



**MALTA DYNAMICS**

**Edgehog®  
Leading Edge SRL  
Instruction Manual**



# Edgehog® Leading Edge SRL INSTRUCTION MANUAL

These instructions apply to the following model(s):

- LE3061 - 8' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE3061D - Dual 8' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE3063 - 8' Edgehog Leading Edge SRL with Rebar Hook Class A
- LE3063D - Dual 8' Edgehog Leading Edge SRL with Rebar Hook Class A
  
- LE3111 - 11' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE3111D - Dual 11' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE3113 - 11' Edgehog Leading Edge SRL with Rebar Hook Class A
- LE3113D - Dual 11' Edgehog Leading Edge SRL with Rebar Hook Class A
  
- LE7015 - 15' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE7020 - 20' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE7030 - 30' Edgehog Leading Edge SRL with Steel Snaphook Class A
- LE7050 - 50' Edgehog Leading Edge SRL with Steel Snaphook Class A

Manual Revision Date: **02-08-19**

*A copy of this manual must be available to users at all times. Visit [www.MaltaDynamics.com](http://www.MaltaDynamics.com) for the latest user instruction manual based upon date of manufacture.*



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# UNDER PENALTY OF LAW

This manual must be read and understood in its entirety and used as part of your fall protection training program as required by OSHA 1926 and State and local regulatory agencies. This instruction manual is intended to meet industry standards required by and ANSI Z359.14-2014 and should be used as part of an Employee Fall Safety training program as required by OSHA. User must read and fully understand the limitations and proper use of the equipment, and be properly trained by employer prior to use per OSHA 29 CFR 1910.66, 29 CFR 1926.503, and applicable local standards. NOTE: This *User Instruction Manual* is not to be removed except by the user of this equipment. Current *User Instruction Manuals* must always be available to the user. Read and understand these instructions before using equipment. *Do not discard these instructions.*

## WARNING

Misuse or failure to follow warnings, instructions and limitations on the use of this equipment may result in serious personal injury or death. For further instructions about proper use, refer to supervisor or contact Malta Dynamics at 1-800-494-1840.

## MATERIALS AND CONSTRUCTION

### Webbing Materials

- Constructed with UHMWPE with polyester (.770" width; .063" thickness); breaking strength > 4500 lbs tensile strength

### Cable Materials

- 7X19 Galvanized Steel (3/16" diameter)

### Connector Materials

- Stainless Steel and Alloy Steel

### Housing Materials

- High-Impact Resistant Polymer

## PURPOSE

Malta Dynamics Self-Retracting Lifelines are devices used to safely expand the working area where a harness with a six-foot lanyard is not adequate. A Self-Retracting Device (SRD) such as a self-retracting lifeline, is designed to reduce the shock load to the body of a worker by limiting the distance of a fall. The SRD allows complete freedom of movement. An SRD is one component of a Personal

Fall Arrest System (PFAS). PFAS normally include a full body harness, anchorage connector (such as a carabiner and an SRD.)

The Self-Retracting Lifeline (SRL) may be used in a stationary or mobile manner. As a stationary device, the SRL should be mounted to an approved, fixed anchorage connector. The SRL extends as the user moves away from the anchor point, and retracts as the user moves back toward the anchorage point. An SRL used in a mobile manner should travel on a steel cable, rope or fixed rail, traveling from one anchorage connector to another.

Self-Retracting Lifelines may include a swivel eye anchorage, self-locking swivel snap hook or universal rebar hook with impact indicator and 3/16" wire cable or webbing, carabiner and tag line.

## INSTRUCTIONS FOR USE

### **WARNING**

The maximum capacity while in Leading Edge applications is 310 lbs, for all other situations 420 lbs is the maximum user capacity.

### **WARNING**

Do not alter or intentionally misuse this equipment.

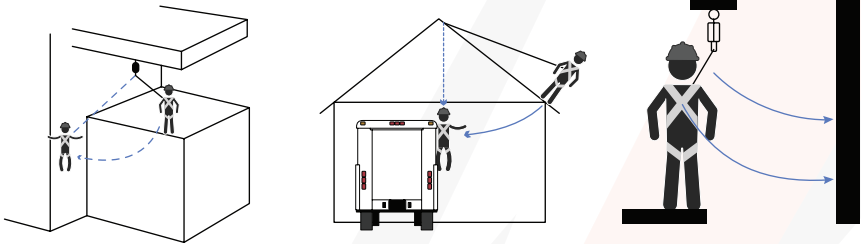
- Personal Fall Arrest System (PFAS) **MUST** limit maximum arrest forces to 1800 lbs. (8kN) or less.
- Employees shall be trained in accordance with the requirements of OSHA 29 CFR 1910.66 in the safe use of the system and its components before using a PFAS.
- Inspect all Personal Fall Arrest System equipment for wear, damage, and other deterioration prior to each use. Remove defective equipment from service immediately.
- Thoroughly evaluate and plan all elements of Fall Protection System(s) before using this equipment. Make sure that your Personal Fall Arrest System is appropriate for your needs and facility. Calculate fall clearance and swing fall clearance. The amount of clearance required is dependent on the type of connecting subsystem, the anchorage location, and other factors. When calculating distance, be sure to consider:





- Deceleration Distance
  - Movement of harness attachment (D-ring)
  - Free Fall Distance
  - Height of the worker (how tall is the worker?)
  - Elevation of Anchorage Connector
  - Connecting Subsystems length
  - D-ring connector length
  - Length of Full Body Harness stretch
  - 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 or death. Minimize potential for swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls significantly increase the amount of clearance required. **See Illustration 1.**

### Illustration 1: Examples of Swing Fall Hazards



- Users must have a written rescue plan and the means to implement it. This plan must provide prompt employee rescue or assure that employees have the ability to rescue themselves in the event of a fall.
- Store this equipment in a cool, dry, and clean environment that is out of direct light when not in use to prevent UV degradation.
- This equipment must be removed from service immediately if a fall is incurred.

# LIMITATIONS FOR USE



## WARNING

**DO NOT** use this equipment if you are unable to tolerate the impact of a fall arrest. Age and fitness can seriously affect your ability to withstand a fall. Consult with a physician if in doubt. Minors, pregnant women, and anyone with a history of back and/or neck problems must not use this equipment.



## WARNING

Use caution when employing this equipment around machines, electrical hazards, chemical hazards and sharp edges or abrasive surfaces, as contact may cause equipment failure, personal injury, or death.

- **DO NOT** allow the line constituent to retract into the unit in an uncontrolled manner.
- Malta Dynamics self-retracting lifelines must be used with a full body harness and shall only be used as a personal fall arrest system that limits the maximum free fall distance to 2 feet(0.6 m).
- Use only with compatible components of subsystems. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.
- Not all fall protection components are rated for the same user weight capacity. Users must be within each component capacity range.
- Self-Retracting Lifelines are designed for a single user with combined weight - including clothing, tools, etc. - within ANSI rated weight capacity range of 130 lbs. to 310 lbs. and maximum OSHA capacity of 420 lbs.
- This equipment is designed to be used in temperatures ranging from -40°F to +130°F(-40°C - +54°C).
- Use only with structures capable of supporting static loads required for Personal Fall Arrest Systems (PFAS). Anchorages used for PFAS must be capable of sustaining static loads in the direction permitted by the PFAS of at least: 3,600 lbs. with certification of a qualified person; or 5,000 lbs. without certification. When more than one PFAS is attached to an anchorage, the strengths stated above must be met independently at and for each anchorage location.
- **DO NOT** expose this equipment to chemicals or harsh solutions that



may have a harmful effect.

- User must not use or install equipment before receiving proper training from a Competent Person, as defined by OSHA 29 CFR 1926.32(f).
- Only Malta Dynamics shall make repairs or alterations to the equipment.
- All synthetic material must be protected from slag, hot sparks, open flames, or other heat sources. The use of heat resistant materials is recommended in these applications.

## CONNECTOR COMPATIBILITY LIMITATIONS

Malta Dynamics equipment must be coupled only to compatible connectors that are suitable to your application. Ensure all connections are compatible in size, shape and strength. Ensure all connectors are fully closed and locked. OSHA 29 CFR 1926.502 prohibits the use of snap hooks to engage to objects unless the following requirements are met:

- Snap hook must be a locking type snap hook.
- Snap hook must be explicitly designed for such a connection. “Designed for” means that the manufacturer of the snap hook specifically created the snap hook to be used to connect to the equipment in question.

Use of a non-locking snap hook can result in roll out (a process by which a snap hook or carabiner unintentionally disengages from another connector or object to which it is coupled. ANSI Z359.0- 2007). Malta Dynamics connectors (snap hooks and carabiners) are designed to be used only as specified in each product’s user’s instructions.

### Avoid the following types of connections:

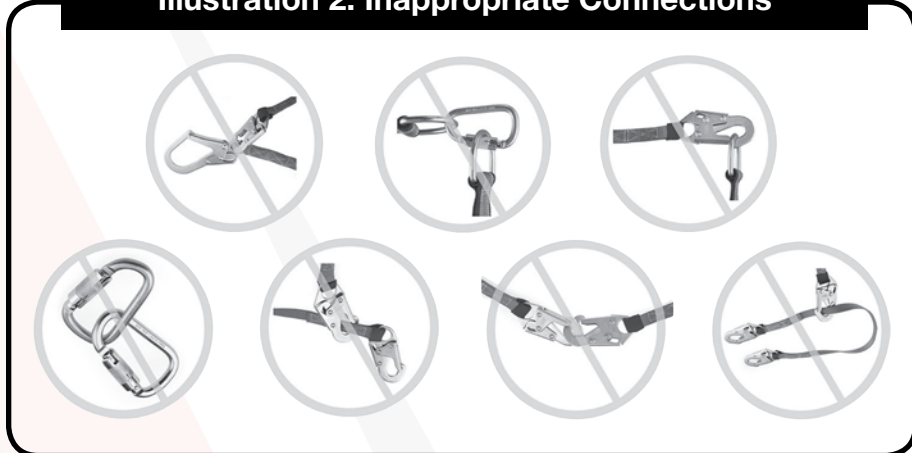
- Connection of two (or more) snap hooks or carabiners to one D-ring.
- Connection of a snap hook back to its integral lanyard.
- Direct connection of a snap hook to horizontal lifeline.
- Connection in a manner that results in a load on the gate. **NOTE:** *Large throat opening snap hooks should not be connected to standard size D-rings or similar objects, as such use will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on structural elements such as rebar or cross members that are not shaped in such a way that they may capture the gate of the hook.*
- False engagement connections, where protruding features of the snap hook or carabiner may catch on the anchor and seem to be fully engaged to the anchor point. Always confirm engagement.
- Connection to snap hooks or carabiners.
- Direct connection to webbing lanyard, webbing loop, rope lanyard or tie-back (unless the manufacturer’s instructions for both the lanyard and connector specifically allow such a connection).
- Connection of a snap hook to a D-ring, rebar, or other connection point



of improper dimensions in relation to the snap hook dimensions or configurations that could cause the snap hook keeper to be depressed by a turning motion of the snap hook, or such that snap hook or carabiner will not fully close and lock, or that roll-out could occur.

**Illustration 2 depicts examples of inappropriate connections:**

### Illustration 2: Inappropriate Connections



## CONNECTING COMPONENT LIMITATIONS

- A Competent Person must ensure the compatibility of all connections and that of the system.
- **DO NOT** use the system if any connector does not lock or if any other component in the system does not operate properly.
- Allow sufficient safe clearance in the event of a Free Fall.
- System must be rigged to limit the total Free Fall Distance according to the type of system, and in compliance with ANSI and OSHA directives.
- **DO NOT** use if any part of the system appears to be damaged.
- **DO NOT** use a body belt for fall arrest applications.

## PERFORMANCE

Class B SRLs must have an average arresting force of 900 lbs. (4kN) and total fall arrest distance of 54 inches when dynamically tested in accordance with the requirements of the ANSI.14:2014 standard. - Self-Retracting Device - Class B

Class A Self-Retracting Lifelines must have an average arresting force of 1350 lbs. (4kN) and total fall arrest distance of 24 inches when dynamically tested in



accordance with the requirements of the ANSI.14:2014 standard. - Self-Retracting Device - Class A

Model/ Part #	Description (Materials & Size)	Lifeline Length	Max Arrest Distance	ANSI® Z359.14 Class
LE3061	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	8ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3061D	Dual Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	8ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3063	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Rebar Hook	8ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3063D	Dual Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Rebar Hook	8ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3111	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	11ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3111D	Dual Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	11ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3113	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Rebar Hook	11ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE3113D	Dual Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Rebar Hook	11ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A
LE7015	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	15ft	LE Use-60"-132" Non-LE Use- 24"	Non-LE Use- Class A
LE7020	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	20ft	LE Use-60"-132" Non-LE Use- 24"	Non-LE Use- Class A
LE7030	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	30ft	LE Use-60"-132" Non-LE Use- 24"	Non-LE Use- Class A
LE7050	Impact Resistant Polymer Housing, Steel Cable, Steel Hardware, Polyester Shockpack, Steel Snaphook	50ft	LE Use-54"-102" Non-LE Use- 24"	Non-LE Use- Class A

## **WARNING**

The maximum capacity while in Leading Edge applications is 310 lbs, for all other situations 420 lbs is the maximum user capacity.

### **Applicable Standards:**

Refer to national standards, including ANSI Z359.1, and local, state and federal (OSHA 1910.66, appendix C, 1926.500) requirements for more information on personal fall arrest systems and associated components.

### **Capacity:**

Malta Dynamics Self-Retracting Lifelines are designed for use by an individual person with a combined weight (worker, clothing, tools, etc.) of 130 lbs. minimum to no more than 310 lbs. maximum for ANSI rated capacity. No more than one person may be connected at one time.

### **Anchorage Strength:**

In accordance with ANSI Z359.1, any anchorage selected for **Personal Fall Arrest Systems must meet all** anchorage strength requirements. Anchorages used for PFAS must be capable of sustaining static loads in the direction permitted by the PFAS of at least: 3,600 lbs. with certification of a qualified person; or 5,000 lbs. without certification. When more than one PFAS is attached to an anchorage, the strengths stated above must be met independently at and for each anchorage location. Avoid potential swing fall hazards and obstructions.

### **Free Fall:**

Maximum free fall distance allowed for use in a Personal Fall Arrest System is 2 ft. Do not work above the anchorage level to avoid increased Free Fall Distance. Avoid slack in the line and do not lengthen the Self-Retracting Lifeline by connecting a lanyard or other snap hook directly to the retractable. Do not use this device below the level of your feet. Using it thus will increase your free fall distance beyond the allowable limits set by OSHA and exceed the capabilities of this device to safely arrest a fall.

### **Fall Arrest Forces:**

Personal Fall Arrest System (PFAS) MUST limit maximum arrest forces to 1800 lbs. (8kN) or less.



# Fall Clearance and Swing Falls

Figure 2: Fall Clearance and Swing Falls

Figure 2A:

Clearance required in feet (meters) between Working Level and Nearest Obstruction for User with Total Weight up to 310 lbs (140 kg).

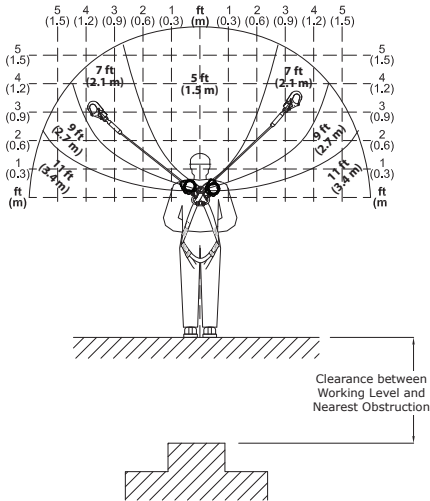
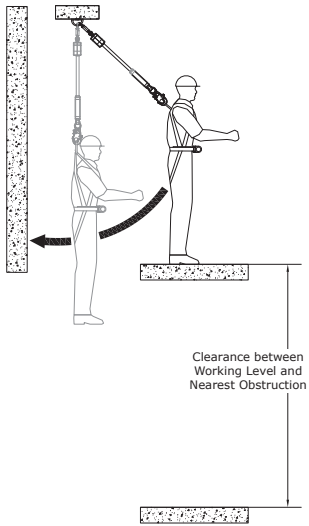


Figure 2B:

Swing Falls



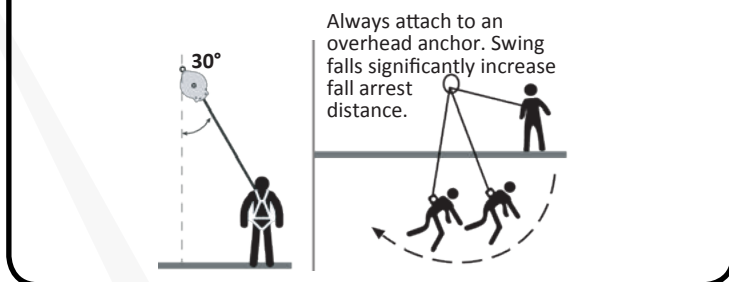
**To determine the clearance required:** Measure the distance from the user's harness dorsal connection to the anchorage for the Edgehog Personal SRL. Both horizontal and vertical distances are required. Use Figure 2A above to determine the required clearance between the working level and the nearest obstruction. The dotted lines in the figure represent 1 foot (0.3 m) increments from the user's harness dorsal connection to the anchorage. For example, 7 ft (2.1 m) of clearance is required when the Edgehog unit is anchored 3 1/2 ft (1 m) above and 3 1/2 ft (1 m) to the side of the user's harness dorsal connection.

**NOTE:** The clearances provided above assume the fall occurs from the standing position. If the worker is kneeling or crouching an additional 3 ft (0.9 m) of clearance is needed.

## Swing Falls:

Self-Retracting Lifelines should be used in a vertical position only. Minimize swing fall by working as directly below the anchorage point as possible. Worker movement should remain within 30 degrees maximum deflection of the lifeline from the vertical line directly below the anchorage point. **(Illustration 3).** Do not permit a swing fall if injury could occur.

### Illustration 3: Minimize Swing Fall



#### **Sharp Edges:**

Avoid working where sharp edges may contact lifeline as much as possible. Provide sufficient protective padding where avoiding sharp edges is not possible.

#### **Corrosive Environment:**

Extensive exposure to environments where corrosion may occur will damage metal parts in the Self-Retracting Lifeline. Use caution when working around corrosive compounds such as ammonia, sewage, fertilizers, sea water or other corrosives.

#### **Chemical Hazard, High Heat and Severe Cold:**

Use extreme caution in environments containing acid or caustic chemicals, particularly at elevated temperatures, as chemical damage that can impair the functionality of the Self-Retracting Lifeline (SRL) is difficult to detect. Periodic replacement of the SRL is recommended to ensure safety. Do not use SRL in high temperature environments. Do not use SRL in severe cold. Protect SRL if used near welding, metal cutting, or similar activities. Hot sparks and slag can damage SRL and impair functionality.

#### **Electrical Hazards:**

Use extreme caution to avoid contact with high voltage power lines. Both web and wire cable model Self-Retracting Lifelines may conduct electricity. Moisture absorbed by the lifeline can provide a path for electrical current to flow, resulting in potential electrical shock.

#### **Locking Speed:**

Use extreme caution when working on low-pitched roofs where a worker may slide, rather than fall. A clear path is required to ensure positive locking of the Self-Retracting Lifeline.



## General Adverse Environment Conditions:

User must be aware of working conditions and environment during all aspects of use. Adverse working conditions and environment require additional attention and extreme caution. Adverse working conditions and environments include but are not limited to areas involving mortar/cement/concrete, dust/demolition, caustic/corrosive materials, falling objects, gypsum, slurry, petroleum based liquids, extreme wet conditions, mud, or metal/plastic shavings. User is to use extreme caution of materials that may adhere to or strike the SRL line constituent. Material that adheres to line constituent may damage parts within the Self-Retracting Lifeline and may lead to serious injury or death. Falling objects that strike the SRL line constituent may cause a fall to occur in addition to weakening or breaking the SRL and anchorage which will may result in serious injury or death.

## Fall Clearance:

Consider the following when calculating fall clearance. Clearance required is dependent on the following factors:

- Elevation of Anchorage
- Connecting Subsystem Length
- Deceleration Distance
- Free Fall Distance
- Worker Height
- D-ring / connector length
- Movement of Harness Attachment Element
- Length of Full Body Harness (FBH) Stretch
- Working Level

See Illustration 4.

### Illustration 4: Fall Clearance Considerations

A. Connecting Subsystems (Energy Absorbing Lanyard shown) Length + Movement of Harness Attachment + Length of FBH Stretch

B. Working Level (thickness)

C. Worker Height + Connector Length

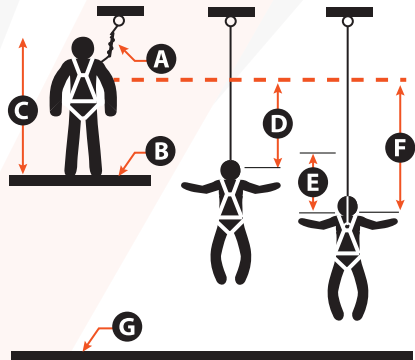
D. Free Fall - 6 ft. Max. (per ANSI Z359.1)

E. Deceleration Distance

F. Total Fall Distance: Sum of A through E

G. Lower Level or Obstruction

#### 6 ft. Free Fall Lanyard Example





## WARNING

If a Self-Retracting Lanyard is used with an extended D-ring, cross arm anchorage connector, other anchorage connector, or horizontal lifeline, the additional length provided by these components must be taken into consideration during the clearance calculation process.

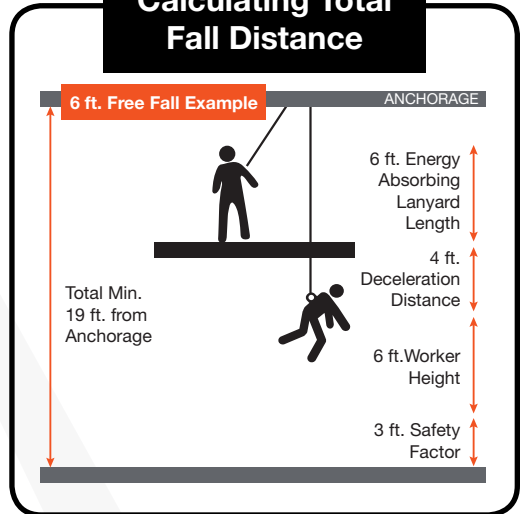
### Calculating Total Fall Distances:

Total Fall Clearance below worker is calculated from Anchorage Connection. Free Fall Distance + Working Level + Energy Absorber + Deceleration Distance + Worker Height + Connector Length + Safety Factor. Ensure that the total fall distance is clear of obstructions and equipment. Avoid potential contact with a lower level. **See Illustration 5.**

### Horizontal Systems and Tripods:

Ensure the support structure and/or horizontal system components are compatible if using Self-Retracting Lifeline in conjunction with a horizontal system, tripod or davit arm. Horizontal systems must be designed and installed under the supervision of a qualified engineer.

### Illustration 5: Calculating Total Fall Distance



## LEADING EDGE APPLICATIONS

The following precautions should be taken when using Leading Edge SRLs:

The SRL-LE was successfully tested for horizontal use and falls over a steel edge without burrs. And as a result, the device may be used in situations where a fall may occur similar edges, such as found on steel shapes or metal sheeting.

Malta Dynamics' Leading Edge Self-Retracting lifelines may be used with horizontal lifelines and horizontal rails as long as instructed by the instructions for use for the specific horizontal lifeline or rail.



## **WARNING**

The allowable angle of redirection of the lanyard/ lifeline portion of the SRL-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 degrees.

## **WARNING**

The anchor point may only be situated at the same height as the edge at which a fall may occur or above the edge. Please refer to the Leading Edge Applications 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 and the use of a single anchor point versus anchors that allow horizontal movement such as a horizontal lifeline or rail.

## **LEADING EDGE FALL CLEARANCE:**

### **Calculate SRL-LE Maximum Required Fall Clearance (MRFC) Anchorage:**

- 0' Setback From Leading Edge
- 5' Below the Dorsal D-ring.

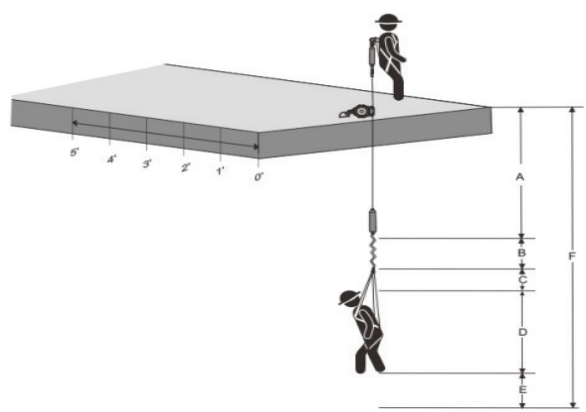
With the anchor installed at zero set back and below the D-ring, there are eight metrics to consider when calculating the MRFC.

### **These eight metrics are labeled A,B,C,D,E,F,G and H. These metrics are:**

- A= Free Fall Distance due to Below D-ring Anchorage.
- B= SRD deceleration distance.
- C= Dorsal D-Ring shift and FBH Stretch
- D= Additional Deceleration Distance.
- E= Safety Factor
- F= Sub Total- Minimum Required Fall Clearance.
- G= Additional Fall Clearance Calculation for swing fall -4' maximum.
- H= Minimum Required Fall Clearance.

The MRFC for this anchorage geometry is calculated as  $A+B+C+D+E=F$  (Sub-total MRFC) If a swing fall condition exists, use Chart 2 to determine the amount of swing fall present. The value is the G variable  $G+F=H$ .

DRAWING 5



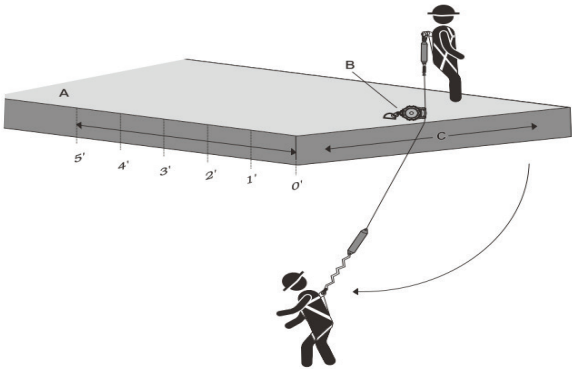
Calculating Minimum Required Fall Clearance SRL-LE

Anchorage:0' Setback from Leading Edge and 5' below Dorsal D-ring	
A- 6ft: Free fall Distance -due to Below D-ring Anchorage	E- 1.5ft: Safety Factor-Added length to account for other factors such as an improperly adjusted harness,actual worker height or worker weight.
B- 5ft: SRD Deceleration Distance	F- 18.5ft: Sub Total- Minimum Required Fall Clearance for Below D-ring Anchorage of SRD with No Swing Fall (sum of A thru E only)
C-1ft: Dorsal D-ring Shift and FBH Stretch Combined amount of Dorsal D-ring up-shift and harness webbing elongation during entire fall event.	G * Additional Fall Clearance Calculation due to Swing Fall (using Chart 2)
D-5ft: Additional Deceleration Distance- due to Below D-ring Anchorage	H * Total Required Fall Clearance Including sub-total F and Swing Fall G(from Chart 2)

Swing Fall with 0' setback:

A swing fall condition with 0' setback is shown in Drawing 6. This increased risk requires additional MRFC distance, up to a maximum of 4' of added clearance. A swing fall , combined with the user at the maximum allowable lateral travel, will cause the lifeline to abrade along and across the edge. This may cause severe lifeline or energy absorber damage over a swing fall , combined with the user at the maximum allowable lateral travel, will cause the lifeline to abrade along and across the edge. This may cause severe lifeline or energy absorber damage over a rough, sharp, or abrasive edge. Limit lateral travel to avoid swing falls.

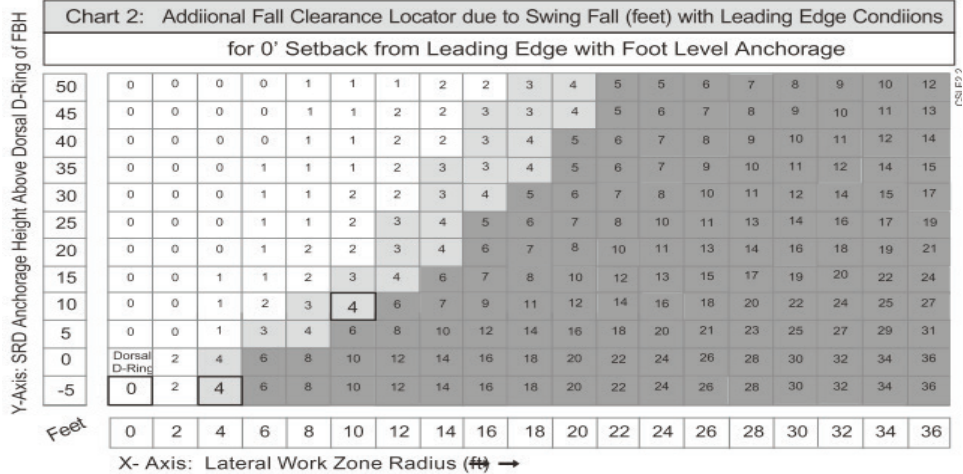
DRAWING 6



Swing Fall Hazard: Leading Edge Condition with 0' Setback

A	Walking/ Working Surface
B	Foot Level Anchorage with 0' Setback from Leading Edge.
C	Expanded Lateral Work Zone with Leading Edge Condition.

SEE CHART 2 FOR INSTRUCTION ON HOW TO DETERMINE A SAFE LATERAL TRAVEL DISTANCE.



Key to Work Zone Areas:  
□=Allowable Use Area    ▒=Cautionary Use Area    ■= Not Allowed Use Area

## Using Chart 2 to Find Additional Fall Clearance : Leading Edge Conditions

2 foot increments along the X-Axis represent the distance the user is working away from the SRD anchorage.

5 foot increments up the Y-Axis represent the SRD anchorage height above or below the user's Dorsal D-ring.

At no time shall the expanded Work Zone exceed 8' (4' on each side of center)

Note the starting location on Chart 2 titled Dorsal D-Ring

### Example:

The starting point shown is where the SRD is anchored at Foot Level(5' below the Dorsal D-ring) and has 0' of Setback distance from the Leading Edge. From here, the user may expand the lateral work zone up to 4' along the X-axis and still remain inside the allowable and cautionary areas. This expanded work zone indicates that 4' of additional fall clearance should be added to the Sub-total calculation in **Drawing 5**.

If the user need to expand the work zone to 10', the SRD must be anchored 10' above the Dorsal D-ring to remain in the allowed and cautionary areas. This change also indicates 4' of additional fall clearance to be added to **Drawing 5**.

If the user cannot anchor the SRD above the Dorsal D-ring but still must expand the work zone, the SRD will need to be anchored with more than 0' of setback distance from the leading edge.

### To sum up:

Total fall clearance calculation for 0' Setback from Leading Edge is:  $A(6ft) + B(5ft) + C(1ft) + D(5ft) + E(1.5ft) = F(18.5ft)$  (Sub-total MRFC) The value is the G variable  $G(4ft) + F(18.5ft) = H(22.5ft)$ .

## CLEANING AND MAINTENANCE

### Cleaning

Wipe off all surface dirt. Store in clean, dry area, away from heat and areas where chemical vapors may exist. Avoid storing in direct light to prevent UV degradation.

### Maintenance

Do not attempt to disassemble or repair. Only Malta Dynamics or entities authorized in writing by Malta Dynamics shall make repairs, authorized maintenance or alterations to the equipment.

## TRAINING

Employers are responsible for providing training to any employee who may be



exposed to fall hazards in order to enable the employee to recognize and reduce fall hazards. Training must be conducted by a Competent or Qualified Person. Trainer and trainees must not be exposed to fall hazards during the training course.

## INSPECTION

Record all observations and results of each inspection in your inspection log. **If inspection reveals any defect, inadequate maintenance, or unsafe condition, remove Self Retracting Lifeline from service immediately.**

### After a Fall:

Remove Self-Retracting Lifeline (SRL) from service immediately after a fall has occurred. Inspect the impact indicator on the snap hook of the SRL; look for an exposed red color band. Do not reset the impact indicator. SRL with a webbed lifeline requires additional inspection of the shock pack, looking for deformation, elongation or other signs of the shock pack being torn or deployed.

Self-Retracting Lifeline (SRL) must be inspected a minimum of twice per year (every six months) by an OSHA-defined “Competent person” other than the user. Local, state, governmental, and jurisdictional agencies may require the user to conduct more frequent or mandatory inspections. If the SRL is exposed to extreme or severe conditions, more frequent formal inspections may be required. Record the results of each formal inspection in your Hog Tracker account or inspection log.

### User Inspection

Self-Retracting Lifeline (SRL) should be inspected by the user before each use, using the inspection procedures below (Illustration 6). In addition, unit should be fully examined and inspected to ensure:

- Markings are legible
- Components are free from corrosion, bending, cracks, dents or deformity
- SRL is clean and free of dirt, oil, mold, mildew and contaminants



## Inspection Procedure

**Step 1:** Inspect for loose screws and bent or damaged parts.

**Step 2:** Inspect housing for distortion, cracks or other damage. Ensure swivel eye is not damaged or distorted. Swivel eye must turn freely.

**Step 3:** Ensure lifeline extends and retracts fully without hesitation or creation of slack in the line.

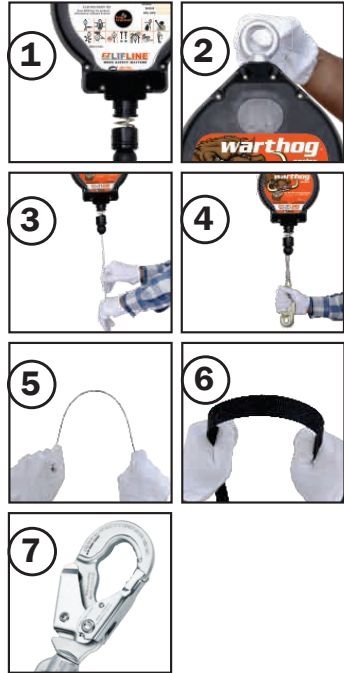
**Step 4:** Ensure device engages (locks up) when lifeline is jerked (tugged) sharply.

**Step 5:** Inspect wire cable lifelines for cuts, kinks, broken wires, bird-caging corrosion, welding splatter, chemical damage or severe abrasion. Check all thimbles and other areas for excessive wear, including cracks or separation of metal components.

**Step 6:** Inspect webbed lifelines for frayed strands, broken webbing, burns, cuts and abrasions. Look for heat damage, paint build-up, corrosion and chemical damage indicated by discoloration.

**Step 7:** Inspect all snap hooks and connectors for damage; ensure secure, locking engagement.

## Illustration 6: Inspection

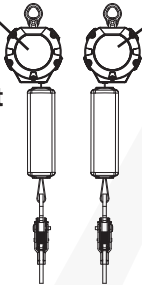


# PRODUCT LABELS

The following labeling is affixed to product and must not be removed:



LE7015

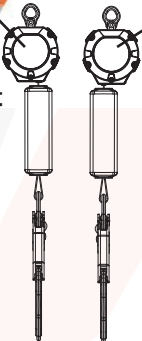


Front

Back



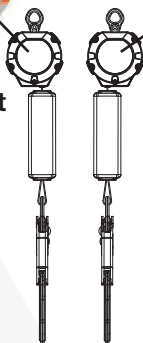
LE7020



Front

Back

LE7030

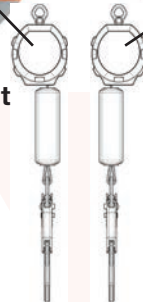


Front

Back



LE7050



Front

Back

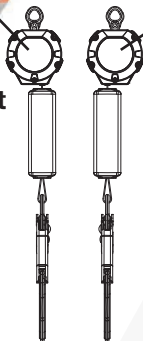


LE3061



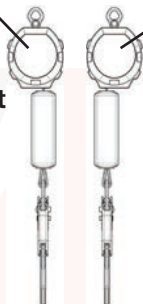
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Front

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LE3063



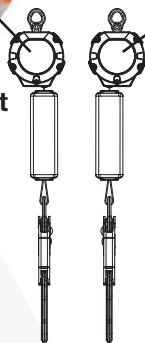


LE3111



Front

Back

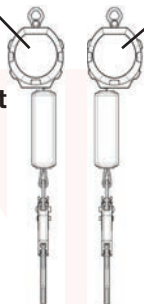


LE3113



Front

Back



# 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 Malta Dynamics 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. Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required by ANSI Z359 and OSHA.

## Installation & Use of the Self-Retracting Device

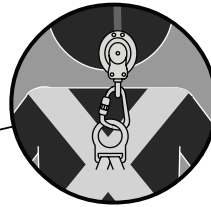
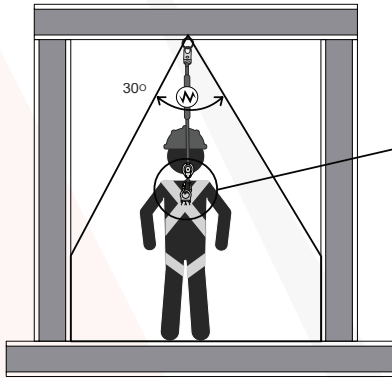
Use compatible connectors when connecting to the anchorage and ensure unintended disengagement cannot occur. Visually ensure all connectors close and lock securely.

The self-retracting device (SRD) is configurable into two orientation options, with the housing attached to the full body harness (FBH), or with the housing end attached to an approved anchorage. Inspect the SRD before each use in accordance with the procedures detailed in this manual. Before each use, ensure the SRD lifeline locks by slowly extracting a length of lifeline, then pull sharply on the lifeline. The SRD must lock and the lifeline must stop paying out.



# Single Housing End Attached to the FBH

The SRD housing end is installed to the dorsal D-ring of an FBH and the leg end attached to a suitable anchorage.



**Figure 3A: SRD Orientation and Acceptable Anchorage Range**

Personal Single-leg Attached to Dorsal D-ring

Shaded area indicates Range of Allowable Connection

## To attach SRD on the Harness, 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 the carabiner to the dorsal D-ring of the FBH. Ensure the carabiner gate is fully closed and locked.
4. Connect the leg end connector to an approved, suitable anchor that meets work zone requirements.

The SRD will pay out and retract smoothly to maintain a taut line during normal movement. Work as directly under the anchor as possible.



# Single Housing End Attached to the Anchorage

The housing end connector may be installed to a suitable anchorage.

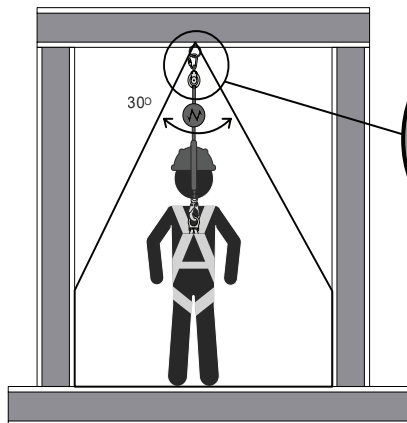


Figure 3B: **SRD Orientation and Acceptable Anchorage Range**

Single-leg SRD Attached to Anchorage

Shaded area indicates Range of Allowable Connection

## To attach the housing to an anchorage, 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 the carabiner to the anchor point. Visually ensure the carabiner is fully closed and locked.
4. Connect the leg end connector to the dorsal D-ring of the FBH. Visually ensure the connector is fully closed and locked.

The SRD will pay out and retract smoothly to maintain a taut line during normal movement. Work as directly under the anchor as possible. If necessary, the leg end connector may be attached to a lower level anchorage, up to 5' below 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.

**DO NOT** attach the SRD leg end to the FBH with a rebar hook or any large-throat snap hook or large carabiner. A side load could cause an unintentional disengagement. Use small snap hooks only.

**DO NOT** attach the housing to the FBH with a rebar hook or any large-throat snap hook or large carabiner. A side load could cause unintentional disengagement.

# Twin-leg SRDs

Twin-leg SRD housing ends are attached to the straps of a properly adjusted and fitted FBH with a specially-configured triple-locking twin-SRD carabiner. Connect the leg ends to anchorages within the correct orientation range. Refer to Figure 3C.

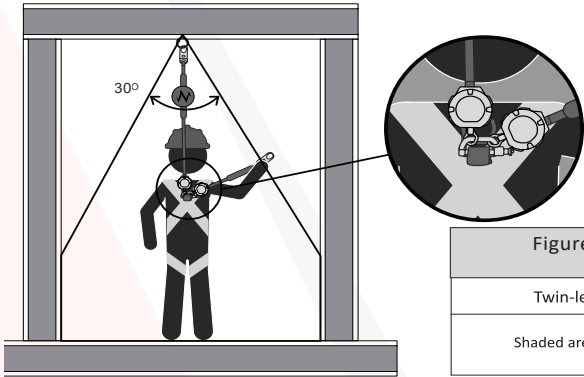


Figure 3C: **SRD Orientation and Acceptable Anchorage Range**

Twin-leg SRD Attached to Full Body Harness

Shaded area indicates Range of Allowable Connection

**DO NOT** attempt to install the twin SRDs specially configured carabiner to an anchorage.

**CAUTION: DO NOT** connect the leg ends of twin SRDs to two anchorages at the same time, except for the brief time when transitioning from one anchorage to another.

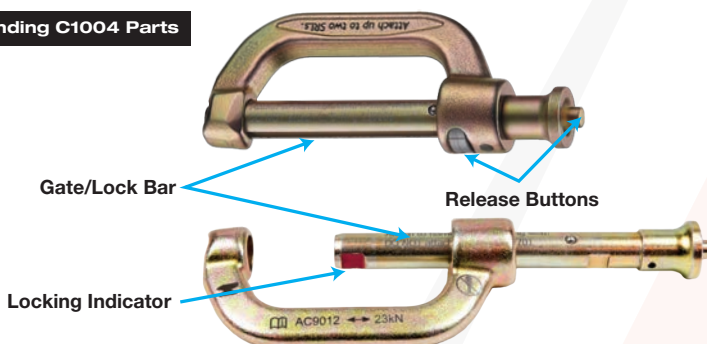
# Installing the C1004

To install the SRD housings onto the FBH, follow the procedure detailed in Figure 5A:

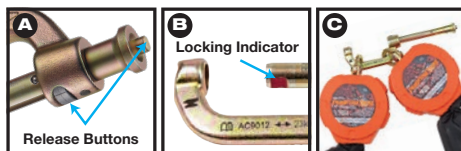
1. Prepare Dual Connector for Attachment
2. Prepare FBH and Preliminary Attachment

Figure 5A: Attaching Twin-leg SRD to FBH with C1004

## Understanding C1004 Parts



## 1. Prepare Dual Connector for Attachment



### 1. Prepare Dual Connector for attachment:

(A) Push and hold both Release Buttons while simultaneously pulling out the Gate/Lock Bar. (B) Take note of the red Locking Indicator which should no longer be visible once installation is complete. (C) Attach SRLs to Dual Connector.

## 2. Prepare FBH and Preliminary Attachment



### 2. Prepare FBH and Preliminary Attachment:

(D) Lift the *Dorsal D-ring* to the up-pointing position. Then loosen the intersection of the two web straps that pass through the D-ring slot to create *slacked loops* of about 2" or 3". (E) Insert the Gate/Locking Bar of the Carabiner into the two intersecting slacked loops. (F) Slide the Gate/Lock Bar back to the fully closed position. Ensure that the red Locking Indicator is not visible. (G) Remove the slacked loops from the intersecting web straps by pulling up through the D-ring slot and the D-ring holder.



# ! WARNING

Ensure the carabiner is correctly installed on the FBH as shown in Figure 5A. Incorrect installation may result in serious injury or death.

Figure 5B shows common INCORRECT connections.

! Figure 5B: Incorrect Twin-leg SRD Attachment !



**A - DO NOT** Attach directly to the Dorsal D-ring

**B - DO NOT** Attach to only one of the intersecting web straps

**C - DO NOT** Attach to intersecting web straps over/above the Dorsal D-ring

**D - DO NOT** Attach anywhere outside the intersecting web straps

**E - CORRECT** attachment to both intersecting web straps with Dorsal D-ring in the up position



# Twin-leg SRD Work Zone Transition

This SRD is designed for attachment of one leg end at a time during work performance. Dual connection is for transitioning from one work zone to another only, as shown in Figure 7.

Attach one leg end connector to a suitable anchor. The user may then move to another work location and attach the unused leg to another suitable anchorage. Detach the original attached leg. Repeat the procedure, until the desired work location is reached.

- 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.

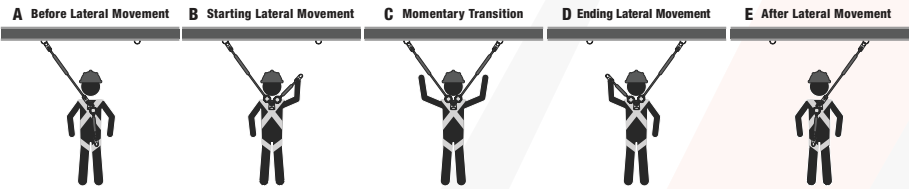


Figure 7: Use of Twin-leg SRDs for Lateral Movement	
A	Original Work Location before lateral movement
B	Starting lateral movement; one leg connected to Anchor
C	During lateral move; both legs connected in momentary transition between Anchors
D	Ending lateral movement; one leg connected to Anchor
E	New Work Location after lateral movement

**Avoid lifeline contact with sharp or abrasive edges and surfaces as much as possible.**



# INSPECTION LOG

**Date of Manufacture:** \_\_\_\_\_

**Model Name/#:**\_\_\_\_\_

**Serial:** \_\_\_\_\_

**Date of First Use:** \_\_\_\_\_

[illegible]

# 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.

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