit the next lower level. The required Clear-Fall Distance can easily be calculated by adding together the Free-Fall Distance, the Deceleration Distance, the height of the user plus a safety factor of 2 feet. The formula for calculating Clear-Fall Distance is shown below:

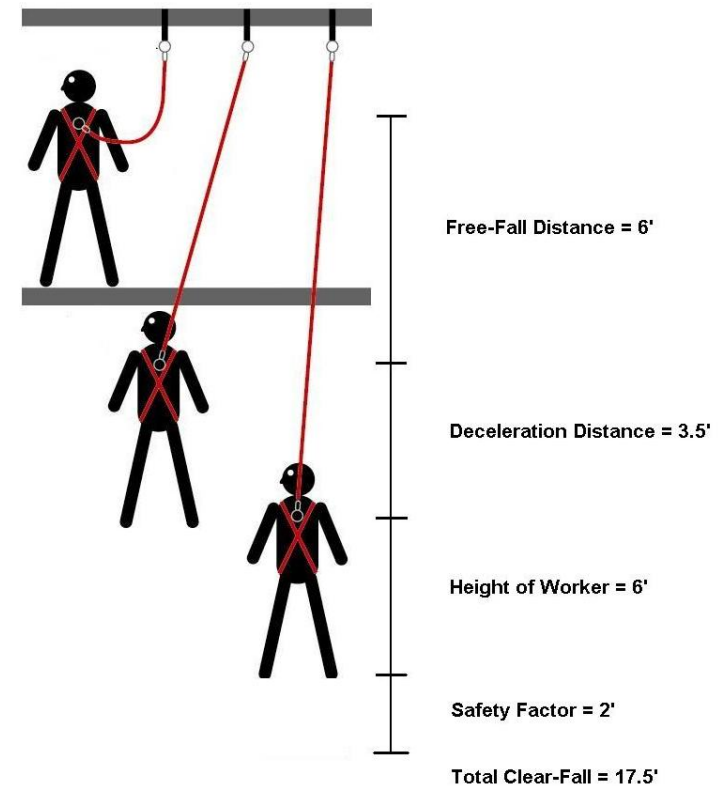
Free-Fall Distance + Deceleration Distance + Height of Worker + Safety Factor = Clear-Fall Distance

The matrix below can be used as a guide for calculating Clear-Fall Distance on your job-site:

	Example Values	Actual Values
Free-Fall Distance (OSHA allows up to 6')	6'	
Deceleration Distance (Typically 3.5' or less)	3.5'	
Height of Worker	6'	
Safety Factor (Minimum of 2')	2'	
Total (Sum of all values)	17.5'	

See figure 2.1 on the next page for a graphic illustration of Clear-Fall Distance and the method for calculating. It is also necessary to consider the fall path when determining the Clear-Fall limitations in your application. Ensure the fall path is clear of obstructions, protrusions, equipment or materials that may be a hazard in the event of a fall. Pay special attention to those items which may present an impalement hazard. Obstructions in the fall path may be just as hazardous as the fall itself, and your PFAS may not be able to protect you from these hazards. Failure to clear the fall path may result in serious injury or death. Rig your PFAS with extreme caution, and be aware of all of the factors that may come into play in the event of a fall.

Figure 2.1: Clear-Fall Diagram

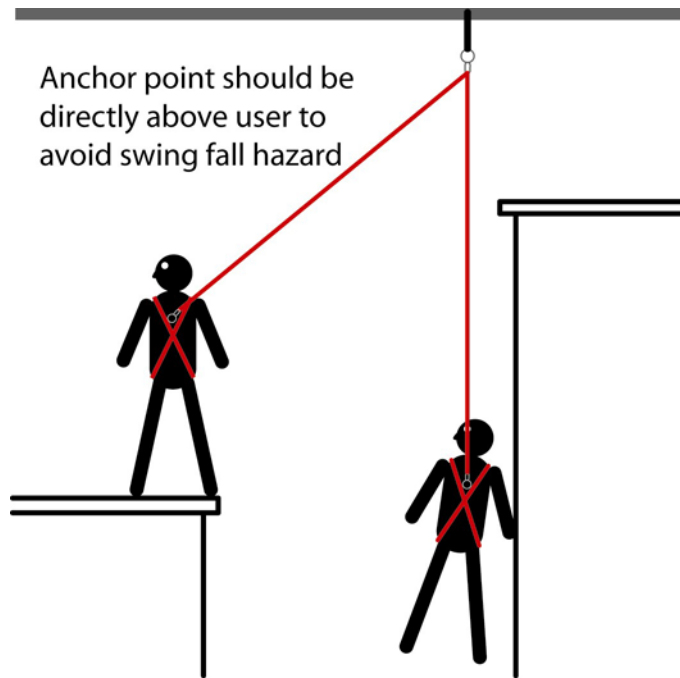


2.10: Swing-Fall

Swing-Fall is the phenomenon that occurs when the user falls from a location that is not directly adjacent to, or directly below the anchorage connector. This is also referred to as the "pendulum effect", and can result in a situation where the user is not only falling vertically, but is also swinging horizontally as well. This can bring additional hazards into play, as you may swing into an obstruction or structural element, causing serious injuries (see figure 2.2). A significant Swing-Fall may also require increased Clear-Fall distance. As a rule of thumb, you should

work in an area that does not exceed an angle greater than 15 degrees in any direction from your anchorage.

Figure 2.2: Swing-Fall Diagram



Be sure to consider Swing-Fall when calculating your Clear-Fall requirements and checking the fall path for hazards and instructions. Failure to do so may result in serious injury or death. Should you have any questions regarding Free-Fall, Clear-Fall, Swing-Fall or other hazards in the fall path, be sure to contact *Safe Approach Inc.* or consult with a competent person or your direct supervisor on your job-site.

Section 3: Use and Limitations

This section deals with the general use and limitations of the *Safe Approach Inc. SRL's*. Please read this section and all sections of the manual thoroughly. If your application is not addressed, or if you have questions regarding your specific needs, please contact *Safe Approach Inc.* immediately for additional guidance.

3.1: General Guidelines

When properly installed and utilized, this *Safe Approach Inc. SRL* will provide safety and mobility for a single user. As the user moves, the *SRL* will pay out and retract automatically. In the event of a fall, a centrifugal brake will arrest the fall in a very short distance while greatly reducing the forces associated with the arrest.

Before using this product, the user should be trained in the use of fall arrest products and should have completed a minimum course of instruction (4-8 hours) for *Authorized Person Training* as outlined in ANSI Z359.2-2007. The user must also read and be familiar with all of the material contained in this instruction manual as well as all labels and warnings affixed to the *Safe Approach Inc. SRL*. If you have any questions regarding the use or operation of this product, please contact *Safe Approach Inc.* or your immediate supervisor before using.

This product must be inspected before each use. For details on proper inspection procedures, please refer to section 8 of this manual. Should this product fail to pass inspection, it must be immediately removed from service and replaced.

This *Safe Approach Inc. SRL* is intended to be used as part of a Personal Fall Arrest System and will comprise the Connecting Device/Deceleration Device elements of your PFAS (see section 2.3 and 2.4 of this manual for clarification of these terms). This product should be attached to your anchorage connector using a properly dimensioned connector (such as *Safe Approach Inc.* #9150 or #9160 carabiner).

Your anchorage should be overhead, or rigged in a manner such that Free-Fall is restricted to no more than 2' (2 feet). This product is not designed to be used in applications where Free-Fall may exceed 5'. Be sure to review the Clear-Fall diagram and worksheet in section 2.9 of this manual.

This product meets the requirements of OSHA 1926.502 as well as ANSI Z359.1-2007 and ANSI A10.32-2004. For further details on these requirements, please go to www.osha.gov to review the OSHA requirements. Copies of the ANSI standards are available at www.asse.org in the e-standards store.

3.2: Approved Applications

Below are applications for which the *Safe Approach Inc. SRL* is specifically suited. This list is not all-inclusive, but is intended to anticipate the most common applications in which this product may be

used. If you have questions about whether this product is suitable for your particular application, please consult a competent person or contact *Safe Approach Inc.* for further advice.

Be sure to consult Section 5 of this instruction manual for details on anchorage considerations, as the anchorage and its relationship to the walking/working surface will be an important factor in determining suitability and could contribute to the outcome of a fall event. Use of an anchor point that is not properly rated could lead to a catastrophic failure of your PFAS, possibly resulting in serious injury or death.

Direct Overhead Applications: This product is suitable for use in any application where the properly rated anchorage is directly above the walking/working surface, and allows for a maximum Free-Fall Distance of 2 feet.

Horizontal Lifelines: This product is suitable for use in any application where a horizontal lifeline has been installed under the guidance of a qualified person, and where the Free-Fall Distance does not exceed 5 feet.

Residential Construction: This product is suitable for use in residential construction applications provided the anchorage meets the basic requirements outlined in Section 5 of this instruction manual.

Residential Roofing: This product is suitable for use in residential roofing applications provided that the anchorage meets the basic requirements of Section 5 of this instruction manual, and provided it is used with a compatible SRL roof anchor (i.e. "swivel-anchors", "trees" and "whirlybirds"), with Free-Fall limited to 5 feet or less.

General Construction: This product is suitable for use in general construction applications provided the anchorage meets the basic requirements outlined in Section 5 of this instruction manual, Free-Fall does not exceed 5 feet, and there is no exposure to a sharp leading edge.

Climbing/Fixed Ladders: This product is suitable for use on fixed ladders or in conjunction with fixed ladder equipment, provided that the anchorage meets the basic requirements outlined in Section 5 of this instruction manual and provided that it is used in conjunction with a Full Body Harness (FBH) containing a front or chest d-ring. Free-Fall must not exceed 2 feet.

General Industrial Use: This product is suitable for use in general industrial applications provided the anchorage meets the basic requirements of Section 5 of this manual and provided that it is not exposed to sharp edges, electrical hazards or prolonged exposure to highly corrosive environments or substances.

If you have any questions regarding the suitability of this product for your specific application, please consult with a competent person or contact *Safe Approach Inc.* before using. Misuse of this product may result in serious injury or death.

3.3: Restricted Applications

Leading-Edge Work: The Safe Approach SRL's may be used in leading edge work, but extreme care must be taken to ensure that the SRL cable does not engage or come in contact with any sharp, jagged or abrasive edges in the course of working or in the projected fall path.

Harsh Chemical Environments: Acids and other caustic chemicals can cause damage to this SRL and its components. Damage from chemical exposure can be difficult to detect and *Safe Approach Inc.* recommends frequent replacement and/or factory service.

Arborist Applications: This product should never be used in arborist applications or tree-trimming applications.

Aerial Lifts: This product is not approved for use in aerial lifts, bucket trucks or scissor lifts while in the driving position.

Extended Free-Falls: The maximum allowable Free-Fall for a **Safe Approach** SRL is 5'. Certain applications are restricted to a shorter Free-Fall. See Section 3.2 for allowances by application. If you have questions about your specific application, contact *Safe Approach Inc.* for advice.

Heavyweight: This product should not be used in applications where the total weight of the user (including clothing, tools and equipment) exceeds 310 lbs.

Power Transmission: Use of this product in areas where the lifeline may come in contact with electrical hazards is prohibited. *Safe Approach Inc.* recommends the use of Aramid webbing SRL's (Kevlar®, Nomex® or Dyneema®) for these applications.

Welding: Use of this product in areas where the lifeline may come in contact with high heat or welding slag is not recommended. *Safe*

Approach Inc. recommends the use of Aramid webbing SRL's (Kevlar®, Nomex® or Dyneema®) for these applications.

3.4: Installation and Use

1. Select the appropriate *Safe Approach Inc. SRL* based on the work conditions and distance needed of unhindered vertical travel. Be sure not to operate with the cable at full extension. *Safe Approach Inc.* recommends operating at with a maximum of 90% of the cable extended to ensure proper deceleration in the event of a fall. *Safe Approach, Inc.* SRL's are equipped with a red indicator sleeve on the inner-most end of the cable. Should this begin to protrude from the SRL housing, then you have reached the limit of the cable's working length. Do not attempt to force more cable to pay out from the SRL and do not continue working if the red indicator sleeve is visible outside of the SRL housing.
2. Read, understand and comply with manufacturer's instructions for each component of your Personal Fall Arrest System (Full-Body Harness, Anchorage Connectors, etc.). Be sure to choose components that are compatible with this *SRL*. If you have questions about product or component compatibility, be sure to contact *Safe Approach Inc.* for additional instructions.
3. Calculate possible swing fall hazards, total fall distance, and required clearance distance. If you have a swing-fall hazard or do not have the required clearance distance, STOP and reevaluate your application and system. Your work location should never exceed an angle of 15 degrees in any direction in relation to your *SRL's* anchorage location.
4. Attach the *SRL* by connecting a double-locking carabiner to top end of the unit. Ensure that the carabiner is properly dimensioned to join the *SRL* to the anchorage connector or bracket. If either the *SRL* or the anchorage interferes with the operation of the carabiner gate, use a larger carabiner. Hang the unit from an approved anchorage capable of supporting a minimum of 5,000 lbs (or 3,600 lbs with the certification of a qualified person). This should be done without exposing anyone to a fall hazard. The anchorage should be at a minimum height so that the attachment connector of the *SRL* is even with, or above, the back D-ring of your full body harness. Ensure that the connector gate is closed and locked once the *SRL* has been mounted to the anchorage.
5. If the *SRL* is to be remotely mounted, attach a tagline to the end of the lifeline. This tagline allows access to the lifeline of a remotely mounted *Safe Approach Inc. SRL* and allows the lifeline

to be retracted completely back into the housing in a controlled manner without hazardous "Free Wheeling".

6. Detach the tagline to avoid tangling. Do not leave the tagline attached to the *SRL* while you are using it.
7. Before use, be sure to inspect in accordance with the instructions in section 8-B of this manual. Test for proper braking action by grasping the lifeline and pulling down hard, ensuring that the unit locks.
8. Attach the load-indicating swivel carabiner on the attachment end of the *SRL* to the back D-ring of your Full Body Harness. Ensure that the load-indicating swivel carabiner's gate is closed and locked.
9. You are now attached and protected by the *SRL*. The preferred orientation of the device is vertical with the lifeline exit at the bottom; however, the device will perform either completely horizontal or any other angle. To assure proper lifeline retraction, keep lifeline path clear of obstructions. Beware of swing fall hazards when working at extreme angles.

Once the above steps have been taken, the user will have access to their work area while walking and moving at normal speeds. It is important not to make sudden or dramatic movements, as the *SRL* is designed to lock up when the line begins to move at a rate of 4.5 feet per second. Sudden movements or acceleration can cause the *SRL* to lock up, which may "jerk" the user and could result in the user losing his or her balance. When using the equipment, care must be taken to be aware of the work environment and any hazards, obstructions or obstacles that may exist. Be careful of any and all fall hazards and also be aware of slipping and tripping hazards as well.

Section 4: Product Selection

Product selection is as important as the proper use of the product itself. Poor judgment in product selection can have catastrophic results – therefore be sure to consult a competent person to ensure that the product that is issued is appropriate for the application and the specific location for which it is intended.

ANSI Z359.1-2007, Section 7 describes in detail the steps that should be taken with regard to the selection of fall arrest equipment. *Safe Approach Inc.* strongly encourages the use of this guide by those who employ users of fall arrest products. The ANSI standard recommends the following steps be taken:

- A workplace assessment by a competent person taking into account the presence of sources of extreme heat, chemicals, electrical hazards, environmental contaminants, sharp objects, abrasive surfaces; moving equipment and materials, unstable, uneven and slippery walking/working surfaces; unguarded openings; climatic/weather factors and foreseeable changes to these conditions. Care must be taken to ensure that the equipment that is selected is suitable for use where any of these conditions may exist.
- The workplace assessment must identify all paths of movement and the fall hazards along these paths. Care must be taken to ensure that there are proper anchorages at appropriate intervals along these paths to protect the users from these hazards without exposure to swing-fall conditions. The PFAS selected must limit the fall distance in order to avoid contact with the next lower level in the event of a fall.
- Anchorage connectors should be selected on the basis of their suitability for attachment to the anchor point to ensure a compatible and secure connection.
- The exposure of the anchorage connector to sharp edges, abrasive surfaces and other physical/structural hazards should be considered when evaluating compatibility.
- The competent person shall calculate the weight of all authorized persons when fully equipped to ensure that they are within the maximum capacity of the PFAS.
- A full body harness meeting the requirements of Z359 shall be selected, and it shall be sized to fit the user as per the manufacturer's instructions.
- Connectors that are selected shall be suitably sized and shaped so as to be compatible with the devices to which they will be attached.
- The competent person shall select the method of protecting the equipment from damage by workplace conditions, in accordance with the manufacturer's instructions.
- The competent person shall check the equipment instructions and markings to ensure compliance with the appropriate standards and will ensure that manufacturer's instructions; markings and warnings are read and followed.
- If the PFAS that is selected is made up of components from different manufacturers, the competent person will ensure that these components are compatible.

Safe Approach Inc. strongly encourages that the following points also be considered in the course of product selection, in addition to the points above:

- Select the anchorage connector that is most appropriate for your application and for the anchor point to which it will be attached. While sling-style anchors are popular because of their versatility, they are not always the best choice where sharp or angular edges are present on the structure to which they are attached.
- Select a full body harness of appropriate durability for your workplace which contains all of the attachment elements that you will require. Never attach any SRL to anything other than the back/dorsal d-ring or the front/chest d-ring of your full body harness.
- Depending on workplace conditions and hazards, you may need to employ multiple systems or different combinations of components. Do not try and force the system to fit the application. Use of the correct equipment is the best policy.

Section 5: Anchorage Considerations

OSHA 1910.66 and 1926.502 state that anchorages used for attachment of a PFAS must be independent of any anchorage being used to support or suspend platforms, and must support at least 5,000 lbs. per user attached, or be designed, installed and used as part of a complete PFAS which maintains a safety factor of at least two, and is supervised by a qualified person (architect, structural engineer, etc.).

The anchorage to which this SRL is attached must be capable of sustaining static loads (in all directions applied by the personal fall arrest system) of at least twice the maximum anticipated dynamic load - with certification of a qualified person (architect, structural engineer, etc.), or 5,000 lbs in the absence of certification. If multiple personal fall arrest systems are being attached to the same anchorage, the minimum values stated above must be multiplied by the number of users.

Ensure that the anchorage connector that you are using is compatible with the anchor point to which you are attaching it. If you are using this SRL with a Horizontal Lifeline, tripod or davit, ensure that it is compatible with these systems by checking the manufacturer's instructions for these systems for the minimum performance requirements of deceleration devices.

Be sure that your anchorage is mounted overhead or above the level of the back d-ring of your full body harness. Be sure to calculate your clear-fall (as discussed in section 2.9) and to avoid swing fall hazards. Ensure the fall path is clear of obstructions and impalement hazards.

Section 6: Employer and User Training

6.1: Special notes for the Employer

As an employer, you may be obliged to provide Personal Protective Equipment (to include Personal Fall Arrest and Fall Protection Equipment) along with an appropriate amount of training to your employees so that they will be adequately prepared to use this equipment in the course of their work. If you are unsure about your duty to provide fall protection, consult Title 29 CFR, section 1926.501 which can easily be viewed at www.osha.gov. Another important resource for employers is the Consensus standard on Managed Fall Protection: ANSI Z359.2-2007.

Equally important is the subject of product/equipment selection. If you are obliged to provide fall protection equipment for your employees, be sure to consult with or appoint a competent or qualified person to select and prescribe equipment that is suitable to address the specific hazards which may be present on your job-site or in your facility. There are different products for different applications, and under many circumstances, these products are not interchangeable. If you have questions as to whether this product is suitable for your application, please contact Safe Approach Inc. for assistance.

It is important to note that improper use of fall arrest equipment can be just as dangerous as not using it at all. Failure to adequately train and supervise your employees may result in serious injury or death. It is critical to have a training program supported by documentation, refresher/remedial training and to establish best practices where the employment of all PPE is concerned.

6.2: User Training

It is the responsibility of the user of this equipment to read and fully understand these instructions before employing this product as part of a Personal Fall Arrest System (PFAS). Every user of fall protection should be provided a four to eight hour course of instruction for the Authorized Person. Training must also be provided in the use of each component of the user's PFAS and in the recognition of fall hazards. During the course of this training, the user may not be exposed to a fall hazard.

In the absence of a formal training program, Safe Approach Inc. has designed these instructional materials to act as an abbreviated course of instruction in an effort to give the user an over-view of fall arrest. This manual does not constitute a comprehensive training program, and it is not all-inclusive. Be sure to consult www.osha.gov for details on OSHA requirements for training. *Safe Approach Inc.* has additional services available to assist with end-user training – contact a *Safe Approach Inc.* sales professional for additional details.

As a minimum, training should address the following points:

- ABCD's of Fall Arrest (as discussed in Section 2).
- Recognition of fall hazards.
- Fall hazard elimination and control methods.
- Applicable fall protection regulations and standards.
- The responsibilities of designated persons (Authorized, Competent, Qualified).
- How to use written fall protection procedures.
- Inspection of equipment components and systems before use.
- Fall protection rescue procedures.
- Installation and use of products common to your duties, job-site or facility.

It is important to note that improper use of this equipment can be just as dangerous as not using it at all. Failure to read, understand and follow these instructions may result in serious injury or death.

Section 7: Fall Protection Plan

Title 29 CFR, section 1926.500 – 503 requires that an employer have a written fall protection plan where fall hazards exist. The best way to address a fall hazard is to eliminate it entirely or to employ a passive system to restrict access to the hazard (i.e. guardrails, netting, covers, etc.) Fall arrest products are the last line of defense in the hierarchy of fall protection, and should be used as a last resort by employees who have been thoroughly trained. The accepted fall protection hierarchy is as follows:

- Eliminate the fall hazard.
- Passive fall protection (guardrails, safety nets, barriers, etc.).
- Fall Restraint (prevent the worker from having access to the fall hazard by using a fixed lanyard which is short enough to restrict access to the hazard).
- Fall Arrest (utilizing Personal Fall Arrest Systems).

- Administrative Controls (use of warning lines, controlled access zones or monitors).

Two exceptional resources for developing a written fall protection plan are OSHA 1926 Subpart M, Appendix E and ANSI Z359.2-2007. All ANSI standards are available for purchase at www.ansi.org in the e-standards store.

7.1: The Fall Protection Plan

As a minimum, a fall protection plan should identify and/or address the following points:

- Any and all fall hazards which may exist on your job-site or in your facility.
- Steps that have been taken to eliminate each fall hazard.
- Equipment that has been or will be employed to address each fall hazard.
- Provisions for 100% continuous fall protection in the vicinity of all fall hazards.
- Training procedures for all authorized persons.
- Identification of acceptable anchorages for positioning, restraint and fall arrest.
- Clear-fall requirements.
- Use and egress from the system.
- Limitations on use of the system (maximum Free-fall, arrest force and maximum number and permitted locations of authorized persons who may use the system).
- Procedures for installation, use and removal of the system.
- Detailed instructions for inspection of systems and system components to include rejection criteria and replacement procedures.
- A detailed plan and procedures for the rescue of a worker who may be involved in a fall event.

7.2: Rescue Plan

In the event of a fall, OSHA requires that a prompt rescue be provided. In order to facilitate a prompt and effective rescue, it is important to have a Rescue Plan as part of your overall Fall Protection Plan.

The rescue plan should include detailed procedures for summoning a professional rescue agency (such as the local fire department) and/or for performing self-rescue or in-house rescue.

For detailed assistance in formulating and maintaining an effective rescue plan, see ANSI Z359.2-2007.

7.3: Suspension Trauma

Suspension Trauma (also referred to as orthostatic intolerance) is a condition that can arise from being suspended in a full-body harness for a prolonged period of time while awaiting rescue after a fall. Under these circumstances, blood circulation can be restricted allowing a large volume of blood to accumulate or pool in the veins of the user's legs. This condition can result in a variety of symptoms, some of which include light-headedness, loss of consciousness, difficulty concentrating and palpitations.

Following a rescue, Suspension Trauma can be so acute as to cause cardiac arrest when the large volume of un-oxygenated blood overwhelms the heart. This severity of this condition can be greatly reduced by using any one of a variety of devices offered to alleviate Suspension Trauma, such as *Safe Approach Inc. Suspension Trauma Straps* and by providing a prompt rescue in the event of a fall.

For additional details on Suspension Trauma, refer to OSHA's Safety and Health Information Bulletin SHIB 03-24-2004 at www.osha.gov.

Section 8: Product Inspection

Inspection is a critical element in the employment of any fall protection equipment. In order to protect authorized persons who are using this **SRL**, it is important that the employer establishes procedures that has layers of inspection to ensure that any mechanical or functional deficiencies are recognized before the product is put into use.

8.1: Issuing

If the SRL is to be kept in a locker or tool crib between periods of use, the person responsible should inspect the product upon issuing and receipt to ensure that it is in proper working order. If any deficiency is noted, this should be logged on the inspection record and the product should be removed from service and handled in accordance with the employer's lock-out/tag-out policy. If this **SRL** exhibits a deficiency, it should be immediately removed from service and replaced.

8.2: Daily/Incidental Use

OSHA 1910.66 and OSHA 1926.502 (as well as ANSI Z359.1-2007 and ANSI A10.32-2004) specifically require that the user inspect all fall protection equipment prior to each use to ensure proper function and to ensure that the equipment is in serviceable condition. Failure to do so may result in serious injury or death.

Safe Approach Inc. requires that the following steps be taken during each inspection prior to use of this **SRL**:

1. Check the load-indicating swivel carabiner at the attachment end of the **SRL**. If the red indicator is visible between the swivel mechanism and the carabiner body, then the SRL has been subjected to fall arrest forces and must immediately be removed from service.
2. Pull approximately 4 feet of cable out of the unit and hand-lock the unit by pulling sharply on the line. Repeat this procedure three times – if the unit does not lock up each time, or if it “slips” after locking up, immediately remove the unit from service and have it replaced.
3. Ensure that the **SRL** cable extends and retracts freely.
4. Using gloved hands to avoid injury, pull the complete length of webbing out of the unit and look for kinks, knots, fraying, corrosion, surface contamination or evidence of damage from an electrical arc or welding splatter. Surface contamination should be removed with a damp rag and a simple solution of soapy water. Any damage to the cable may indicate an unsafe condition, and the **SRL** should be removed from service.
5. In the event that the cable should become locked, and will not pay out from the housing, this condition can easily be remedied in the field by taking the steps below:
 - a. Lay the SRL on a flat surface.
 - b. Place one hand on the SRL housing, holding it tightly against the flat surface.
 - c. With the other hand, grasp the load-indicating swivel carabiner by the eye, just below the ball and spring buffer assembly.
 - d. Slowly push the cable into the housing until the buffer assembly is entirely compressed.
 - e. Slowly release the pressure on the buffer assembly, and then pull the cable out of the housing – it should now be unlocked and in working order.

f. This condition can be avoided by using the tagline as discussed in Section 3.4, paragraphs 5 and 6.

6. Inspect the exit bushing for excessive wear, sharp edges or burring. If these conditions exist and are beginning to cause damage to the cable, remove the SRL from service.
7. Inspect the carabiner gates at the anchorage and attachment ends of the product to ensure proper locking function. If the gates do not close and lock automatically, then the SRL should be removed from service.
8. Check the **SRL** housing and anchorage handle for signs of cracking or denting. Also check for loose screws and any bent, cracked or damaged parts. If the **SRL** exhibits any structural damage, then remove it from service immediately.
9. Ensure that all metal components are free of corrosion, and that there is no evidence of cracking, denting or distortion.
10. Ensure that all labels and warnings remain attached and that they are legible.
11. If the **SRL** fails to pass inspection on any of these points, or if there is any doubt as to whether it is in proper working order, immediately remove it from service.

8.3: Mandatory Semi-Annual Inspection

ANSI Z359.1-2007 requires that all fall protection equipment be inspected by a competent person other than the user at least once each year. *Safe Approach Inc.* strongly encourages that all fall protection equipment be inspected by a competent person other than the user at least once every six months.

This inspection should be noted in the inspection log on pages 27 and 28, along with any deficiencies. This inspection should also be used as an opportunity to counsel any authorized persons with respect to any deficiencies that they may have failed to note in their daily inspections.

Section 9: Maintenance and Storage

The service life of your *Safe Approach Inc. SRL* will depend on two factors: The environmental conditions of your working environment along with proper care (specifically, maintenance and storage).

Keeping the *SRL* clean and free of contaminants will greatly increase the service life and will ensure that the *SRL* will be in proper working order in the event that you need it to arrest a fall. The following steps should be taken periodically:

1. Always wear gloves when handling the cable element of the *SRL*.
2. Using a damp rag and a mild soap and water solution, wipe down the *SRL* housing to remove soil and surface contaminants. Ensure that the labels are legible at all times.
3. Use a damp rag and a mild soap and water solution to clean the cable element of the *SRL*. Allow it to air dry and then use a rag that is damp with a light machine oil to condition the cable.
4. Use a damp rag to clean the surfaces of any connecting hardware.
5. If there is an excessive build up of paint, oil, dirt tar or other contaminants that cannot be removed, remove the *SRL* from service and have it replaced.
6. Store in a cool, dry location away from direct sunlight and where it will not be exposed to chemical vapors.
7. This *SRL* should be hung on a rack or a peg or stored flat on a shelf.
8. Do not throw the *SRL* into a pile or a locker or storage box, as this may damage the housing.

Safe Approach Inc. SRL's are fully serviceable; high-performance products utilizing a variety of specialized materials. In order to assure your safety and to extend the service-life of this quality product, inspection by a competent person is required once a year.

Details regarding the *Safe Approach Inc. Repair, Service and Recertification Program* were included with this product when it was shipped from the factory. Following each recertification, service or repair, the original 2 year warranty is automatically extended, ensuring that your investment is protected under the same terms as a brand-new product.

For additional details on maintenance, repairs, service or recertification of your *SRL*; contact *Safe Approach Inc.*

Section 10: Specifications

This section contains important information regarding the performance and construction of this product. Please read and be familiar with this and all information contained in this instruction manual.

10.1: Mandatory Disclosures

This instruction manual addresses foreseeable hazards, uses and applications. If you have questions about your application that are not addressed in this document, contact *Safe Approach Inc.* for additional guidance.

It is the responsibility of the employer/issuer of this equipment to ensure that it is used in a manner consistent with these instructions. Failure to do so could result in serious injury or death.

For further reading and additional information, see Section 10.4 for a listing of relevant standards with which you should be familiar.

10.2: Performance Specifications

Aluma-Lite Galvanized Cable SRL's

Model #s: 2220-01-01, 2230-01-01, 2240-01-01, 2250-01-01, 2260-01-01

<i>Component</i>	<i>Material</i>	<i>Rating</i>
Housing	Cast Aluminum Alloy	n/a
Drum	Cast/Machined Aluminum Alloy	n/a
Main Shaft	CNC Machined Alloy Steel	n/a
Pawls/Ratchet	Manganese Bronze Alloy	n/a
Pressure Plate	Cast/Machined Aluminum Alloy	n/a
Cable	3/16" 7 x 19 Galvanized Steel	4,000 lbs
Attachment Carabiner	Chro-Moly Alloy Steel	5,000 lbs
	Overall static strength:	> 3,000 lbs
	* Arrest Forces:	< 800 lbs
	* Deceleration Distance:	< 24"
	Maximum Capacity:	310 lbs

** When tested in accordance with ANSI Z359.1-2007*

Lightweight Galvanized Cable SRL's

Model #s: 2410-01-01, 2420-01-01, 2430-01-01, 2440-01-01, 2450-01-01, 2460-01-01

Component	Material	Rating
Housing	Stamped Steel/Cast Poly	n/a
Drum	Cast/Machined Aluminum Alloy	n/a
Main Shaft	CNC Machined Alloy Steel	n/a
Pawls/Ratchet	Manganese Bronze Alloy	n/a
Pressure Plate	Chro-Moly Alloy Steel	n/a
Cable	3/16" 7 x 19 Stainless Steel	4,000 lbs
Attachment Carabiner	Chro-Moly Alloy Steel	5,000 lbs
	Overall static strength:	> 3,000 lbs
	* Arrest Forces:	< 800 lbs
	* Deceleration Distance:	< 24"
	Maximum Capacity:	310 lbs

* When tested in accordance with ANSI Z359.1-2007

10.3: Labels and Markings

Labels are an important part of the product and should be referred to often to keep these important details fresh. The labels located on the front of the housing (shown in figure 10.1) identify the product and provide key details with respect to the products rating. There is also information pertaining to the use of the product along with critical warnings. Failure to heed these warnings may result in serious injury or death.

The labels on the back of the SRL housing have information regarding the proper installation and inspection of this product. These are shown in figure 10.2.

Figure 10.3 is the service label. Be sure to use a permanent marker to log the date that the product is put into service. This label should be inspected every six months during the competent person inspection to ensure that the product is within the recertification parameters discussed in Section 9 of this manual.

The labels shown below must be present on the product and must be legible. If they are not, remove the product from service.

Figure 10.1: Located on front housing

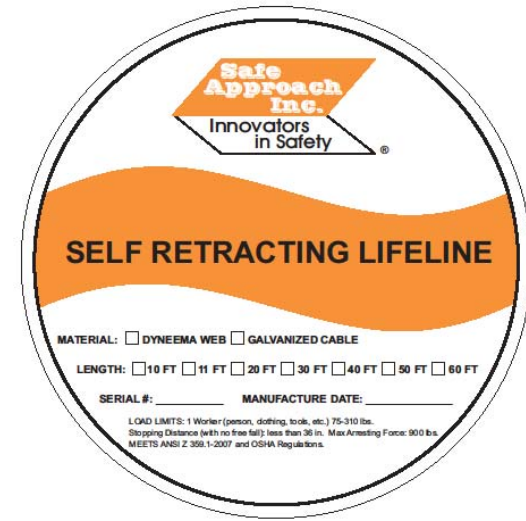


Figure 10.2: Located on back housing



Warranty

Safe Approach Inc. warrants to the buyer that all products are free from defect in material and workmanship at the time of shipment. Obligation under this warranty is limited to product replacement for the period of one (1) year from the date of installation or use by the owner, provided that this period shall not exceed two (2) years from the date of shipment. This warranty is not transferable. No other person or firm is authorized to assume or assign for Safe Approach Inc. any other warranty in connection with the sale or use of this product.

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. This warranty only covers defects in material and workmanship; it does not cover conditions resulting from normal wear and tear, neglect abuse or accident.



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