



ANSI Z359.14 Class B

OSHA

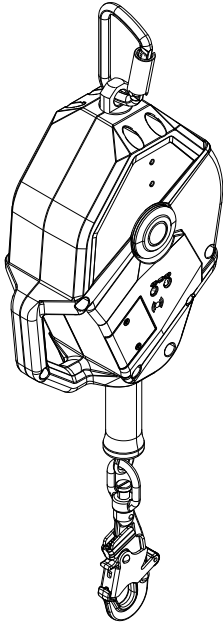
# Smart Lock Connected DIGITAL SELF-RETRACTING DEVICES




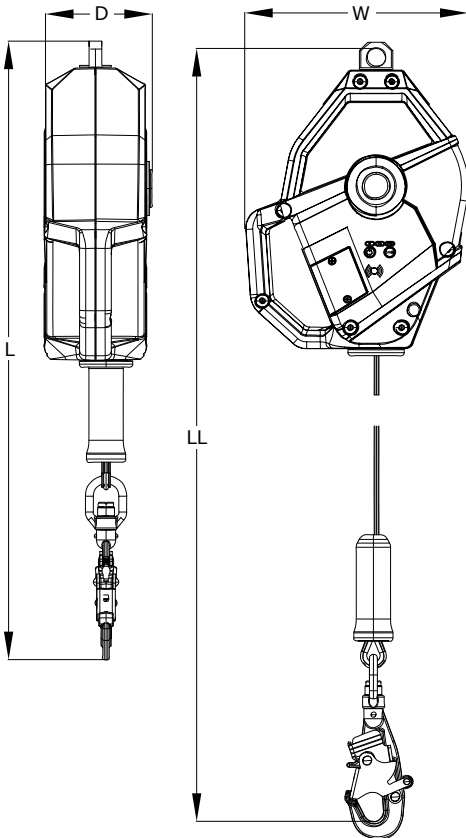
## USER INSTRUCTION MANUAL 5908321 Rev. A

### Fall Protection

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Smart Lock		LL	L	W	D	x 1	
						ANSI	OSHA
3503806	9501479 + 9502194	30 ft (9 m)	23.5 in (59.69cm)	9 in (22.86cm)	4 in (10.16cm)	310 lbs (141 kg)	420 LBS (191 kg)
3503807	9501613 + 2100044	30 ft (9 m)	23.5 in (59.69cm)	9 in (22.86cm)	4 in (10.16cm)	310 lbs (141 kg)	420 LBS (191 kg)
3503825	9501613 + 2100044	50 ft (15 m)	25 in (63.5cm)	10 in (25.4cm)	4.3 in (10.92cm)	310 lbs (141 kg)	420 LBS (191 kg)
3503826	9501479 + 9502194	50 ft (15 m)	25 in (63.5cm)	10 in (25.4cm)	4.3 in (10.92cm)	310 lbs (141 kg)	420 LBS (191 kg)



**FCC ID: DGFPSD3503806**

**IC: 458A – PSD3503806**

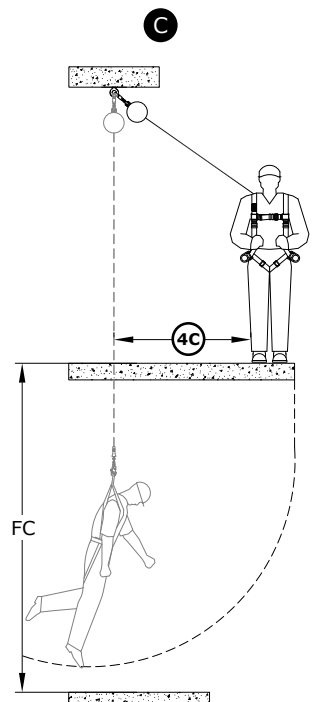
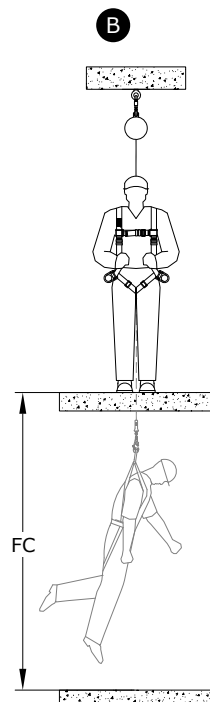
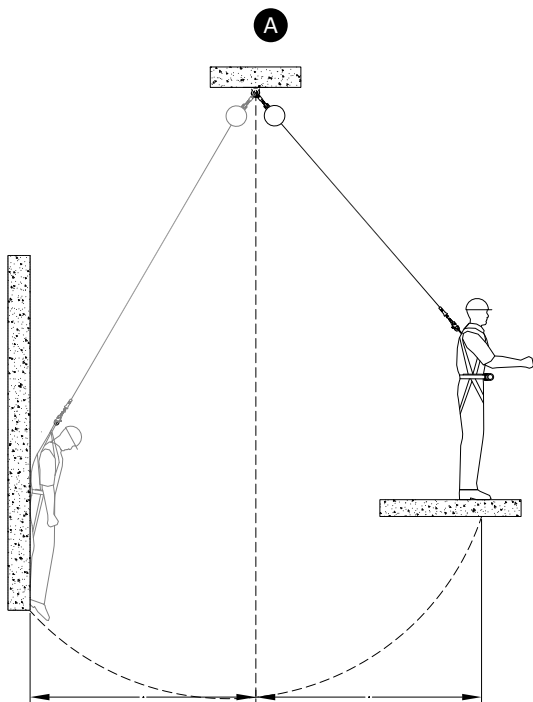
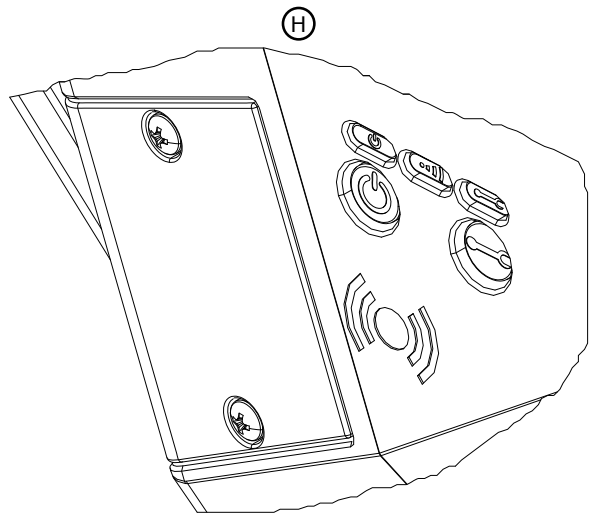
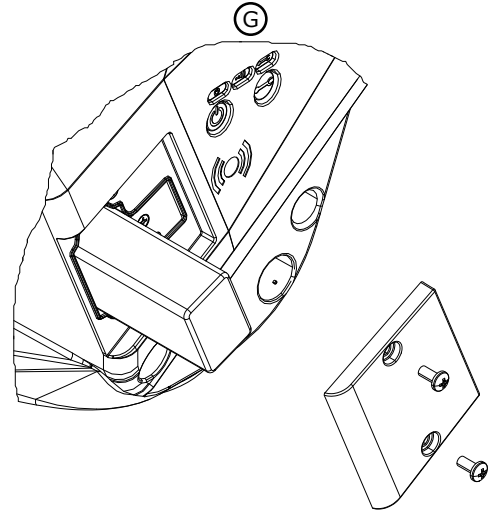
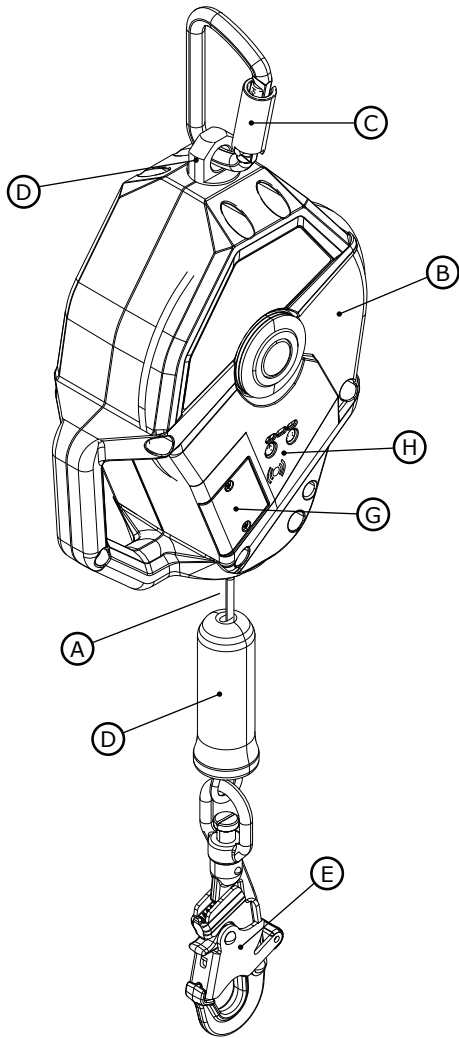
This device complies with Part 15 of the FCC Rules and Canadian license-exempt RSS 247 standard. Operation is subject to the following two conditions:

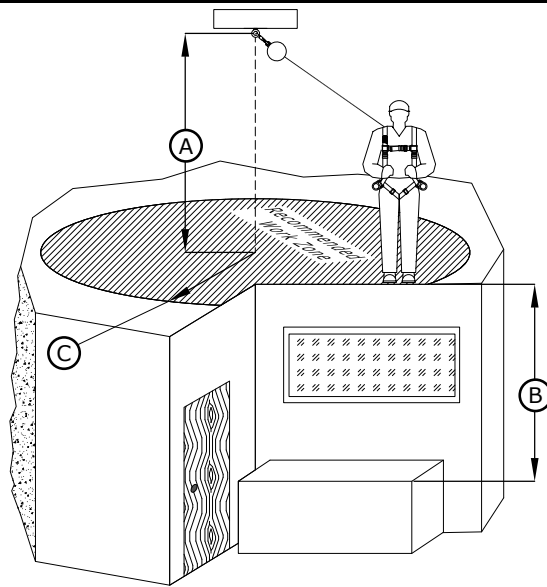
- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The 3M™ DBI-SALA® Smart Lock Connected Self-Retracting Lifeline is designed to meet the regulatory requirements in those jurisdictions in which it is offered. Changes or modifications not expressly approved by 3M Company could void the user's authority to operate the 3M™ DBI-SALA® Smart Lock Connected Self-Retracting Lifeline.



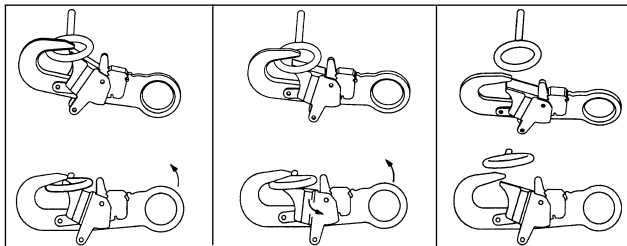


SRL: 130 - 310 lbs (59 - 141 kg)		B							
		<4 ft (1.8m)	4 ft (1.8m)	5 ft (1.5m)	6 ft (1.8m)	7 ft (2.1m)	8 ft (2.4m)	9 ft (2.7m)	>10 ft (3m)
A	8 ft (2.4m)	X	0 ft (0m)	2.5 ft (0.76m)	3.7 ft (1.13m)	4.9 ft (1.49m)	6 ft (1.83m)	7 ft (2.13m)	8 ft (2.44m)
	10 ft (3m)	X	0 ft (0m)	3.1 ft (0.94m)	4.6 ft (1.4m)	5.9 ft (1.8m)	7.1 ft (2.16m)	8.2 ft (2.5m)	9.3 ft (2.83m)
	20 ft (6.1m)	X	0 ft (0m)	5.4 ft (1.65m)	7.7 ft (2.35m)	9.6 ft (2.93m)	11.3 ft (3.44m)	12.8 ft (3.9m)	14.2 ft (4.33m)
	30 ft (9.1m)	X	0 ft (0m)	7 ft (2.13m)	10 ft (3.05m)	12.3 ft (3.75m)	14.4 ft (4.39m)	16.2 ft (4.94m)	17.9 ft (5.46m)
	50 (15.2)	X	0 ft (0m)	9.4 ft (2.87m)	13.4 ft (4.08m)	16.5 ft (5.03m)	19.1 ft (5.82m)	21.5 ft (6.55m)	23.7 ft (7.22m)
	70 ft (21.3m)	X	0 ft (0m)	11.3 ft (3.44m)	16.1 ft (4.91m)	19.8 ft (6.04m)	22.9 ft (6.98m)	25.7 ft (7.83m)	28.3 ft (8.63m)

SRL: 311 - 420 lbs (141 - 191 kg)		B					
		<6 ft (1.8m)	6 ft (1.8m)	7 ft (2.1m)	8 ft (2.4m)	9 ft (2.7m)	>10 ft (3m)
A	8 ft (2.4m)	X	0 ft (0m)	2.5 ft (0.76m)	3.8 ft (1.16m)	4.9 ft (1.49m)	6 ft (1.83m)
	10 ft (3m)	X	0 ft (0m)	3.1 ft (0.94m)	4.6 ft (1.4m)	5.9 ft (1.8m)	7 ft (2.13m)
	20 ft (6.1m)	X	0 ft (0m)	5.3 ft (1.62m)	7.6 ft (2.32m)	9.5 ft (2.9m)	11.2 ft (3.41m)
	30 ft (9.1m)	X	0 ft (0m)	6.9 ft (2.1m)	9.9 ft (3.02m)	12.2 ft (3.72m)	14.3 ft (4.36m)
	50 (15.2)	X	0 ft (0m)	9.3 ft (2.83m)	13.3 ft (4.05m)	16.4 ft (5m)	19 ft (5.79m)
	70 ft (21.3m)	X	0 ft (0m)	11.3 ft (3.44m)	16 ft (4.88m)	19.7 ft (6m)	22.8 ft (6.95m)

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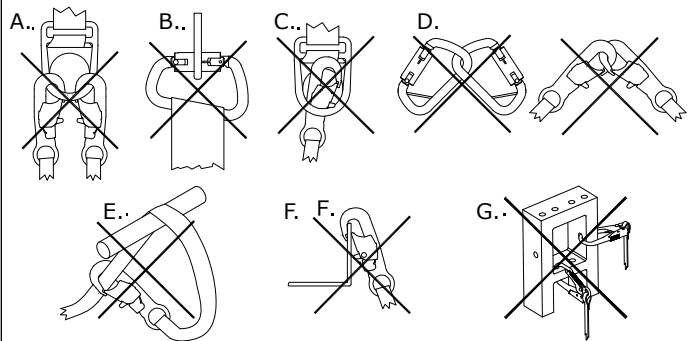
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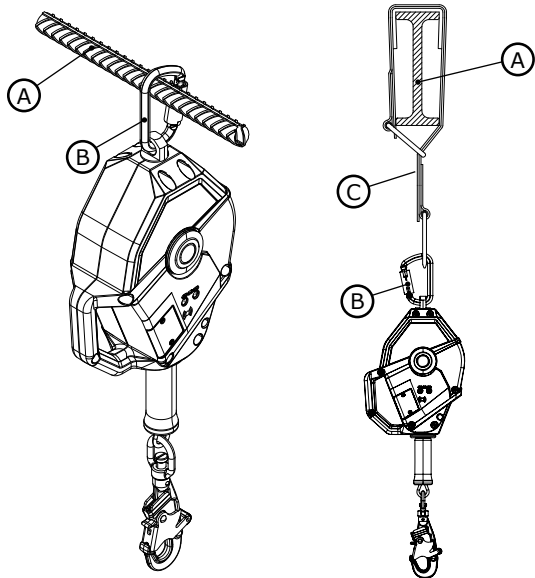
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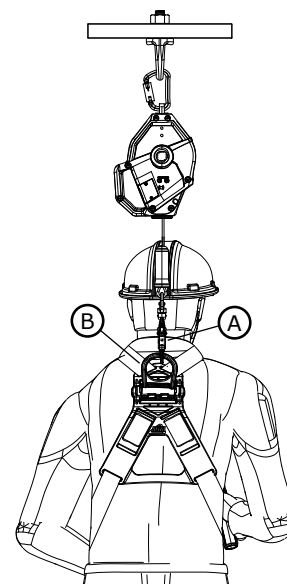
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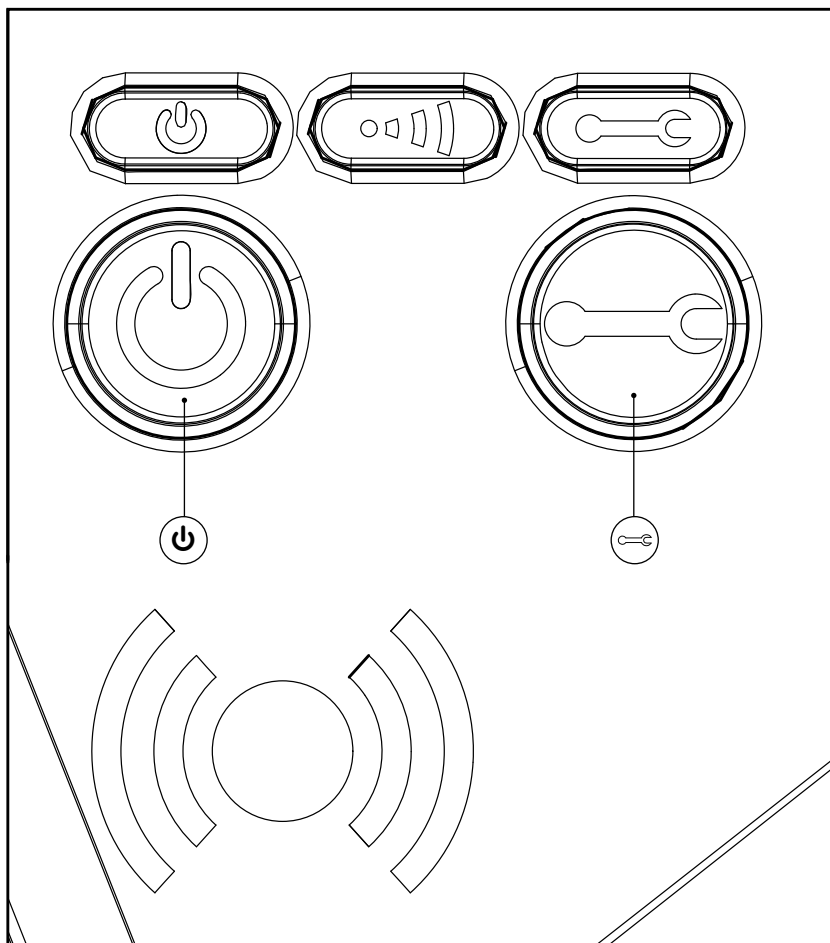
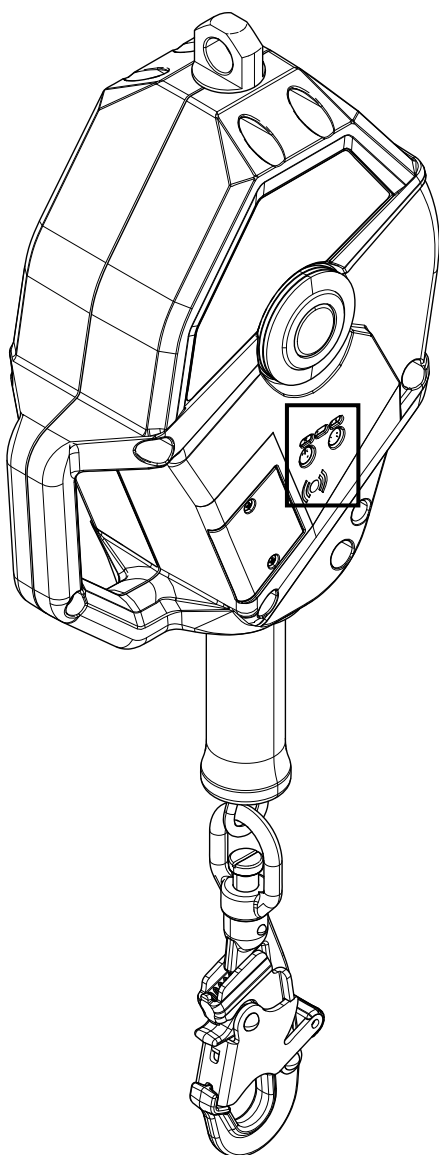
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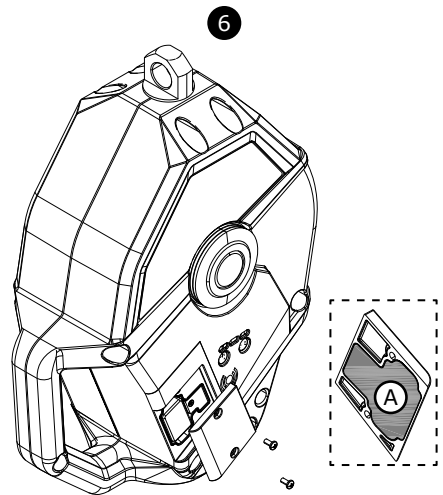
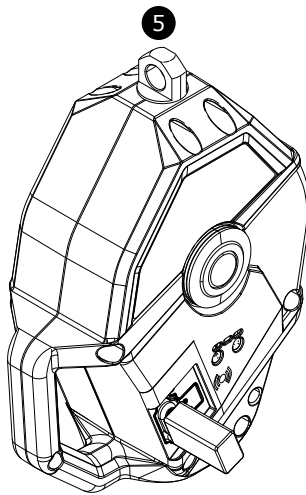
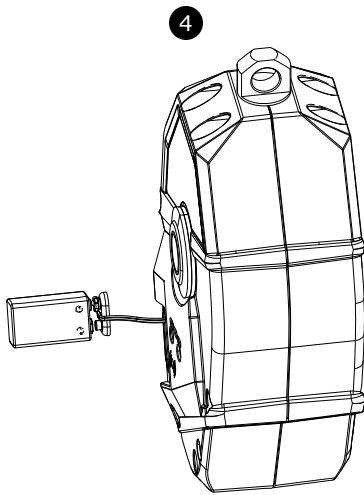
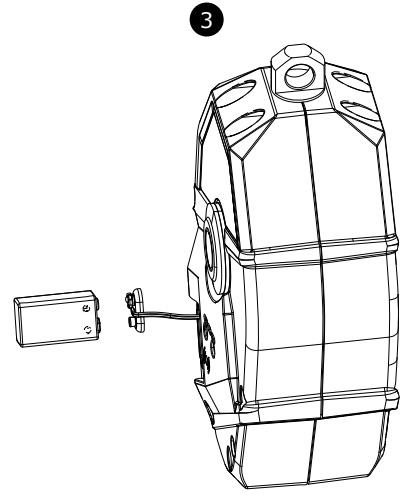
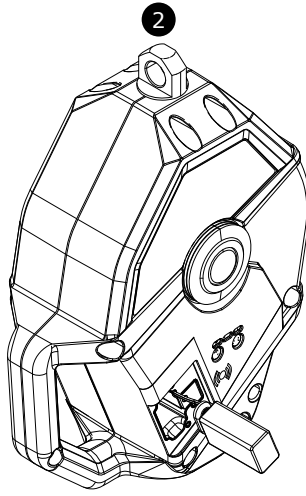
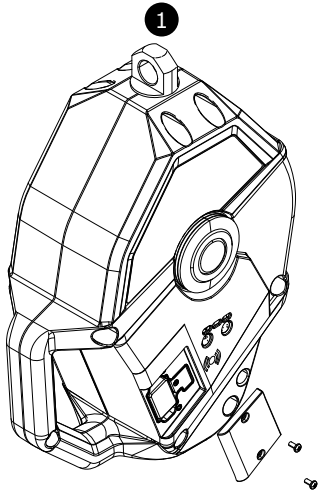
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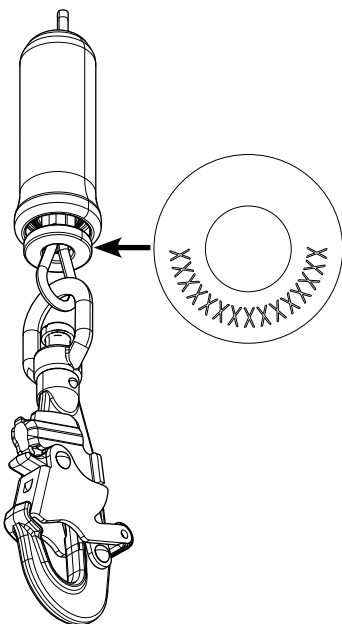
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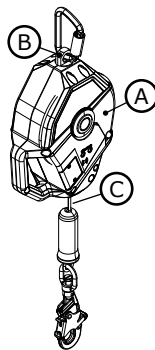
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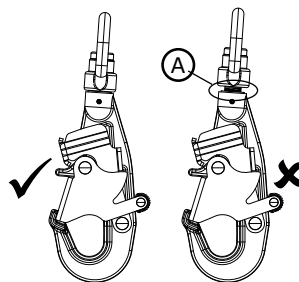
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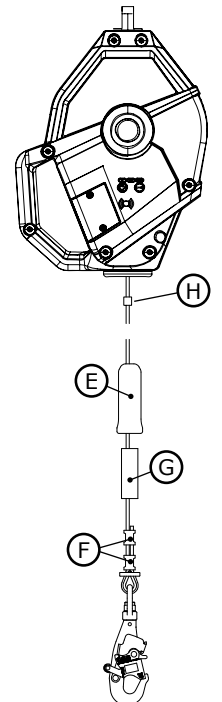
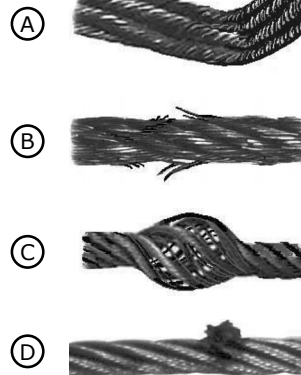
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**Please read, understand, and follow all safety information contained in these instructions prior to the use of this Self-Retracting Device (SRD). FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.**

**These instructions must be provided to the user of this equipment. Retain these instructions for future reference.**

## Intended Use:

This Self-Retracting Device is intended for use as part of a complete personal fall protection system.

Use in any other application including, but not limited to, material handling, recreational or sports related activities, or other activities not described in the User Instructions, is not approved by 3M and could result in serious injury or death.

This device is only to be used by trained users in workplace applications.

## WARNING

This Self-Retracting Device is part of a personal fall protection system. It is expected that all users be fully trained in the safe installation and operation of their personal fall protection system. **Misuse of this device could result in serious injury or death.** For proper selection, operation, installation, maintenance, and service, refer to these User Instructions including all manufacturer recommendations, see your supervisor, or contact 3M Technical Services.

- **To reduce the risks associated with working with an SRD which, if not avoided, could result in serious injury or death:**

- Before each use, inspect the SRD and check for proper locking and retraction.
- If inspection reveals an unsafe or defective condition, remove the device from service and repair or replace according to the User Instructions.
- If the SRD has been subjected to fall arrest or impact force, immediately remove the SRD from service and label the device 'UNUSABLE'.
- Ensure the lifeline is kept free from any and all obstructions including, but not limited to; entanglement with moving machinery or equipment (e.g., the top drive of oil rigs), other workers, yourself, surrounding objects, or impact from overhead objects that could fall onto the lifeline or the worker.
- Never allow slack in the lifeline. Do not tie or knot the lifeline.
- Attach the unused leg(s) of the Harness Mounted SRD to the parking attachment(s) of the harness if equipped.
- Do not use in applications that have an obstructed fall path. Working on slowly shifting material, such as sand or grain, or within confined or cramped spaces, may not allow the worker to reach sufficient speed to cause the SRD to lock. A clear path is required to assure positive locking of the SRD.
- Avoid sudden or quick movements during normal work operation. This may cause the device to lock up.
- Ensure that fall protection systems/subsystems assembled from components made by different manufacturers are compatible and meet the requirements of applicable standards, including the ANSI Z359 or other applicable fall protection codes, standards, or requirements. Always consult a Competent and/or Qualified Person before using these systems.
- (DEVICES WITH MAGNETS) Avoid close proximity to implanted medical devices.
- (DIGITAL SRDs) This device utilizes software and electronics to provide users and on-site safety professionals feedback during and after use of the device. Feedback provided from electronics is not a substitute for situational awareness and safe work practices. Do not rely on electronic device feedback as a substitute for safety procedures, product inspection, or monitoring of those working at height.
- (DIGITAL SRDs) Caution – The lithium battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 130°F (54°C) or incinerate. Replace battery with manufacturer recommended battery. Use of another battery may present a risk of fire or explosion.
- (DIGITAL SRDs) Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.
- (DIGITAL SRDs) Do not use device in environments where intrinsically safe devices are required.
- (DIGITAL SRDs) Never change batteries in a potentially explosive environment.
- (DIGITAL SRDs) Only replace batteries with those specified in the User Instructions.

- **To reduce the risks associated with working at height which, if not avoided, could result in serious injury or death:**

- Ensure your health and physical condition allow you to safely withstand all of the forces associated with working at height. Consult with your doctor if you have any questions regarding your ability to use this equipment.
- Never exceed allowable capacity of your fall protection equipment.
- Never exceed maximum free fall distance of your fall protection equipment.
- Do not use any fall protection equipment that fails pre-use or other scheduled inspections, or if you have concerns about the use or suitability of the equipment for your application. Contact 3M Technical Services with any questions.
- Some subsystem and component combinations may interfere with the operation of this equipment. Only use compatible connections. Consult 3M prior to using this equipment in combination with components or subsystems other than those described in the User Instructions.
- Use extra precautions when working around moving machinery (e.g. top drive of oil rigs) electrical hazards, extreme temperatures, chemical hazards, explosive or toxic gases, sharp edges, or below overhead materials that could fall onto you or your fall protection equipment.
- Use Arc Flash or Hot Works devices when working in high heat environments.
- Avoid surfaces and objects that can damage the user or equipment.
- Ensure there is adequate fall clearance when working at height.
- Never modify or alter your fall protection equipment. Only 3M or parties authorized in writing by 3M may make repairs to the equipment.
- Prior to use of fall protection equipment, ensure a rescue plan is in place which allows for prompt rescue if a fall incident occurs.
- If a fall incident occurs, immediately seek medical attention for the worker who has fallen.
- Do not use a body belt for fall arrest applications. Use only a Full Body Harness.
- Minimize swing falls by working as directly below the anchorage point as possible.
- If training with this device, a secondary fall protection system must be utilized in a manner that does not expose the trainee to an unintended fall hazard.
- Always wear appropriate personal protective equipment when installing, using, or inspecting the device/system.

Before using this equipment, record the product identification information from the ID label in the 'Inspection and Maintenance Log' at the back of this manual.


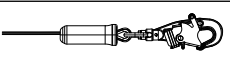
## DESCRIPTION:

Figure 2 identifies key components of the 3M™ DBI-SALA® Smart Lock Connected Self-Retracting Lifeline (SRL) models listed in Figure 1. Smart Lock Connected SRLs are drum wound Cable Lifelines (A) that retract into a PC/PBT Housing (B). They can hang from anchorage by a Carabiner (C) attached through the Swivel Eye (D) on the top of the SRL. A Self-Locking Snap Hook (E) on the end of the Lifeline attaches to the designated Fall Arrest connection on a Full Body Harness. A Bumper (F), protects the Wire Rope and Ferrules securing the Snap Hook from abrasion and corrosion.

Smart Lock Connected Self-Retracting Lifelines incorporate electronic functionality that provides condition and usage status previously not available in traditional mechanical Self-Retracting Devices. The SRL utilizes software and electronics to provide users and on-site safety professionals with feedback during and after use of the device. A Battery (G) powered On-Board Keypad (H) with Push Buttons, LED Indicator Lights, and an Audible Buzzer allows the user to check the status of the SRL on site. Wireless connectivity enables communication of status and usage data to the 3M Connected Equipment app on a Bluetooth mobile device.

**Table 1 – Specifications**

### Component Specifications:

				
<b>Housing Halves</b>	<b>Material</b>			
9514049	PC/PBT - 30 ft (9 m) SRLs			
9514051	PC/PBT - 50 ft (15 m) SRLs			
				
<b>Lifeline</b>	<b>Description</b>			<b>Hook</b>
9501479 + 9502194	3/16 in (4.76 mm) galvanized steel wire rope, self locking alloy steel swiveling snap hook with indicator.			9502194
9501613 + 2100044	3/16 in (4.76 mm) stainless steel wire rope, self locking stainless steel swiveling snap hook with indicator.			2100044
<b>Hook</b>	<b>Description</b>	<b>Material</b>	<b>Gate Strength</b>	<b>Throat Size</b>
9502194	Swiveling Self-Locking Snap Hook with Impact Indicator	Zinc Plated Steel	3,600 lbs (16 kN)	.75 in (1.9 cm)
2100044	Swiveling Self-Locking Snap Hook with Impact Indicator	Stainless Steel	3,600 lbs (16 kN)	.75 in (1.9 cm)
<b>Lifeline Tensile Strength:</b>		9501479 - 3/16 in diameter Galvanized Steel - Min. Tensile Strength 4,200 lbs (18.7 kN) 9501613 - 3/16 in diameter Stainless Steel - Min. Tensile Strength 3,600 lbs (16.0 kN)		
<b>Digital User Interface</b>	<b>Description</b>			
Battery	9V, 1.2 AH, Non-Rechargeable Lithium Battery			
Keypad	Silicone Push Buttons, LED Indicator Lights, Audible Buzzer			
Mobile Device	Bluetooth enabled Android Mobile Device with the 3M Connected Equipment mobile app			

### Performance Specifications:

<b>SRL Specifications</b>	<b>ANSI/OSHA</b>	<b>OSHA</b>
<b>Capacity Range</b>	130 lbs - 310 lbs (59 kg - 141 kg)	311 lbs - 420 lbs (141 kg - 191 kg)
<b>Maximum Arresting Force</b>	1,350 lbs (6 kN)	1,800 lbs (8 kN)
<b>Average Arresting Force</b>	900 lbs (4 kN)	NA
<b>Maximum Arresting Distance</b>	30 in (0.8 m)	42 in (1.1 m)
<b>Minimum Fall Clearance</b>	4 ft (1.2 m)	6 ft (2 m)
<b>Maximum Free Fall Distance</b>	0 ft (0 m) <sup>1</sup>	



## 1.0 APPLICATIONS

- 1.1 PURPOSE:** Self-Retracting Devices (SRDs) are designed to be a component in a personal fall arrest system (PFAS). Figure 1 illustrates SRDs covered by this instruction manual. They may be used in most situations where a combination of worker mobility and fall protection is required (i.e. inspection work, general construction, maintenance work, oil production, confined space work, etc.).
- 1.2 STANDARDS:** Your SRD conforms to the national or regional standard(s) identified on the front cover of these instructions. Refer to the local, state, and federal (OSHA) requirements governing occupational safety for additional information regarding Personal Fall Protection.
- 1.3 TRAINING:** This equipment is intended to be used by persons trained in its correct application and use. It is the responsibility of the user to assure they are familiar with these instructions and are trained in the correct care and use of this equipment. Users must also be aware of the operating characteristics, application limits, and the consequences of improper use.
- 1.4 LIMITATIONS:** Always consider the following limitations when installing or using this equipment:

- **Capacity:** SRDs are for use by one person with a combined weight (clothing, tools, etc.) meeting the *Capacity Range* specified in Table 1 for your standard(s). Make sure all of the components in your system are rated to a capacity appropriate to your application.
- **Anchorage:** Anchorages selected for fall arrest systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
  1. 5,000 lbs. (22.2 kN) for non-certified anchorages, or
  2. 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.

**FROM OSHA 1926.500 AND 1910.104:** 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. 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.

- **Locking Speed:** Situations which do not allow for an unobstructed fall path should be avoided. Working in confined or cramped spaces may not allow the body to reach sufficient speed to cause the SRD to lock if a fall occurs. Working on slowly shifting material, such as sand or grain, may not allow enough speed buildup to cause the SRD to lock. A clear path is required to assure positive locking of the SRD.
- **Free Fall:** When used correctly with the SRD anchored directly overhead and no slack in the lifeline, SRDs will limit the free fall distance to 0 ft. (0 cm)<sup>1</sup>. To avoid increased fall distances, do not work above the anchorage level. **Do not lengthen SRDs by connecting a lanyard or similar component without consulting 3M.** Never clamp, knot, or prevent the lifeline from retracting or staying taut. Avoid slack line.
- **Swing Falls:** Swing Falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object in a swing fall may cause serious injury (see Figure 3A). Minimize swing falls by working as directly below the anchorage point as possible (Figure 3B).
- **Fall Clearance:** Figures 3B and 3C illustrate Fall Clearance. Table 1 specifies *Minimum Fall Clearance (FC)* for falls from a standing position where the SRD is anchored directly overhead (Figure 3B). Falls from a kneeling or crouching position will require an additional 3 ft (1 m) of Fall Clearance. In swing fall situations (Figure 3C), the total vertical fall distance will be greater than if the user had fallen directly below the anchorage point and requires additional Fall Clearance. Figure 4 and the accompanying table define the Maximum Work Radius (C) for various SRD Anchorage Heights (A) and Fall Clearances (B). The Recommended Work Zone is limited to the area located within the Maximum Work Radius.
- **Hazards:** Use of this equipment in areas where surrounding hazards exist may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to: high heat, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, or overhead materials that may fall and contact the user or fall arrest system. Avoid working where your lifeline may cross or tangle with that of another worker. Avoid working where an object may fall and strike the lifeline; resulting in loss of balance or damage to the lifeline. Do not allow the lifeline to pass under arms or between legs.
- **Sharp Edges:** Avoid working where the lifeline will be in contact with or abrade against unprotected sharp edges. Where contact with a sharp edge is unavoidable, cover the edge with a protective material.

<sup>1</sup> **Free Fall:** Correct application of the SRD, with the user working directly below the anchorage point and no lifeline slack, will eliminate Free Fall. Free Fall should be limited to 2 ft (0.6 m) where the user is not directly under the SRD or minimal slack exists in the lifeline.

## 2.0 Use

- 2.1 FALL PROTECTION AND RESCUE PLAN:** The employer must have a Fall Protection and Rescue Plan in place that meets *ANSI Z359.2 Minimum Requirements for a Comprehensive Managed Fall Protection Program*. The plan should provide guidelines and requirements for an employer's managed fall protection program, including policies, duties and training; fall protection procedures; eliminating and controlling fall hazards; rescue procedures; incident investigations; and evaluating program effectiveness.
- 2.2 INSPECTION FREQUENCY:** SRDs shall be inspected by the authorized person<sup>1</sup> or rescuer<sup>2</sup> before each use (See Table 3). Additionally, inspections shall be conducted by a competent person<sup>3</sup> other than the user. Extreme working conditions (harsh environment, prolonged use, etc.) may necessitate more frequent competent person inspections. The competent person shall use the *Inspection Schedule (Table 2)* to determine appropriate inspection intervals. Inspection procedures are described in the *Inspection & Maintenance Log (Table 3)*. Results of the Competent Person inspection should be recorded in the *Inspection and Maintenance Log* or recorded with the Radio Frequency Identification (RFID) system (see *Section 5*).
- 2.3 NORMAL OPERATIONS:** Normal operation will allow the lifeline to extend and retract with no hesitation or slack as the worker moves at normal speeds. If a fall occurs, a speed sensing brake system will activate, stopping the fall and absorbing much of the energy created. Sudden or quick movements should be avoided during normal work operation, as this may cause the SRD to lock up. For falls which occur near the end of the lifeline travel, a reserve lifeline system or Energy Absorber has been incorporated to reduce the fall arrest forces.
- 2.4 BODY SUPPORT:** A Full Body Harness must be used with the Self-Retracting Device. The harness connection point must be above the user's center of gravity. A body belt is not authorized for use with the Self-Retracting Device. If a fall occurs when using a body belt it may cause unintentional release or physical trauma from improper body support.
- 2.5 COMPATIBILITY OF COMPONENTS:** Unless otherwise noted, 3M equipment is designed for use with 3M approved components and subsystems only. Substitutions or replacements made with non approved components or subsystems may jeopardize compatibility of equipment and may affect safety and reliability of the complete system.
- 2.6 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 3M if you have any questions about compatibility. Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2 kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage (see Figure 5). Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required. If the connecting element to which a snap hook or carabiner attaches is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner (A). This force may cause the gate to open (B), allowing the snap hook or carabiner to disengage from the connecting point (C).
- 2.7 MAKING CONNECTIONS:** Snap hooks and carabiners used with this equipment must be self-locking. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked. 3M connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 6 for examples of inappropriate connections. Do not connect snap hooks and carabiners:
- To a D-ring to which another connector is attached.
  - In a manner that would result in a load on the gate. Large throat snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates, unless the snap hook is equipped with a 3,600 lb (16 kN) gate.
  - In a false engagement, where size or shape of the mating connectors are not compatible and, without visual confirmation, the connectors 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 which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.
  - In a manner that does not allow the connector to align properly while under load.

**Table 2 – Inspection Schedule**

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

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

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

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

### 3.0 Installation

- 3.1 PLANNING:** Plan your fall protection system before starting your work. Account for all factors that may affect your safety before, during, and after a fall. Consider all requirements and limitations defined in this manual.
- 3.2 ANCHORAGE:** Figure 7 illustrates typical SRL anchorage connections. The anchorage (A) should be directly overhead to minimize Free Fall and Swing Fall hazards (see Section 1.4). Select a rigid anchorage point capable of sustaining the static loads defined in Section 1.4. The Swivel Eye on the SRL is equipped with a Carabiner (B). Attach the Carabiner directly to the anchorage structure (rebar, angle iron, etc.), a Tie-Off Adaptor (C), or Anchorage Connection Point (D).
- 3.3 HARNESS CONNECTION:** A Full Body Harness is required for Fall Arrest applications. Connect the Snap Hook (A) on the SRL Lifeline to the Back Dorsal D-Ring (B) on the Full Body Harness. (see Figure 8). For situations such as ladder climbing, it may be useful to connect to the front Sternal D-Ring. Consult the harness manufacturer's instructions for details regarding use of the harness connection points.

### 4.0 OPERATION

*First time or infrequent users of Smart Lock Connected Self-Retracting Lifelines (SRLs) should review the "Safety Information" at the beginning of this manual prior to use of the SRL.*

- 4.1 ON-BOARD USER INTERFACE:** The Smart Lock Connected Self-Retracting Lifeline (SRL) has an On-Board User Interface with Push Buttons, LED Indicator Lights, and an Audible Buzzer for checking the status of the SRL (see Figure 9). Additional wireless connectivity enables communication of status and usage data to the 3M Connected Equipment app on a Bluetooth mobile device. These electronic functions provide users and on-site safety professionals feedback during and after use of the SRL.

*Feedback provided from the electronics on the Smart Lock Connected Self-Retracting Lifeline is not a substitute for situational awareness and safe work practices. Do not rely on electronic device feedback as a substitute for required safety procedures, product inspection, or monitoring of personnel working at height.*

When operating the On-Board User Interface, do not use sharp tools or excessive force to press the Push Buttons. Do not attempt to press the three oval shaped LED Indicator Lights.

- **Power States:** The Digital SRL is always powered on if a good battery is installed. There are two Power States:

<b>Active State</b>	In Active State, the Smart Lock Connected SRL is in a detecting condition. The SRL automatically goes into Active State when the lifeline is extended. Pressing the Power Button (⏻) for at least 3 seconds also puts the SRL in Active State. When the SRL enters Active State, all three LED Indicator Lights flash once and the interface emits a multi-toned beep.
<b>Deep Sleep</b>	Deep Sleep places the Smart Lock Connected SRL in a low power state. Pressing the Power Button (⏻) for at least 3 seconds will switch from Active State to Deep Sleep. When the SRL enters Deep Sleep, the Orange LED Indicator Light flashes twice rapidly and the interface emits a single-tone beep. The SRL will automatically switch into power saving Deep Sleep after a period of non-use, so it is not necessary to press the Power Button after using the SRL.

- **Battery Condition:** Battery state can be checked by pressing the Status Button (⏻) and observing the Orange LED Indicator Light:

<b>Good Battery</b>	One rapid flash of the Orange LED Indicator Light and a single audible beep indicates a good battery.
<b>Low Battery</b>	Ten rapid flashes of the Orange LED Indicator Light indicates a low battery. See "Section 6 - Maintenance, Service, and Storage" for Battery Replacement.

- **Status Codes:** The On-Board User Interface provides indication of conditions that require the SRL be removed from service and inspected. Error states can be checked by pressing the Status Button (⏻) and observing the LED Indicator Lights:

<b>No Errors</b>	One rapid flash of the Orange LED Indicator Light and a single audible beep indicate there are no conditions that require removal of the SRL from service. Proceed with visual inspection of the SRL before use. See "Table 3 - Inspection and Maintenance Log".
<b>Error State</b>	Ten rapid flashes of the Red LED Indicator Light indicate a condition that requires removal of the SRL from service. The SRL must be removed from service, marked "UNUSABLE", and submitted to an Authorized Service Center for inspection and service.

- **Bluetooth Connectivity:** Wireless connectivity enables communication of status and usage data to the 3M Connected Equipment app on a Bluetooth mobile device. For details, contact a 3M Customer Service representative (see back cover). When a Bluetooth connection is established, the Blue LED Indicator Light on the On-Board User Interface will flash three times.

- 4.2 BEFORE EACH USE:** Before each use of this fall protection equipment carefully inspect it to assure it is in good working condition. Check for worn or damaged parts. Ensure all bolts are present and secure. Check that the lifeline is retracting properly by pulling out the line and allowing it to slowly retract. If there is any hesitation in retraction the unit should be marked as "UNUSABLE" and returned to an authorized service center for service. Inspect the lifeline for cuts, frays, burns, crushing and corrosion. Check locking action by pulling sharply on the line. See Section 5 for inspection details. Do not use if inspection reveals an unsafe condition.
- 4.3 AFTER A FALL:** Any equipment which has been subjected to the forces of arresting a fall or exhibits damage consistent with the effect of fall arrest forces as described in Section 5, must be removed from service immediately, marked as "UNUSABLE", and inspected and serviced as instructed in Sections 5 and 6.
- 4.4 BODY SUPPORT:** A full body harness must be worn when using 3M SRLs. For general fall protection use, connect to the back Dorsal D-Ring. For situations such as ladder climbing, it may be useful to connect to the front Sternal D-Ring. Consult the harness manufacturer's instructions for details regarding use of the harness connection points.
- 4.5 MAKING CONNECTIONS:** When using a hook to make a connection, ensure roll-out cannot occur (see Figure 5). Do not use hooks or connectors that will not completely close over the attachment object. Do not use non-locking snap hooks. The mounting surface should meet the anchorage strength requirements stated in Section 1.4. Follow the manufacturer's instructions supplied with each system component.
- 4.6 OPERATION:** Inspect the SRL as described in Section 5. Connect the SRL to a suitable anchorage or anchorage connector as previously described. Connect the Self-Locking Snap Hook on the end of the lifeline to the Dorsal D-Ring on the Full Body Harness (see Figure 8). Ensure connections are compatible in size, shape, and strength. Ensure hook is fully closed and locked. Once attached, the worker is free to move about within the recommended working area at normal speeds. A tag line may be required to extend or retract the lifeline during connection and disconnection operations. A tag line can be used to prevent uncontrolled retraction of the lifeline into the SRL. Depending on the work site environment and conditions, it may be necessary to restrain the free end of the tag line to prevent interference and entanglement with equipment or machinery.

## 5.0 Inspection

- 5.1 RFID TAG:** The Self-Retracting Lifeline includes a Radio Frequency Identification (RFID) tag (see Figure 11). The RFID tag can be used with the handheld reading device and web based portal to simplify inspection and inventory control and provide records for your fall protection equipment. For details, contact a 3M Customer Service representative (see back cover). Follow the instructions provided with your handheld reader, or on the web portal, to transfer your data to your web log.
- 5.2 INSPECTION FREQUENCY:** The Smart Lock Connected Self-Retracting Lifeline must be inspected at the intervals defined in "Section 2.2 - Inspection Frequency". Inspection procedures are described in the "Inspection & Maintenance Log" (Table 3).

*Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of inspections.*

- 5.3 UNSAFE OR DEFECTIVE CONDITIONS:** If inspection reveals an unsafe defective condition, remove the Self-Retracting Lifeline from service immediately, mark as "UNUSABLE", and send to an authorized service center for repair.

*Only 3M or parties authorized in writing may make repairs to this equipment.*

- 5.4 PRODUCT LIFE:** The functional life of Smart Lock Connected Self-Retracting Lifelines is determined by work conditions and maintenance. As long as the product passes inspection criteria, it may remain in service.

## 6.0 MAINTENANCE, SERVICE, and STORAGE

**6.1 CLEANING:** Cleaning procedures for the Smart Lock Connected Self-Retracting Lifeline are as follows:

- Periodically clean the exterior of the SRL using water and a mild soap solution. Position the SRL so excess water can drain out. Clean labels as required.
- Clean lifeline with water and mild soap solution. Rinse and thoroughly air dry. Do not force dry with heat. An excessive buildup of dirt, paint, etc. may prevent the lifeline from fully retracting back into the housing causing a potential free fall hazard.

**6.2 BATTERY REPLACEMENT:** The Smart Lock Connected Self-Retracting Lifeline is powered by a 9 Volt Battery. Battery life will vary with frequency of use and the environmental conditions in which the SRL is used and stored. Under normal use conditions, the battery should be replaced annually. Replace discharged batteries promptly.

**Lithium Battery:** *The Lithium Battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 130° F (54° C) or incinerate. Replace the battery with an equivalent 9V, 1.2 AH Non-Rechargeable Lithium Battery. Use of another battery may present risk of fire or explosion.*

Figure 10 illustrates replacement of the battery. To replace the battery:

1. Remove the two screws securing the Battery Cover and remove the Battery Cover. Save the screws for reuse.
2. Pull the Battery and Battery Connector Wire out of the enclosure, taking care not to damage or pinch the Battery Connector Wires.
3. Disconnect the Battery from the Battery Connector. Dispose of the Battery properly. Keep away from children. Do not disassemble the Battery or burn in a fire for disposal.
4. Connect the Battery Connector, observing proper polarity of the battery and connector.
5. Insert the Battery into the enclosure with the Battery Connector facing the bottom of the enclosure. Take care not to damage or pinch the Battery Connector Wires. When fully inserted, the Battery should sit below the surface of the enclosure to allow for proper installation of the Battery Cover. If the Battery is not positioned properly in the enclosure, reinsert the Battery, ensuring the Battery Connector Wires are not obstructing proper insertion of the Battery.
6. Inspect the Battery Cover to ensure the Foam Gasket (A) is present on the inside of the cover and is in good condition. Reinstall the Battery Cover and secure with the two screws. Do not overtighten the screws.

**6.3 SERVICE:** Additional maintenance and servicing procedures must be completed by an authorized service center. Do not attempt to disassemble the SRL or lubricate any parts.

**6.4 STORAGE AND TRANSPORT:** Store and transport the Smart Lock Connected Self-Retracting Lifeline in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the SRL after any period of extended storage. Removal of the battery is recommended if the Smart Lock Connected SRL will not be used for an extended period of time.

## 7.0 Labels

Figure 15 illustrates labels on the the Smart Lock Connected Self-Retracting Lifelines and their locations. All labels must be present on the SRL. Labels must be replaced if they are not fully legible. Pictograms on the labels are defined as follows:

<b>1</b>	Read Use Instructions located under the Lifeline Bumper
<b>2</b>	Do not load SRD Casing over an edge.
<b>3</b>	1 Person Capacity (See other side of label for weight range)
<b>4</b>	SRL - Not Leading Edge - Do not use over an edge.



## U.S. PRODUCT WARRANTY, LIMITED REMEDY AND LIMITATION OF LIABILITY

**WARRANTY:** THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Unless otherwise provided by applicable law, 3M fall protection products are warranted against factory defects in workmanship and materials for a period of one year from the date of installation or first use by the original owner.

**LIMITED REMEDY:** Upon written notice to 3M, 3M will repair or replace any product determined by 3M to have a factory defect in workmanship or materials. 3M reserves the right to require product be returned to its facility for evaluation of warranty claims. This warranty does not cover product damage due to wear, abuse, misuse, damage in transit, failure to maintain the product or other damage beyond 3M's control. 3M will be the sole judge of product condition and warranty options.

This warranty applies only to the original purchaser and is the only warranty applicable to 3M's fall protection products. Please contact 3M's customer service department at 800-328-6146 or via email at [3MFallProtection@mmm.com](mailto:3MFallProtection@mmm.com) for assistance.

**LIMITATION OF LIABILITY:** TO THE EXTENT PERMITTED BY APPLICABLE LAW, 3M IS NOT LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO LOSS OF PROFITS, IN ANY WAY RELATED TO THE PRODUCTS REGARDLESS OF THE LEGAL THEORY ASSERTED.



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