

USER INSTRUCTION MANUAL: CABLE AND LEADING EDGE SELF-RETRACTING DEVICES

WARNING: This product is a component of a personal fall arrest or restraint system where falls may occur over edges. The user must understand the manufacturer's instructions and be trained in the proper use of each component as part of the complete personal fall arrest system. Manufacturer's instructions must be followed for proper installation, use, care, and maintenance of this product. These instructions must always be available for reference. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.

IMPORTANT: This manual is intended to meet the Manufacturer's Instructions as required by the American National Standards Institute (ANSI) Z359.14-2021 and should be used as part of an employee training program as required by the Occupational Safety and Health Administration (OSHA). All components or subsystems used with the SRD discussed in this manual must be in compliance with ANSI Z359 and OSHA.

1.0 WARNINGS REGARDING THE SRD:

- Before use, thoroughly inspect the SRD as indicated in Section 8.
- Immediately pull the SRD from service and label as 'UNUSABLE' if: inspection shows any evidence of damage or malfunction, the unit has been subject to a fall arrest forces, or if the lifeline becomes slack.
- Never extend the lifeline beyond its operational limit.
- Before installation, always identify and eliminate (when possible) hazards from the work area, including those which may damage your fall protection equipment. Examples of hazards include overhead hazards (cranes, power lines, etc.), surface hazards (cables, hoses, etc.), and obstruction hazards (vertical columns, other workers, etc.).
- A clear fall path is necessary in order for the SRD to positively lock. Do not use the SRD in applications that have an obstructed fall path.
- Do not knot the lifeline, allow two SRD's to become entangled with one another during use, or prevent the lifeline from retracting or being taut.
- The worker may not reach sufficient speeds for the SRD to positively lock in applications such as confined spaces, or if work is taking place on slowly shifting material (such as sand or gravel).
- Avoid sudden movements, which may unintentionally activate the braking mechanism.
- Ensure that all components of the complete personal fall arrest system are compatible, and meet requirements outlined in applicable standards such as ANSI Z359. Before using these systems, always consult a Competent Person.
- Always ensure adequate fall clearance before using this equipment.
- Do not allow the lifeline to remain outside the housing when not in use.
- Always minimize swing falls by working as close to the anchorage point as possible.

2.0 WARNINGS REGARDING WORKING AT HEIGHT:

- Before use, consult your doctor to ensure that your physical condition allows you to safely withstand the impact of all forces involved with working at height.
- Do not use any fall protection equipment that has failed inspection.
- Ensure all connections are compatible, and that all subsystem combinations do not interfere with the function of this SRD.
- Ensure that a written rescue plan, and the means to implement it, are always available when using this equipment. For more information, refer to ANSI Z359.4-2013 and Z359.2-2017.
- Immediately seek medical attention for the affected party if a fall event occurs.
- When inspecting, installing, or using the device / system, always ensure that you wear appropriate Personal Protective Equipment.
- Never exceed maximum free fall distance and allowable capacity of the fall protection equipment being used.
- Never expose workers to fall hazards during training.

3.0 DESCRIPTION:

3.1 KEY COMPONENTS: Refer to Figure 1 for identification of key components of RITZ SAFETY Self-Retracting Devices. RITZ SAFETY SRD's are drum wound Webbing or Cable Lifelines (A) that retract into a Nylon Housing (B). The Swivel Eye (D) on top of the SRD allows units to hang from anchorage by an attached Carabiner (C). The SRD is attached to the Fall Arrest connection on a Full Body Harness via a self-locking snap hook (E) on the end of the Lifeline. The Wire rope and Ferrules, which secure the snap hook, are protected from abrasion and corrosion by a Bumper (F).

3.2 TYPES OF SRD: Refer to Appendix A for unit specifications. Figures 2.1 and 2.2 below indicate the types of models covered by this manual. They include:

- **SELF RETRACTING LANYARDS:** Are suitable for overhead anchorage (ie: from directly above the user's head to as low as the dorsal d-ring on the user's FBH), where the lifeline remains generally vertical during use, and free fall limit is 0.6 m (2 ft). Refer to Figure 2.1 below.
- **SELF RETRACTING LANYARDS WITH LEADING EDGE:** Are suitable for applications where the lifeline remains generally horizontal during use, and free fall is limited to 1.8 m (6 ft). Leading Edge refers to unprotected and potentially sharp edges of roofs, doors, decking, etc. These units have an integrally attached shock absorber (G), which minimizes fall arrest forces on the user and withstands impact loading of the lifeline over sharp or abrasive edges during a fall event. Refer to Figure 2.2 below.

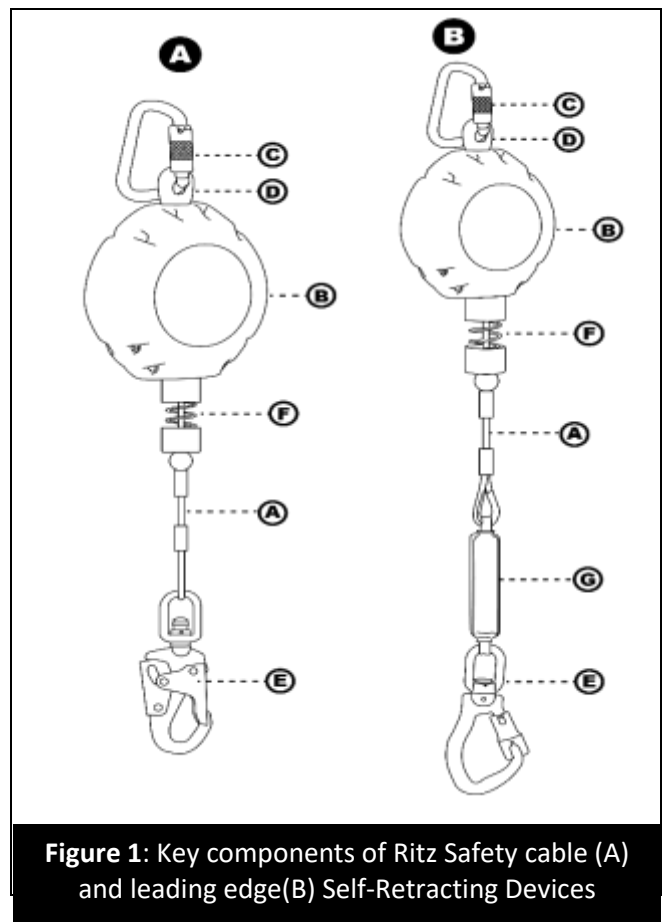


Figure 1: Key components of Ritz Safety cable (A) and leading edge(B) Self-Retracting Devices

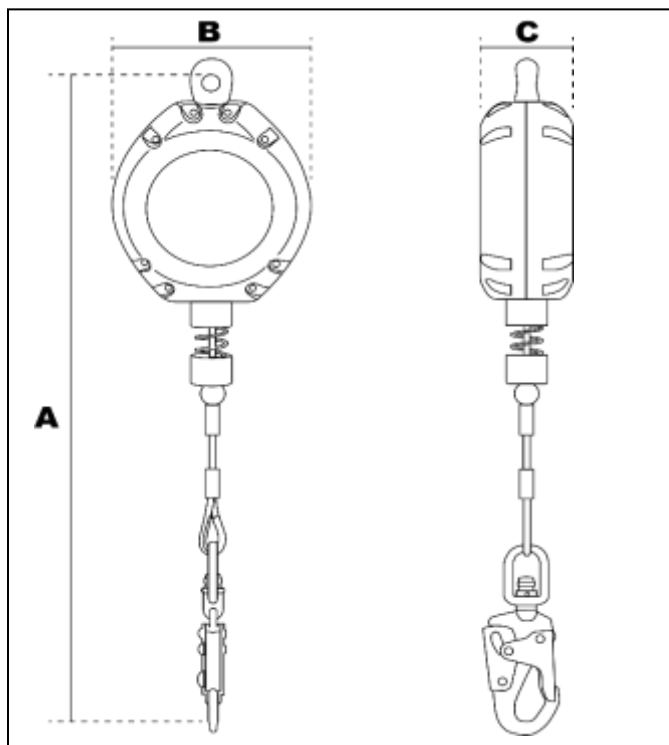


Figure 2.1: Ritz Safety Cable self-retracting lanyard

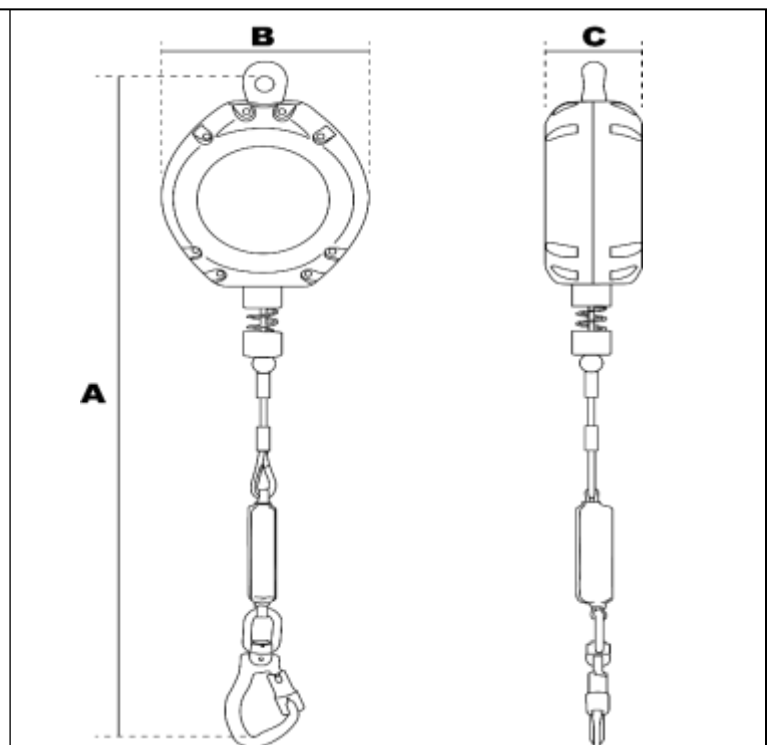


Figure 2.2: Ritz Safety Leading Edge self-retracting lanyard

4.0 APPLICATIONS:

- 4.1 PURPOSE:** The RITZ SAFETY Self-Retracting Devices are components in a complete personal fall arrest system designed for use in applications where workers require mobility at heights (ie: construction work, oil production, etc.). **Do not intentionally misuse or alter this equipment.**
- 4.2 COMPLIANCE:** When installed properly, the SRD meets ANSI Z359.14-2021 requirements for Self-Retracting Devices and OSHA 1926.502 regulations. NOTE: For more information consult the ANSI Z359 body of standards.
- 4.3 TRAINING:** Installation of this equipment must be performed by persons with training in its correct application and use. The user bears full responsibility for understanding the contents of these instructions and ensuring they are trained in the correct care and use of this equipment, such as the operating characteristics, application limits, and consequences of improper use. During training, the user must not be subjected to a fall hazard.

IMPORTANT: Immediately remove equipment from service if it has been subject to a fall arrest forces OR has failed inspection (see Section 8 for inspection procedures).

5.0 LIMITATIONS:

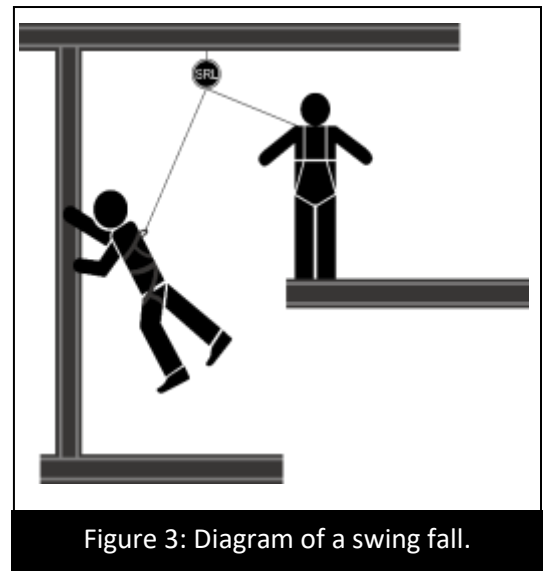
- 5.1 WEIGHT CAPACITY:** As per ANSI, the SRD is designed for use by persons with a total weight (includes clothing, tools, etc.) between 130 lbs (58.97 kgs) and no more than 310 lbs (140.61 kgs). Pregnant people and minors are not to use this equipment. Workers over 310 lbs must not use these SRD's where falls over edges may occur. Failure to comply may result in equipment malfunction, serious injury, or death.
- 5.2 ANCHORAGE:** The 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: 5,000 lbs (22.2 kN) 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 (1) and (2) above shall be multiplied by the number of systems attached to the anchorage. According to OSHA 1926.500 and 1910.66, anchorages used for attachment of personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms, and capable of supporting at least 5,000 lbs (22.2 kN) per user attached, or be designed, installed, and used as part of a complete personal fall arrest systems which maintains a safety factor of at least two, and is under the supervision of a qualified person.
- 5.3 FREE FALL:** To reduce fall distance, always attempt to anchor the SRD directly overhead. Overhead anchoring will limit free fall distance to a minimum length. Be aware of workers sharing the workspace to avoid becoming tangled with another worker. Steer clear of objects that could fall and impact the lifeline. The lifeline should never pass under the user's arms or legs. The lifeline should never be knotted, clamped, or be otherwise restricted from retraction or a taut state.

5.4 CALCULATING MINIMUM REQUIRED FALL CLEARANCE:

5.4.1 Overhead Use: Refer to diagrams and calculation chart in Appendix B and C. Figure 1B and Figure 2B illustrate fall clearance – when the SRD is directly overhead (Figure 1B) and in swing fall situations (Figure 2B). Swing fall situations require additional fall clearance since the total vertical fall distance is greater than if the user had fallen directly below the SRD. Figure 1C and Table 1C illustrate minimum required fall clearance calculation for falls from a standing position where the SRL is anchored overhead. Falls from a kneeling position require an additional 1m (3 ft) of fall clearance.

5.4.2 Leading Edge Use: The minimum fall clearance required when falling over an edge can be calculated based on setback distance and distance along the edge of your leading edge application (refer to Appendix D, figure 1D, and table 1D):

1. Select the value closest to your Setback Distance (A) in the left-side row headings.
2. Select the value closest to your working distance along the edge (B) from the top column headings. 'X'



indicates the distance along the edge is outside of the safe work radius for your selected setback distance.

3. The clearance required when falling over an edge (C) will be the value listed at the intersection of the row selected in Step 1 and the column selected in Step 2.
4. Repeat the previous steps for every edge over which the worker could potentially fall to determine safe placement of anchorage and allowable work radius.

5.5 SWING FALLS: Swing falls occur when the anchorage point is not positioned directly above the point at which a fall occurs (refer to Figure 3). The resultant force of striking an object while in a swing fall may cause serious injury or death. Do not permit a swing fall if injury could occur. To minimize swing falls, work as close to the anchorage point as possible.

5.6 SHARP EDGES:

5.6.1 During overhead use, avoid using the SRD on sharp edges, metals cut with abrasive disks, or flame cut metals.

5.6.2 Use caution when working with abrasive surfaces / edges, such as those present on concrete and stone, which may grind the lifeline / shock absorber during a fall. In leading edge applications, only use Leading Edge SRD's.

5.7 LOCKING SPEED: The nature of this equipment requires sufficient space in the working area to allow for the SRD to lock. Working in small or confined spaces may keep the user's body from reaching the speed needed to lock the SRD during a fall. Working on slowly shifting materials, such as grain or sand, may not allow the speed needed to cause the SRD to lock.

5.8 HAZARDOUS ENVIRONMENTS: Additional precautions to prevent injury to the user or damage to the equipment may be required if this equipment is used in hazardous environments. Hazards may include high heat, severe cold, chemicals, voltage power lines, moving machinery, and sharp edges, among other things. Contact the manufacturer if there are any doubts about the suitability of an environment.

5.9 RESCUE PLAN: Ensure that a written rescue plan, and the means to implement it, are always available when using this equipment. For more information, refer to ANSI Z359.4-2013 and Z359.2-2017.

5.10 INSPECTION FREQUENCY: Units must be inspected by a competent person at regular intervals as required by the type of use and working environment (see Table 1). The competent person must use inspection criteria in Table 2. Inspection by a factory authorized inspection agency at regular intervals is also required.

Table 1 - ANSI Z359.14-2021 SRD Inspection Frequency Recommendations			
Type of Use	Application Examples	Conditions of Use	Inspection Frequency (by a Competent Person)
Infrequent to Light	Confined Space, Factory Maintenance	Good storage conditions, indoor / infrequent outdoor use, room temperature, clean environment	Annually
Moderate to Heavy	Transportation, Residential Construction, Utilities, Warehouse	Fair storage conditions, indoor / extended outdoor use, all temperatures, clean or dusty environment	Semi-annually to Annually
Severe to Continuous	Commercial Construction, Oil and Gas, Mining	Harsh storage conditions, prolonged or continuous outdoor use, all temperatures, dirty environment	Quarterly to Semi-annually

6.0 INSTALLATION:

6.1 PLANNING: Before use, ensure that you plan your fall protection system – taking into account all limitations and factors outlined in this instruction manual. Your fall protection system plan should encompass all factors that may affect your safety before, during, and after a fall.

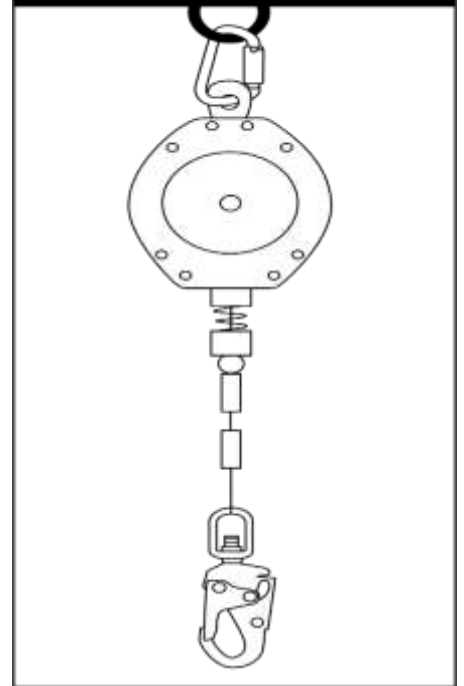
6.2 ANCHORAGE: Connect the SRD to anchorage points via a ANSI Z359.12 certified carabiner (attached to the swivel eye on the SRD). Refer to Figure 4 for examples of typical anchorages and connections. Anchorages selected should be capable of sustaining static loads indicated in Section 5.2. To minimize swing fall hazards, the anchorage should be directly overhead. If overhead anchorage is not feasible, the SRD may be attached to anchorage points below the user's full body harness dorsal d-ring. **Never use anchorages situated below the user's feet.** In leading edge applications, do not attach the SRD in a manner that situates the edge higher than the unit. Also, due to the increased contact between the SRD lifeline and the edge in leading edge applications, non-overhead anchorage points are at increased risk of abrasion hazards.

6.3 HARNESS CONNECTION: Users should always use an ANSI approved Full Body Harness in fall arrest applications. Generally, the self-locking snap hook on to the SRD is attached to the dorsal D-ring on the full body harness. Before proceeding, make sure that the snap hook is fully closed and locked. For additional details concerning harness connection points, consult the harness manufacturer's instruction manual.

6.4 COMPATIBILITY OF COMPONENTS: Use the SRD with approved components and subsystems only. Consult with RITZ SAFETY for compatibility before use. Using the SRD with non-approved components and subsystems may interfere with the safety and reliability of the complete system.

6.5 COMPATIBILITY OF CONNECTORS: Connectors (hooks, carabiners, and D-rings) and connecting elements are compatible when they work together in such a way that their sizes and shapes do not cause gate mechanisms to unintentionally open. Connectors must be capable of supporting at least 5,000 lbs. (22 kN). Connectors must be compatible with the anchorage or other system components to ensure roll-out does not occur. Connectors must be compatible in size, shape, and strength with the connecting elements. Self-locking snap hooks and carabiners are required by ANSI Z359.12, CSA Z259.12, and OSHA. Follow manufacturer's instructions for all system components.

Figure 4: Typical anchorage of the SRD.



IMPORTANT: Do not use rebar hooks, large carabiners, or large snap hooks to connect to FBH dorsal D-rings or any other non-compatible anchor point as this may cause the connector to unintentionally disengage. Do not insert extra connectors between the SRD lifeline connector and the FBH dorsal D-ring, except an approved D-ring extender.

7.0 OPERATION:

7.1 BEFORE USE: Thoroughly inspect the SRD as indicated in Section 8. If inspection shows any evidence of damage or malfunction, mark the device as 'UNUSABLE' and do not use. Follow all instructions contained within this manual and on the SRL labels. Failure to follow instructions may result in serious injury or death. Ensure all connections are compatible. Implement a written rescue plan and make it readily available to all users. Ensure all users are trained in rescue procedures.

7.2 NORMAL OPERATION: Attach the SRD to suitable anchorages or anchorage connectors (as described in Section 5.2). Generally, the self-locking snap hook on to the SRD is attached to the dorsal D-ring on the full body harness. Before proceeding, make sure that the snap hook is fully closed and locked. For additional details concerning harness connection points, consult the harness manufacturer's instruction manual. Once connected, the worker is permitted to move about the work area, with the lifeline extending and retracting along the working length as applicable. Avoid sudden movements, which may unintentionally activate the braking mechanism. Do not allow the lifeline to become slack – if it does, immediately remove the SRL from service for inspection (as in Section 8).

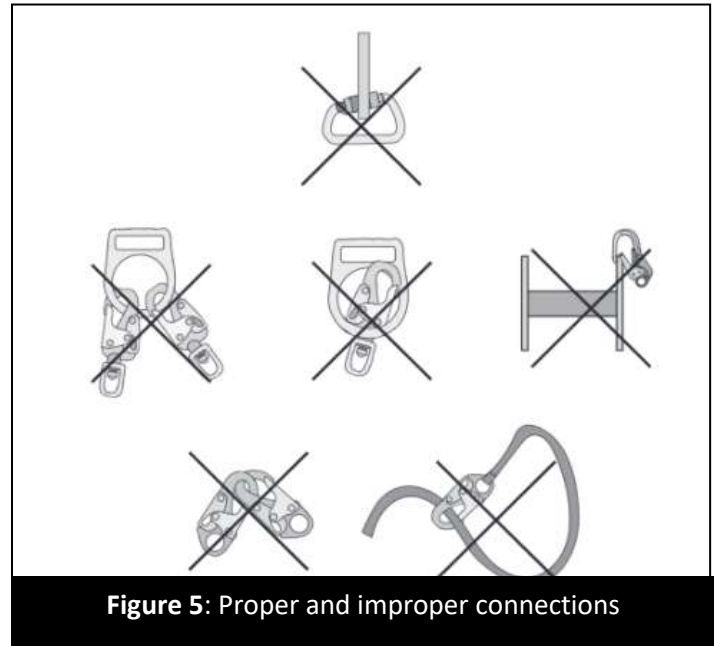
7.3 DURING A FALL EVENT: If a fall occurs, the braking mechanism will engage, and the lifeline will stop paying out.

The red indicator band on the SRD connector will also become visible. Additionally, for Leading Edge SRD's, the energy absorber will deploy to limit fall arrest forces on the user.

7.4 AFTER A FALL: Remove the unit that was subject to fall arrest forces, mark "REMOVE FROM SERVICE", and store it separate from other units.

7.5 MAKING CONNECTIONS: Equipment (including snap hooks and carabiners) used with the SRD must be self-locking and compatible in size, shape, strength. Do not use equipment that is not compatible. Before use, ensure all connectors are fully closed and locked. **Do not connect snap hooks and carabiners under below circumstances:** (refer to Figure 5):

- To a d-ring that has another connector attached.
- In a way that results in a load on the gate. If the snap hook does **not** have a 3,600 lb (16kN) gate, it should not be used in the system.
- In a false engagement where the connectors are not compatible but seem fully engaged.
- To each other.
- Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allows such a connection).
- To any object whose shape does not allow the snap hook or carabiner to fully close and lock, or would permit roll out to occur.
- In a manner that does not allow the connector to align properly while under load.
- If the connectors are not ANSI Z359.12 compliant.



7.6 WARNINGS: Do not engage in the following while using this device:

- **DO NOT** allow any lifeline to pass under arms or between legs.
- **DO NOT** lengthen the SRD by connecting a lifeline or similar component.
- **DO NOT** allow the lifeline to freewheel back into the housing. Use a tag line to maintain tension and rewind the lifeline during periods of inactivity. Use the tag line to retrieve the leg end connector for the next use.
- **DO NOT** leave the tag line connected to the leg end connector when using the SRD for fall protection.

7.7 SELF-RETRACTING DEVICES WITH LEADING EDGE (SRD-LE): This instruction manual also covers Self Retracting Devices with Leading Edge capabilities (SRD-LE). Leading Edge models include TORO20LE, TORO30LE, RTZTQ20LE, and RTZTQ30LE. The SRD-LE were tested for horizontal use and falls over a steel edge with no burrs. SRD-LE may be used in situations where falls may occur over steel edges.

WHEN USING SRD-LE, OBSERVE THE FOLLOWING SPECIAL PRECAUTIONS:

- The allowable angle of redirection of the lifeline portion of the SRD-LE at the edge over which a fall might occur (measured between the two sides formed by the redirected lifeline) shall be at least 90° (see Figure 6).
- The anchor point shall be situated at the same height as the edge at which a fall may occur or above the edge. Anchor points below the edge are dangerous because they cause the lifeline to redirect at an angle sharper than 90° (see Figure 6).
- Refer to Section 5.0 for limitations to the allowable work area relative to the anchorage point, including factors such as swing fall and abrasion on the line at the edge.
- SRD-LE may be used with a Horizontal Lifeline or Horizontal Rail only as indicated in their respective product instructions.
- Do not work on the far side of an opening opposite the anchorage point.
- In the event of a fall over a leading edge, special rescue measures may be required.
- Use of this device in an orientation such that the constituent line may contact a sharp, jagged or abrasive structural edge is inherently dangerous, and such use should be a last resort.
- When planning your leading edge application, be sure work area parameters are within the minimum setback distance, maximum free fall distance, and minimum fall clearance required when falling over an edge as indicated on the SRD-LE labels.

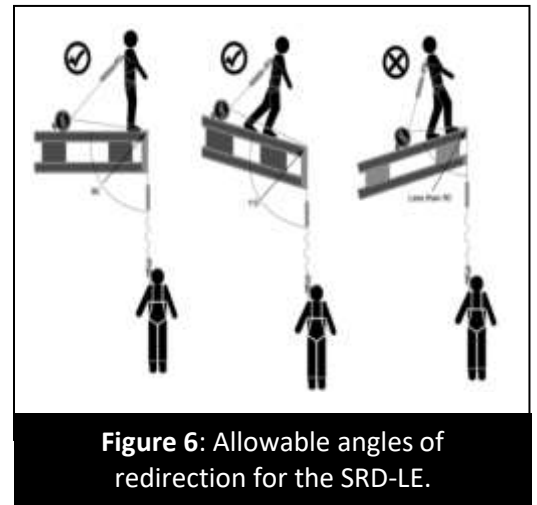


Figure 6: Allowable angles of redirection for the SRD-LE.

8.0 INSPECTION

- 8.1 PRE-USE:** Before each use, ensure each unit is in good working condition through inspecting as per instructions indicated in Table 2 below. Record results of inspection using the Inspection Record in Appendix E. Remove the unit from service if the unit exhibits damage, defects, inadequate maintenance, activated fall indicators, or any other unsatisfactory results during inspection.

Table 2 - Guidelines for Cable SRD Inspection		
Inspection	Pass	Fail
The cable lifeline extracts and retracts without faltering and remains taut under tension.		
Extract the lifeline several inches and apply a firm pull to confirm the SRL locks without skidding. Repeat this at additional places along the lifeline length to confirm the SRD is operating correctly.		
Examine the load indicator on the carabiner to be certain that it has not been activated. (see Figure 12)		
Inspect the entire working length (up to the green visual indicator in Figure X). Examine the lifeline for broken strands, burns, welding slag, bird-caging, discoloration, kinks and bent strands. Also examine for other debris.		
If the secondary red indicator is exposed during above inspection, remove the SRL from service immediately.		
Check for any missing or loose screws or nuts and any deformed or damaged components.		
Examine the external housing for signs of damage such as cracks, breaks or warping.		
Check the external Connector Eye and the Anchorage Carabiner for damage and deformation. The Anchorage Carabiner Gate should open and snap shut easily and smoothly.		
Examine the overall SRL unit for any indications of deterioration or damage.		
All labels must be intact and totally legible.		

- 8.2 INSPECTION FREQUENCY:** Units must be inspected by a competent person at regular intervals, as required by the type of use and working environment. The competent person must use inspection criteria indicated in Table 2. Inspection by a factory authorized inspection agency at regular intervals is also required. To determine inspection frequency, use Table 1 (Section 5.10).

- 8.3 EQUIPMENT DAMAGE** Examples of equipment damage are shown in Figure 7. Inspectors must be trained to identify all varieties of damage, not limited to the examples shown in Figure 7. Remove SRD from service if it displays evidence of an unsafe or defective condition.

- 8.4 PRODUCT LIFE:** The lifespan of SRD's covered by this instruction manual is a function of work conditions, care, and inspection provided. As long as the SRD passes inspection, it may remain in service.

- 8.5 DISPOSAL:** If the SRD has been subject to fall arrest forces or inspection reveals an unreparable defective condition, dispose of the unit immediately. Before disposing of the defective SRD, cut the cable / lifeline in half to ensure it is not mistakenly reused.



9.0 STORAGE, SERVICE, AND MAINTENANCE

- 9.1 MAINTENANCE AND CLEANING:** Ensure that the SRL is kept clean and free of debris that may interfere with the function of the cable and/or retraction mechanism (ie: grease, paint, dirt, etc). Clean the exterior housing and labels as required using a detergent / water solution. Ensure no debris, water, and other corrosive elements are permitted to enter the housing via the cable access port. After cleaning, completely pull out the lifeline and allow it to air dry. After the unit is completely dry, retract the lifeline into the unit – taking care not to allow it to freewheel back into the unit. Do not use heat to dry the SRL. Do not try to disassemble the SRL.
- 9.2 STORAGE:** When not in use, store the SRL in a clean, dry, and cool environment out of direct sunlight. Position the unit in such a way that excess water is allowed to drain out. Avoid exposing the SRL to chemical or caustic vapors. After a prolonged period of storage, thoroughly inspect the SRL.
- 9.3 SERVICE:** The SRD is not user repairable. If the SRD does not pass pre-use inspection, tag as "UNUSABLE" and either (a) dispose of it, or (b) contact an authorized service center of RITZ SAFETY.

APPENDIX A: UNIT SPECIFICATIONS

Table 1A: Unit Specifications Refer to Figures 2.1 and 2.2 for definitions of A, B, and C						
Part Number	Type	WORKING LENGTH	A	B	C	Class
TORO11S	SRL	11 ft / 3 M	24.0 in / 610 mm	4.7 in / 120 mm	3.2 in / 80 mm	1
TORO20	SRL	20 ft / 6 M	25.2 in / 640 mm	7.1 in / 180 mm	3.4 in / 85 mm	1
TORO30	SRL	30 ft / 9 M	27.9 in / 655 mm	7.5 in / 190 mm	3.5 in / 88 mm	1
RTZTQ20	SRL	20 ft / 6 M	24.0 in / 610 mm	8.9 in / 226 mm	3.4 in / 86 mm	1
RTZTQ30	SRL	30 ft / 9 M	24.0 in / 610 mm	8.9 in / 226 mm	3.4 in / 86 mm	1
TORO20LE	SRL-LE	20 ft / 6 M	35.0 in / 890 mm	7.1 in / 180 mm	3.4 in / 85 mm	2
TORO30LE	SRL-LE	30 ft / 9 M	35.6 in / 905 mm	7.5 in / 190 mm	3.5 in / 88 mm	2
RTZTQ20LE	SRL-LE	20 ft / 6 M	33.9 in / 860 mm	8.9 in / 226 mm	3.4 in / 86 mm	2
RTZTQ30LE	SRL-LE	30 ft / 9 M	33.9 in / 860 mm	8.9 in / 226 mm	3.4 in / 86 mm	2

Table 2A: SRL unit classes, as per Section 1.4 of ANSI Z359.14-2021		
	Class 1	Class 2
Average Arresting Force	$\leq 1,350\text{lbs (6kN)}$	$\leq 1,350\text{lbs (6kN)}$
Maximum Arresting Force	$\leq 1,800\text{lbs (8kN)}$	$\leq 1,800\text{lbs (8kN)}$
Maximum Arrest Distance	42 in (1.067 m)	42 in (1.067 m)

Table 3A: SRL Component Materials	
Component	Material
Housing	Thermoplastic
Drum	Aluminum or Thermoplastic
Fasteners	Zinc plated or stainless steel
Locking Pawls	Brass
Main shaft	Stainless steel
Motor Spring	Carbon steel
Swivel	Zinc plated steel
Cable	3/16" galvanized
Hook	Forged steel or Aluminum

APPENDIX B: FALL CLEARANCE DIAGRAMMS

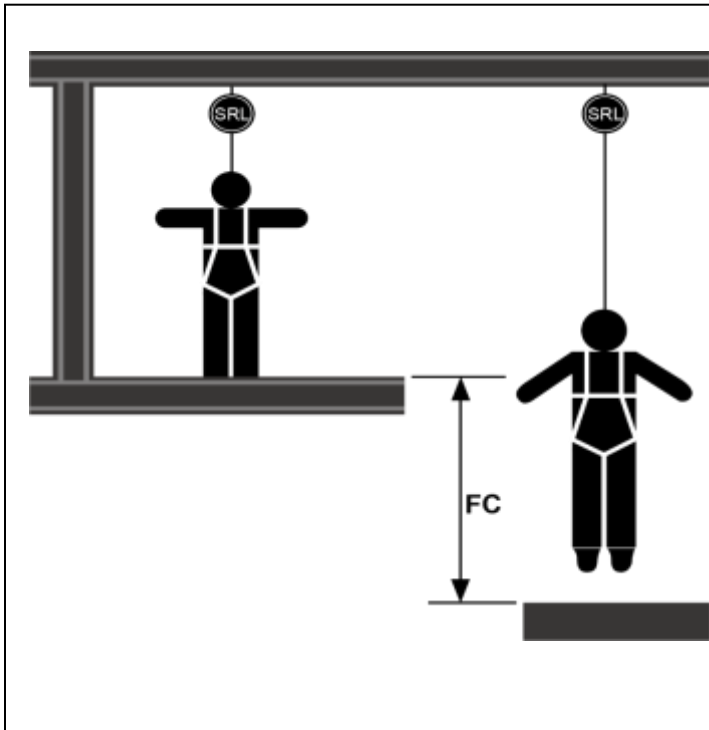


Figure 1B Fall clearance from a standing position where the SRL is anchored overhead.

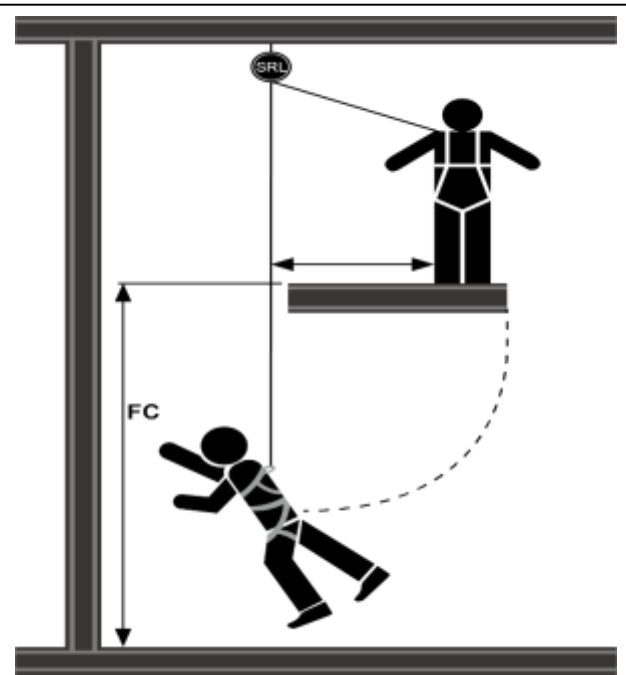


Figure 2B Fall clearance in swing fall situations.

APPENDIX C: CALCULATING MINIMUM REQUIRED FALL CLEARANCE (OVERHEAD SRD)

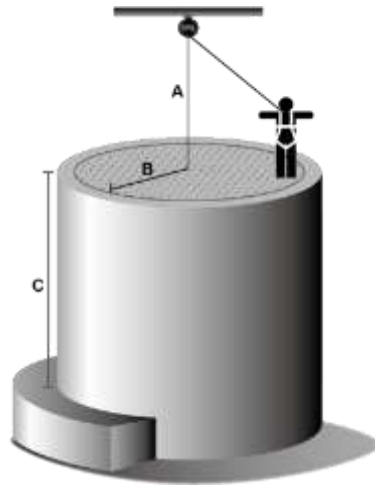


Figure 1C: Minimum required fall clearance for falls from a standing position where the SRL is anchored overhead.

Table 1C: Fall Clearance Chart for Overhead Use

B Fall clearance (ft)		C Horizontal distance of worker to anchor (ft)																
		0	2	4	6	8	10	15	20	25	30	35	40	45	50	55	60	65
A Height of anchor to foot level (ft)	8	6.5	7.1	8.5	10.2	12.0	x	x	x	x	x	x	x	x	x	x	x	x
	10	6.5	6.9	7.9	9.3	10.9	x	x	x	x	x	x	x	x	x	x	x	x
	15	6.5	6.7	7.3	8.2	9.3	10.6	x	x	x	x	x	x	x	x	x	x	x
	20	6.5	6.6	7.0	7.7	8.5	9.5	x	x	x	x	x	x	x	x	x	x	x
	25	6.5	6.6	6.9	7.4	8.0	8.9	11.5	x	x	x	x	x	x	x	x	x	x
	30	6.5	6.6	6.8	7.2	7.7	8.4	10.7	x	x	x	x	x	x	x	x	x	x
	35	6.5	6.6	6.8	7.1	7.5	8.1	10.0	x	x	x	x	x	x	x	x	x	x
	40	6.5	6.6	6.7	7.0	7.4	7.9	9.6	11.8	x	x	x	x	x	x	x	x	x
	45	6.5	6.5	6.7	6.9	7.3	7.7	9.2	11.2	x	x	x	x	x	x	x	x	x
	50	6.5	6.5	6.7	6.9	7.2	7.6	8.9	10.7	x	x	x	x	x	x	x	x	x
	55	6.5	6.5	6.7	6.9	7.1	7.5	8.7	10.4	12.4	x	x	x	x	x	x	x	x
	60	6.5	6.5	6.6	6.8	7.1	7.4	8.5	10.0	11.9	x	x	x	x	x	x	x	x
	65	6.5	6.5	6.6	6.8	7.0	7.3	8.3	9.7	11.5	x	x	x	x	x	x	x	x

APPENDIX D: CALCULATING MINIMUM REQUIRED FALL CLEARANCE (LEADING EDGE)

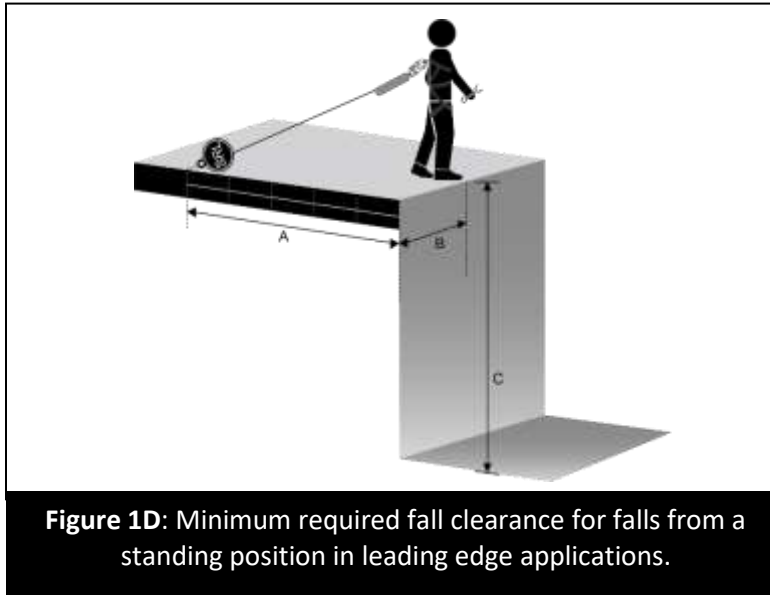


Figure 1D: Minimum required fall clearance for falls from a standing position in leading edge applications.

Table 1D: Minimum required fall clearance for falls from a standing position in leading edge applications.									
For leading edge use		B Lateral Offset Distance (ft)							
		0	2	6	10	14	18	20	25
A Setback Distance (ft)	8	17.1	17.4	19.1	X	X	X	X	X
	10	17.1	17.3	18.8	X	X	X	X	X
	15	17.1	17.3	18.3	20.2	X	X	X	X
	20	17.1	17.2	18	19.5	X	X	X	X
	25	17.1	17.2	17.8	19.1	X	X	X	X
	30	17.1	17.2	17.7	18.7	20.2	X	X	X
	35	17.1	17.2	17.6	18.5	19.8	X	X	X
	40	17.1	17.2	17.6	18.4	19.5	X	X	X
	45	17.1	17.2	17.5	18.2	19.3	X	X	X
	50	17.1	17.2	17.5	18.1	19	20.3	X	X
	55	17.1	17.2	17.5	18	18.9	20	X	X
	60	17.1	17.2	17.4	18	18.7	19.8	20.4	X
	65	17.1	17.2	17.4	17.9	18.6	19.6	20.1	X
C Clearance Required									

X: Outside safe work radius for setback distance

APPENDIX E: STORAGE, SERVICE, AND MAINTENANCE

[illegible]

