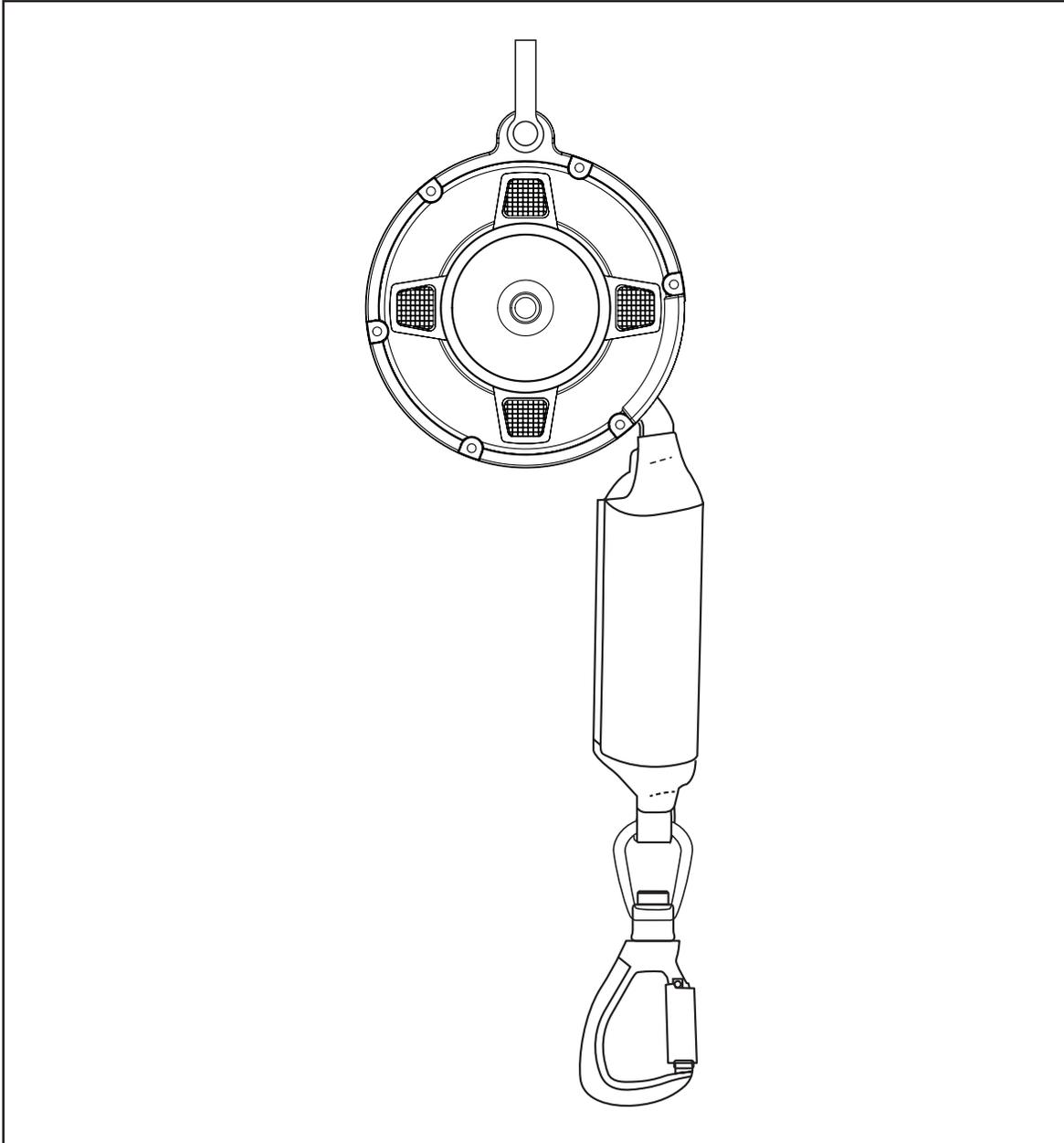


20' Web Contractor SRL

User Instruction Manual



This manual is intended to meet the Manufacturer's Instructions as required by the American National Standards Institute (ANSI) Z359 and should be used as part of an employee training program as required by the Occupational Safety and Health Administration (OSHA).

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For purposes of this manual, the 20' Contractor Web SRL in all iterations may be referred to collectively as the FallTech® 20' Contractor SRL, the Contractor SRL, 20' Contractor , the SRL, the SRD, the self-retracting device, the equipment, the device, the product, or the unit.

1.0 Warnings and Important Information

WARNING

- Avoid moving machinery, thermal, electrical, and/or chemical hazards as contact may cause serious injury or death.
- Avoid swing falls.
- Follow the weight restrictions and recommendations in this manual.
- Remove from service any equipment subjected to fall arrest forces.
- Remove from service any equipment that fails inspection.
- Do not alter or intentionally misuse this equipment.
- Consult FallTech when using this equipment in combination with components or subsystems other than those described in this manual.
- Do not connect rebar hooks, large carabiners, or large snap hooks to the FBH dorsal D-rings as this may cause a roll-out condition and/or unintentional disengagement.
- Avoid sharp and/or abrasive surfaces and edges.
- Use caution when performing arc welding. Arc flash from arc welding operations, including accidental arcs from electrical equipment, can damage equipment and are potentially fatal.
- Examine the work area. Be aware of the surroundings and workplace hazards that may impact safety, security, and the functioning of fall arrest systems and components.
- Hazards may include but not be limited to cable or debris tripping hazards, equipment failures, personnel mistakes, moving equipment such as carts, barrows, fork lifts, cranes, or dollies. Do not allow materials, tools, or equipment in transit to contact any part of the fall arrest system.
- Do not work under suspended loads.

IMPORTANT

This product is part of a personal fall arrest, restraint, work positioning, suspension, or rescue system. A Personal Fall Arrest System (PFAS) is typically composed of an anchorage and a Full Body Harness (FBH), with a connecting device, i.e., an Energy Absorbing Lanyard (EAL), or a Self-Retracting Device (SRD), attached to the dorsal D-ring of the FBH.

These instructions must be provided to the worker using this equipment. The worker must read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the worker's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

A Fall Protection Plan must be on file and available for review by all workers. It is the responsibility of the worker and the purchaser of this equipment to assure that users of this equipment are properly trained in its use, maintenance, and storage. Training must be repeated at regular intervals. Training must not subject the trainee to fall hazards.

Consult a doctor if there is reason to doubt your fitness to safely absorb the shock of a fall event. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use this equipment.

Heavy users experience more risk of serious injury or death due to falls because of increased fall arrest forces placed on the user's body. In addition, the onset of suspension trauma after a fall even may be accelerated for heavy users.

The user of the equipment discussed in this manual must read and understand the entire manual before beginning work.

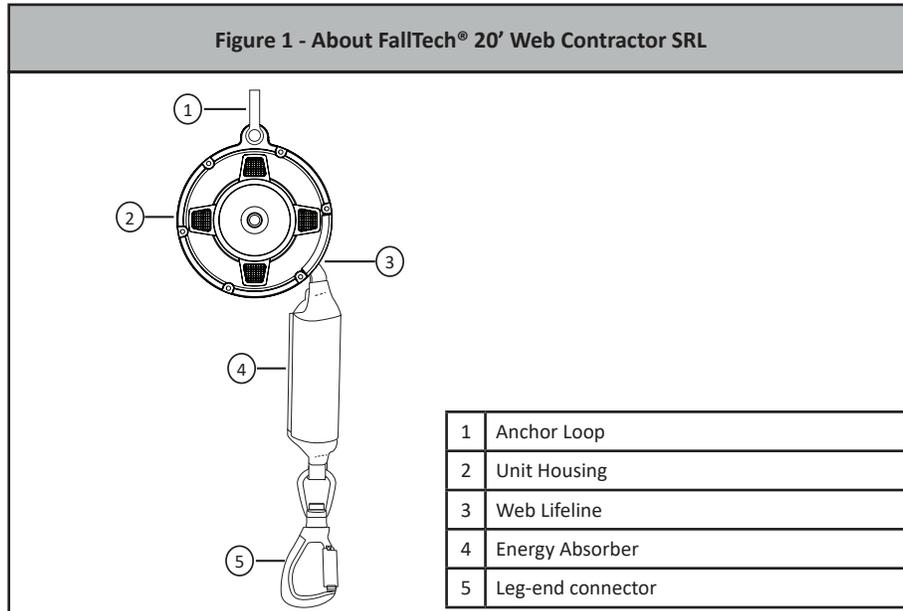
NOTE: For more information consult the ANSI Z359 body of standards.

2.0 Description

The FallTech® 20' Web Contractor SRL is a self-retracting lifeline for those working at height. At the top of the unit, a steel anchor loop provides an attachment point for a self-closing and self-locking connector. The SRD body consists of a nylon housing that contains a 20 ft (6 m) length of high performance dyneema webbing wound onto a spring-tensioned drum. The attachment end of the webbing is configured with a self-closing and self-locking connector for attachment to the full body harness. See Figure 1.

When attached and the worker moves about, the lifeline pays out and retracts, automatically maintaining a taut line. If a fall occurs, an integrated energy absorber at the leg end of the lifeline slows and arrests the fall, and also functions as a fall indicator.

See Table 1 in Appendix A for product and materials specifications.



2.1 American National Standards Institute (ANSI) and Occupational Safety and Health Administration (OSHA): The SRL discussed in this manual meets the standards of ANSI Z359.14-2014, ANSI A10.32-2012, and Occupational Safety and Health Administration (OSHA) regulations 1926.502. ANSI requires SRLs be classified according to their tested dynamic performance, and are classified either Class A or Class B, based on those test results. Dynamic performance means that the SRL is installed in a testing drop tower. A test weight is attached to the SRL and then dropped. Test results are recorded.

Parameters tested are:

- Arrest Distance (AD)
- Average Arrest Force (AAF)
- Maximum Arrest Force (MAF)

The Arrest Distance is the total vertical distance required to arrest a fall. The Arrest Distance includes the deceleration distance and the activation distance. The Average Arrest Force is the average of the forces applied to the body and the anchorage by the fall protection system. The Maximum Arrest Force is the maximum amount of force that may be applied to the body and the anchorage by the fall protection system. In addition to the above tests conducted in ambient conditions, the units must be retested for average and peak forces under certain environmental conditions, where the units are cooled, then tested, heated, then tested, and saturated in water and tested again. Separate units may be used for each test. All test results are recorded.

This test data is then used to establish the basis for fall clearance guidelines published in the user instruction manual.

SRL Class A and B: To be declared a Class A device, ANSI requires an SRL to have an Arrest Distance of less than 24", an Average Arrest Force of less than 1,350 lbs, (1,575 lbs conditioned) and a Maximum Arresting Force of 1,800 lbs, for both ambient and conditioned testing. To be declared a Class B device, the SRL must have an Arrest Distance of less than 54", an Average Arrest Force of less than 900 lbs, (1,125 lbs conditioned) and a Maximum Arresting Force of 1,800 lbs, for both ambient and conditioned testing.

When dynamically tested in accordance with requirements of ANSI Z359.14-2014, FallTech Class A Self-Retracting Devices have an AAF of 1,350 lbs and an AD of less than 24".

When dynamically tested in accordance with requirements of ANSI Z359.14-2014, FallTech Class B Self-Retracting Devices standard have an AAF of 900 lbs and an AD of less than 54".

Classification information found on product labels is based on test results. Table 1B provide test performance results for the SRL discussed in this manual. NOTE: Arrest distance is one of several parts of the Minimum Required Fall Clearance (MRFC). MRFC is discussed in detail in Section 5 .

The arrest distances described by Class A and Class B apply to overhead anchorage applications only. For non-overhead anchorage applications, please see Section 5 of this user instruction manual for how to calculate your Minimum Required Fall Clearance (MRFC).

3.0 Application

3.1 Purpose: The FallTech® 20' Web Contractor SRL is designed for use as a component in a PFAS, to provide a combination of worker mobility and fall protection as required for inspection work, general construction, maintenance work, oil production, confined space work, or any application where fall protection and worker mobility is required. The Contractor SRL is intended for Personal Fall Arrest applications only. The SRL is not designed nor suited for use in restraint, personnel riding, suspension, work positioning, or rescue applications. DO NOT use the SRL for these applications except as a back-up PFAS.

3.2 Personal Fall Arrest System: A PFAS is typically composed of an anchorage and a FBH, with an energy absorbing connecting device, i.e., a EAL, a SRD, or a Fall Arrester Connecting Subsystem (FACSS), attached to the dorsal D-ring of properly fitted and adjusted FBH. All uses and applications of a FBH with this equipment requires the FBH to be properly fitted and adjusted to the user. Failure to properly fit the FBH to the user could result in serious injury or death. The SRD may be installed on a FBH, or attached to a suitable anchorage. See Section 4 for additional details.

3.3 Horizontal Lifeline (HLL) and Rail Systems: Horizontal Lifeline (HLL) and Rail Systems: The SRD may be attached to rigid and flexible anchors provided that all HLL or rail system applications, installation, and uses are under the supervision of a qualified person.

3.4 Rescue: Ensure a written rescue plan, method and system is in place and readily available for rapid response. Rescues may require specialized equipment or measures. Rescue operations are beyond the scope of this manual. See ANSI Z359.4-2013.

NOTE: Lateral movement will result in a significant increase to fall clearance distance and swing fall requirements. See Section 5.

3.5 Application Limits: Take action to avoid moving machinery, sharp edges, abrasive surfaces, and thermal, electrical, or chemical hazards as contact may cause serious injury or death. This is NOT a leading edge product.

DO NOT attach to a below D-ring anchorage.

DO NOT use the SRD to lift tools, materials, or personnel.

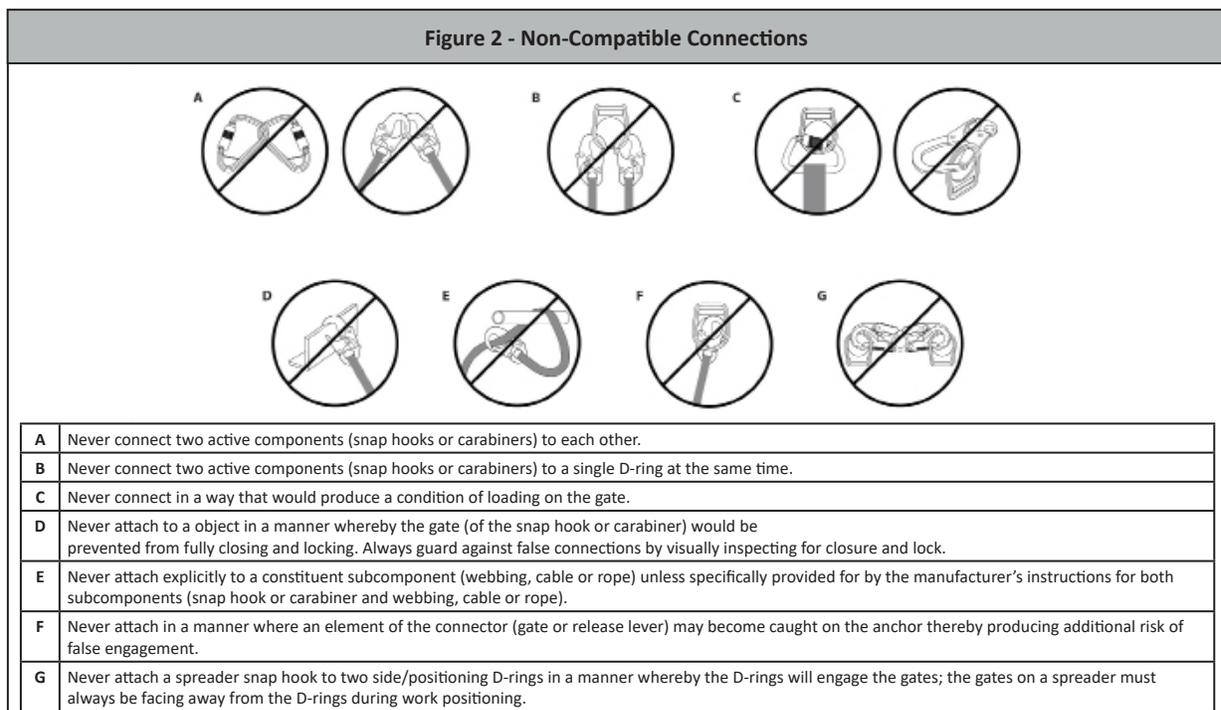
Remove from service any equipment subjected to fall arrest forces.

4.0 System Requirements

4.1 Capacity: The 20' Web Contractor SRL covered in this manual, is ANSI Z359 compliant, with a listed single user capacity, including clothing, tools, etc., of 130 lbs (59 kg) to no more than 310 lbs (140.6 kg). No more than one SRD may be connected to one anchorage/anchorage connector at one time.

4.2 Compatibility of Connectors: Connectors are considered to be 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 FallTech if you have any questions about compatibility. 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. Connectors must be compatible in size, shape, and strength. Self-closing, self-locking snap hooks and carabiners are specified by ANSI.

4.3 Making Connections: Only use self-locking connectors with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape, and strength. Do not use equipment that is not compatible. Visually ensure all connectors are fully closed and locked. Connectors (snap hooks, rebar hooks, and carabiners) are designed for use only as specified in this manual.



4.4 PFAS Anchorage Strength: An anchorage selected for PFAS must have a strength able to sustain a static load applied in the direction permitted by the PFAS of at least:

- a. Two times the maximum arrest force permitted when certification exists, or
- b. 5,000 lbs (22.2 kN) in the absence of certification.

4.5 Rescue: Rescue applications require specialized equipment and is beyond the scope of this manual.

5.0 Installation and Use

WARNING

Do not alter or intentionally misuse this equipment. Consult FallTech when using this equipment in combination with components or subsystems other than those described in this manual. All components or subsystems used with the SRD discussed in this manual must be in compliance with ANSI Z359.

Pre-Use Inspection:

Before each use, inspect the SRL; See Section 7.1 for Pre-Use Inspection instructions.

Use caution. Take action to avoid sharp and/or abrasive surfaces and edges when possible.

5.1. Plan the Personal Fall Arrest System (PFAS): Examine the work area and take action to address hazards. Falls are a serious hazard when working at height. Training and equipment are the tools of fall hazard management. There are several closely related facets of fall hazard management with a PFAS;

- Anchorage
- Minimum Required Fall Clearance (MRFC)
- Swing Fall and Expanded Work Zone
- Overhead (above the FBH D-ring) Anchorage
- Non-overhead Anchorage
- Rescue

5.2 Anchorage: Select a suitable anchor point. See Section 4.4. Determine the anchor point location relative to the height of the user's FBH D-ring. Also, consider how many feet of lateral travel the work will require. To avoid an unintended disengagement of connectors, use only compatible connectors when connecting to the anchorage. Ensure all connectors close and lock securely.

5.3 Minimum Required Fall Clearance: The MRFC is the minimum distance a user needs between himself and the nearest obstruction (or ground) below the walking/working surface to avoid serious injury or death in case of a fall event. The user of this equipment must determine the MRFC for units discussed in this manual to ensure adequate clearance exists in the fall path. Variables discussed in this manual include the height of the anchor point relative to the user's FBH D-ring, i.e., overhead or non-overhead anchorage condition, plus swing fall, and how an expanded work zone affects these variables.

5.4 Overhead Anchorage Condition: In an overhead anchorage condition, the SRD is installed anywhere in the allowable attachment area, which ranges from directly above the user to as low as the level of the FBH D-ring, as shown in Figure 3. The overhead condition MRFC has three metrics, labeled A, B, and C, measured from the walking/working surface. The sum total of these metrics, labeled D, is the sub-total MRFC.

A = SRD deceleration distance

B = D-ring shift and harness stretch

C = Safety factor

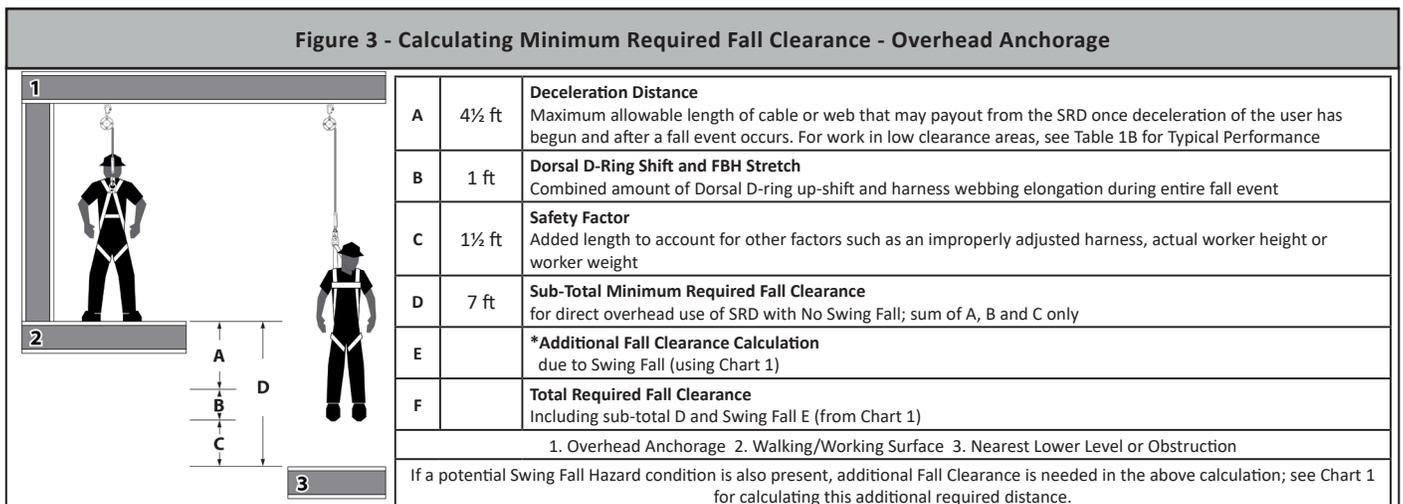
D = Sub-Total MRFC

E = Additional Fall Clearance Calculation Due to Swing Fall (using Chart 1)

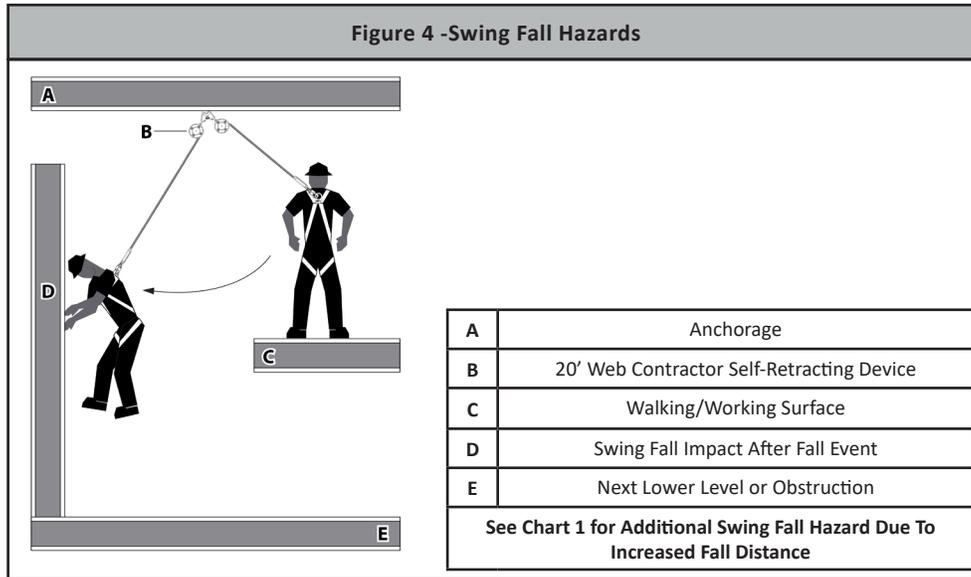
F = Total Required Fall Clearance

The MRFC for an overhead anchorage is calculated as $A+B+C=D$.

Figure 3 - Calculating Minimum Required Fall Clearance - Overhead Anchorage



5.5 Swing Fall: A swing fall occurs when the worker moves laterally out from under the anchorage and creates an expanded work zone condition, see Figure 4. If a fall event occurs, the worker would swing back toward the anchorage. The swinging action generates considerable force, and if the worker strikes an obstruction or makes contact with the lower level or the ground, this force could cause severe injury or death.



Overhead Anchorage and Swing Fall: For each foot the user moves laterally in any direction away from the anchorage, the work zone expands and swing fall distances increase. This increased work zone requires additional MRFC distance. See Chart 1 below for instructions on calculating additional fall clearance distance caused by expanded work zone swing fall conditions.

Chart 1 - Additional Fall Clearance Due To Swing Fall for Overhead Anchorage

Y-Axis: SRD Anchorage Height Above D-Ring of FBH (ft)	20	0	0	0	1	2	2	3	4	6	7	8
	18	0	0	0	1	2	3	4	5	6	7	9
	16	0	0	0	1	2	3	4	5	7	8	10
	14	0	0	1	1	2	3	4	6	7	9	10
	12	0	0	1	1	2	4	5	6	8	10	11
	10	0	0	1	2	3	4	6	7	9	11	12
	8	0	0	1	2	3	5	6	8	10	12	14
	6	0	0	1	2	4	6	7	9	11	13	15
	4	0	0	2	3	5	7	9	11	12	14	16
	2	0	1	2	4	6	8	10	12	14	16	18
	Dorsal D-Ring	0	0	2	4	6	8	10	12	14	16	18
		0	2	4	6	8	10	12	14	16	18	20
		X-Axis: Lateral Work Zone (ft) →										

Using Chart 1 to Find Additional Fall Clearance for Overhead Anchorage

2 foot increments along the X-Axis represent the distance the user is working away from the SRD Anchorage	2 foot increments up the Y-Axis represent the SRD Anchorage height above or below the user's Dorsal D-Ring
To find the additional Fall Clearance needed to compensate for potential Swing Fall, note the starting location on Chart 1 titled Dorsal D-Ring	
<p>Example: EXAMPLE: With leg-end snap hook connected to the Dorsal D-ring on FBH, User installs a 20' SRD unit 8' overhead (up the Y axis) and 10' laterally (along the X axis). This intersection shows 3' of additional Fall Clearance needed caused by Swing Fall. This additional 3' must be added to the MRFC for Overhead Use shown in Figure 2.</p>	
<p>Key to Work Zone Areas: = Allowable Use Area = Cautionary Use Area = Not Allowed Use Area</p>	

⚠ WARNING

An expanded work zone combined with an SRD used in a non-overhead (below the D-ring) condition is not allowed.

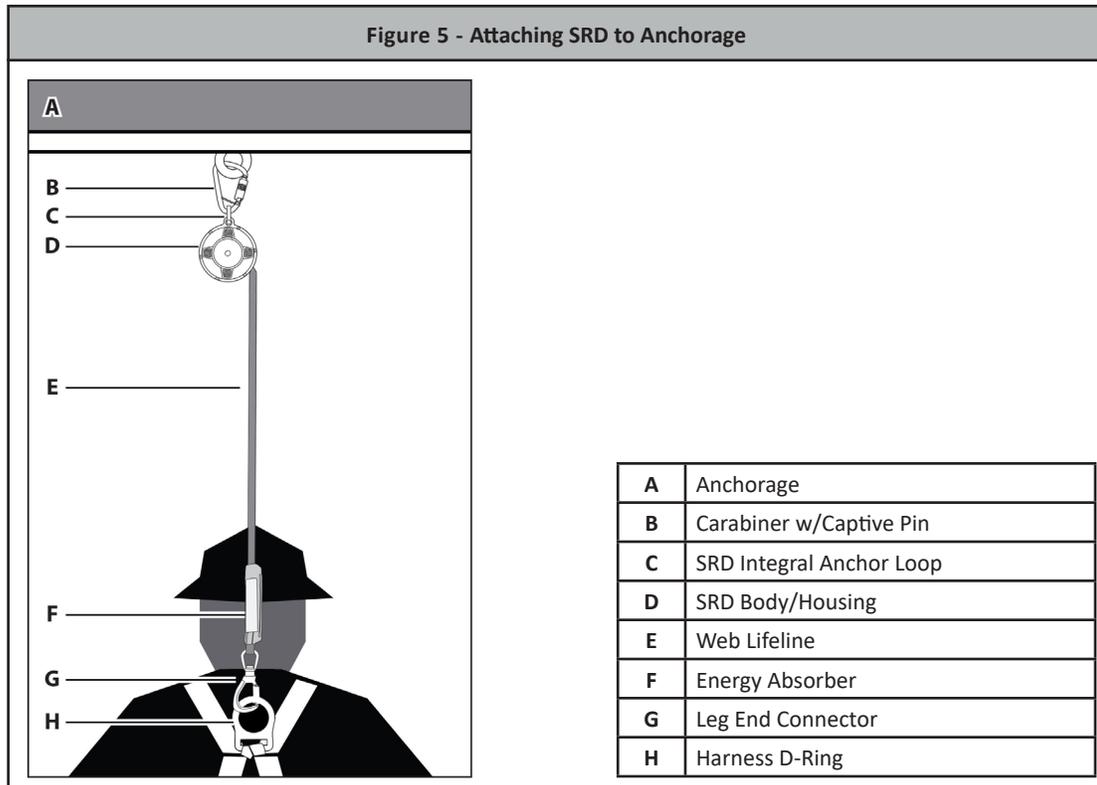
DO NOT attach the unit to any point below the level of the FBH D-ring.

5.7 Locking Speed: The SRD utilizes a centrifugal locking mechanism. The locking function requires a certain payout rate during a fall event to function correctly. If a fall occurs, a pawl mechanism is engaged, which deploys the energy absorber, slowing and arresting the fall. Certain situations, confined or cramped spaces, shifting footing such as sand, gravel, grain, or a sloped surface may not allow the lifeline to reach sufficient speed to activate the lock mechanism. A clear path is required to assure positive locking of the SRD.

5.8 Installation and Use of the SRD: Use compatible connectors when connecting to the anchorage and ensure unintended disengagement cannot occur. Visually ensure the connector closes and locks securely.

Housing Attached to the Anchorage: A single SRD with the housing end attached to an anchorage and the leg end connected to the user's FBH. The anchorage may range from overhead, to as low as the dorsal D-ring. Refer back to Figure 3. Connect the leg end connector to the dorsal D-ring. To attach the housing to an anchorage, see Figure 5 and follow these steps:

1. Don the harness in accordance with the harness manufacturer's instructions.
2. Insert the nose end of an ANSI compatible double-locking carabiner through the SRD housing swivel eye.
3. Attach this carabiner to the anchor point. Ensure the carabiner is oriented with the lock opening up and will take the load along its major axis. Visually ensure the carabiner closes and locks completely.
4. Connect the leg end connector to the dorsal D-ring of the FBH. Ensure the connector closes and locks completely.



The SRD will payout and retract smoothly to maintain a taut line during normal movement. Work as directly under the anchor as possible. If necessary, the housing end connector may be attached to a lower level anchorage, up to the user's harness D-ring. Be aware that a lower anchorage increases the risk of injury due to swing fall. Additional fall clearance is required.

5.9 Impact Indicator: The Energy Absorber in the lifeline between the housing and the leg end connector functions as a retraction stop and a fall arrest impact indicator for this unit. Torn stitching, expansion or lengthening, of the Energy Absorber is an indication that a fall event has occurred. If you have any questions contact FallTech. Inspect the unit before each use in accordance with the instructions in this manual. If any of the above conditions are evident, remove the SRD from service.

- DO NOT** allow the lifelines to become tangled or twisted together as this may prevent them from retracting.
- DO NOT** allow any lifeline to pass under arms or between legs during use.
- DO NOT** clamp, knot, or prevent the lifeline from retracting or being taut.
- DO NOT** lengthen the SRD by connecting a lifeline or similar component.
- DO NOT** allow the lifeline to freewheel back into the housing.

After a Fall: Remove from service immediately any equipment subjected to fall arrest forces, or exhibiting damage consistent with the effects of fall arrest forces.

5.10 Rescue: Rescue applications require specialized equipment and is beyond the scope of this manual.

6.0 Maintenance, Service, and Storage

6.1 Maintenance: Clean the SRD with water and mild detergent. Do not allow excessive build-up of dirt, paint, or other agents that may cause damage or hardening of the web fibers on any webbing. Do not treat any of the lifelines with heat to dry or clean the lifeline. Hardening of the fibers of the web from external elements may result in a loss of strength or alter the properties of the web in a manner that could cause the SRD lifeline to fail or to operate and perform correctly.

Housing: Periodically clean the exterior of the SRL with water and a mild detergent. Position the SRL so water can drain out. Clean labels as required.

Lifeline: Clean lifeline with water and a mild detergent. Rinse and thoroughly air dry; do not force dry with heat. An excessive build-up of dirt or other contaminants may prevent the lifeline from fully retracting, causing a potential free fall hazard.

- DO NOT** use heat to dry.
- DO NOT** attempt to disassemble the SRD.

6.2 Service: Remove the unit from service if it has been subjected to fall arrest force. Tag the unit as “UNUSABLE” to prevent future use. The SRD is not repairable.

6.3 Storage: Hang to store, out of direct sunlight. Ensure the lifeline is completely retracted into the housing. Avoid exposure to chemical agents and vapors, airborne debris, and water ingress. Store units tagged as “UNUSABLE” in a clearly marked area to prevent inadvertent use. Inspect any unit that has been stored for an extended time in accordance with the procedures detailed in Section 7.

7.0 Inspection

7.1 Pre-Use Inspection: Before each use, the SRD system should be inspected by the user for damage, wear and to ensure the Self Retracting Device free cracks, loose bolts or rivets. No frays, rip stitching still intact, contamination and the lifeline pull out and in freely. Please review the inspection guidelines for inspection requirements.

Guidelines for SRD Inspection		
Inspection	Pass	Fail
The web lifeline should extract and retract completely and without faltering and should remain taut under tension without sagging.		
Extract the web lifeline several inches and apply a firm pull to confirm the SRD locks. The locking should be certain and without skidding. Repeat this lockup at additional places along the lifeline length to confirm the SRD is operating correctly.		
Examine the energy absorber on the lifeline to be certain that it has not been activated.		
Review the web lifeline closely for wear created by abrasion, tattered yarns, unraveled strands, burns, and cuts. Also examine for knots, rust, dirt, paint, and grease or oil. Check for damage caused by chemical corruption or excessive heat as evident with discoloration. Examine for extreme exposure to sunlight and ultraviolet as demonstrated by desiccation.		
Check for any missing or loose screws or nuts and any deformed or damaged components.		
Examine the external housing for cracks, breaks, or warping.		
Review the integral anchor loop and Connector for damage and deformation. The anchor loop should rotate smoothly and be joined firmly to the housing. The Connector should also rotate smoothly within the anchor loop.		
Examine the overall SRD unit for any indications of deterioration or damage.		
All labels must be intact and totally readable (see Section 8)		

7.2 Inspection Frequency: ANSI Z359 requires an inspection by a competent person at least once a year by a person other than the user of the system.

Inspection Requirements for Self-Retracting Devices				
Type of Use	Application Examples	Example Conditions of Use	Worker Inspection Frequency	Competent Person Inspection Frequency
Infrequent to Light Use	Rescue and confined space, factory maintenance	Good storage conditions, indoor or infrequent outdoor use, room temperature, clean environments	Before each use	Annually
Moderate to Heavy Use	Transportation, residential construction, utilities, warehouse	Fair storage conditions, indoor and extended outdoor use, all temperatures, clean or dusty environments	Before each use	Semi-annually to annually
Severe to Continuous Use	Commercial construction, oil and gas, mining, foundry	Harsh storage conditions, prolonged or continuous outdoor use, all temperatures, dirty environments	Before each use	Quarterly to semi-annually

Notes:

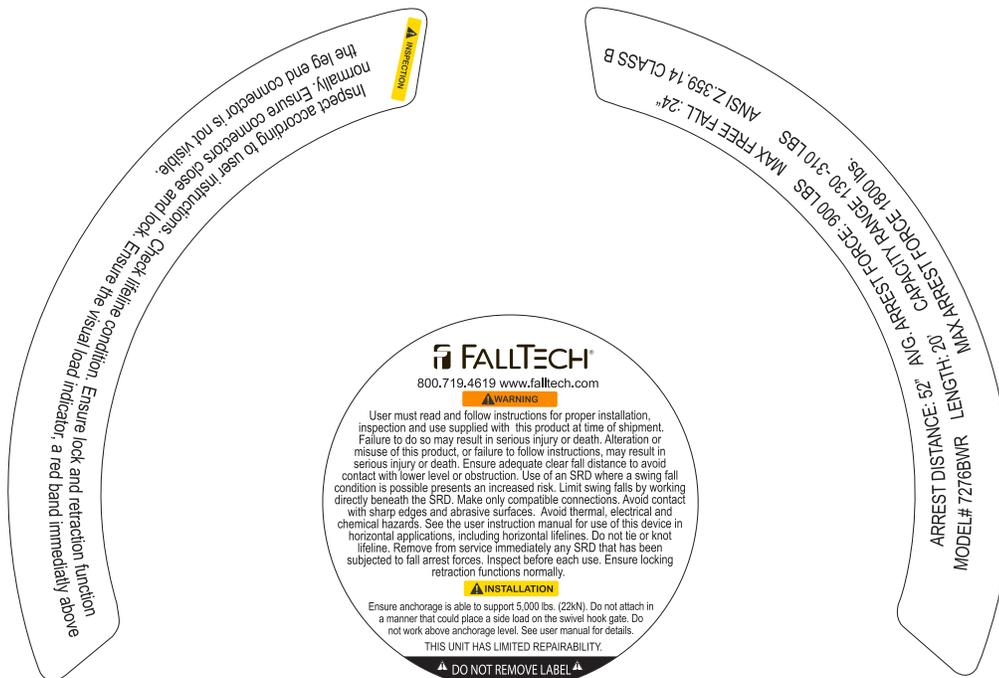
1. Failure of a worker to perform “Pre-Use Inspection” inspection or failure of an inspection by a worker shall initiate the requirement for inspection by a competent person.
2. Failure of a competent person to perform inspections as specified in this table, or failure of an inspection by the competent person shall initiate product revalidation or disposal.
3. Determination of the type of use category shall be determined by the competent person.
4. A SRD that is considered non-repairable, or designed for disassembly such that internal inspection is not possible without rendering it unservicable, is not subject to revalidation inspection. These SRDs shall have service life and other inspection requirements as provided by the manufacturer’s instructions.

7.3 Inspection Checklist: Use the Inspection Guidelines in Section 7.1 as a checklist to inspect the SRD.

7.4 Inspection Results: If an inspection reveals defects in or damage to the equipment, inadequate maintenance or activated fall force indicators, remove the equipment from service.

8.0 Labels

The labels must be present and legible.



APPENDIX A

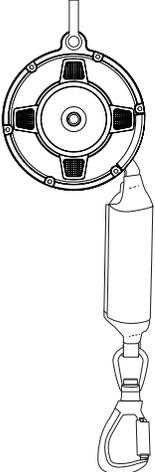
Table 1: Specifications for 20' Web Contractor SRL					
Model #	Lifeline Material	Working Length	Materials and Specifications	Capacity and Standards	Picture
7276BWR	Dyneema	20 ft (6 m)	<p>Webbing: Dyneema 4,500 lbs Min</p> <p>Anchorage Carabiner: 5,000 lbs with 3,600 lbs Gate Strength</p> <p>Leg-End Connector: 5,000 lbs (22.2 kN) Min 3,600 lbs (16 kN) Gate Strength</p>	<p>Single User Capacity: 130 lbs to 310 lbs (54 kg - 141 kg), combined weight of user, tools, clothing, etc.</p> <p>ANSI Z359.14-2014</p> <p>OSHA 1926.502 1910.66</p>	

Table 1B: FallTech 20' Web Contractor SRL Performance Attributes							
Part #s and Conditions		Typical FallTech Performance			ANSI Performance Requirements		
Part #	SRD Class	Arrest Distance	Average Arrest Force	Maximum Arrest Force	Maximum Arrest Distance	Average Arrest Force *Conditioned	Maximum Arrest Force
7276BWR	B	52"	816 lbs	1,142 lbs	54"	1,125 lbs	1,800 lbs