



The Ultimate in Fall Protection

This manual is intended to be used as part of an employee training program as required by OSHA.

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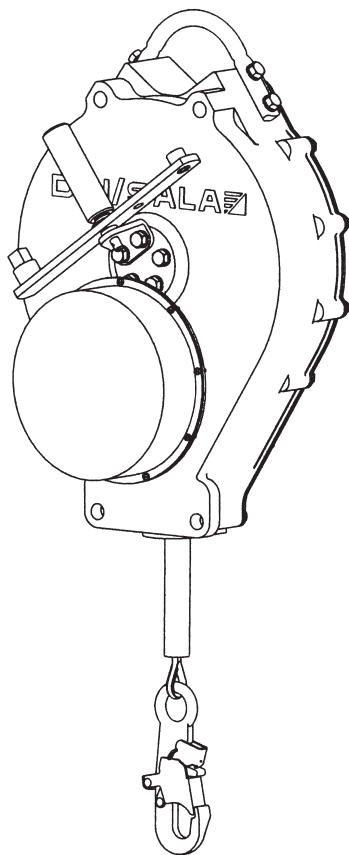
Emergency Descent Device with Manual Retract, Low-Speed

Model Numbers:

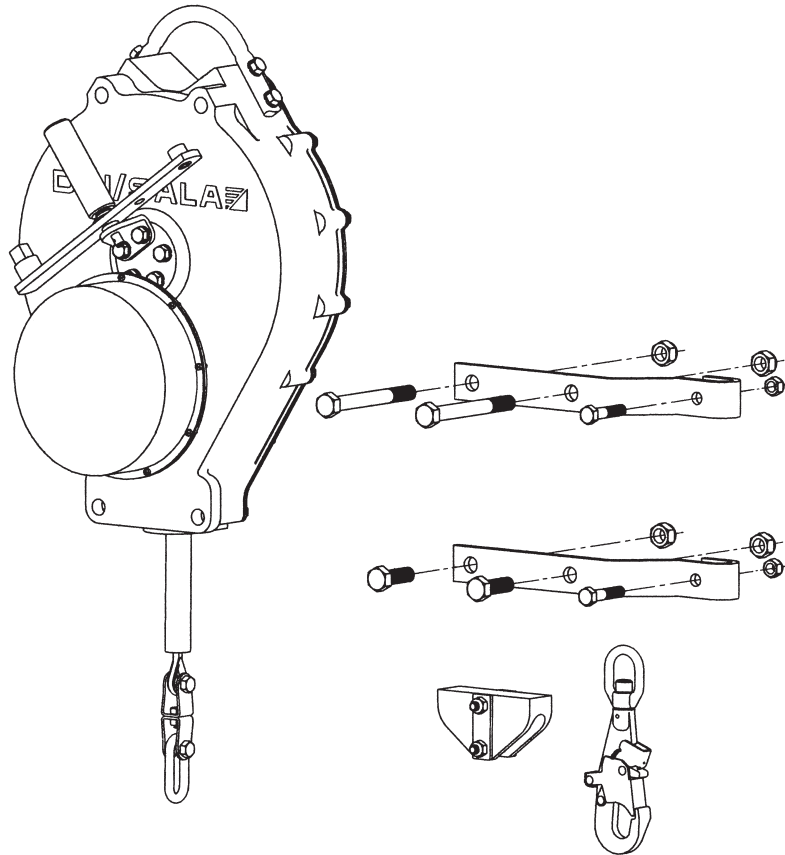
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User Instruction Manual

Figure 1 - Emergency Descent Device with Manual Retract



Emergency Descent Device for Vertical Descent Applications



Emergency Descent Device with Guide Cable Sleeve and Suspension Bars for Sloped Descent Applications

WARNING: This product is part of an emergency descent system. The user must follow manufacturer's instructions for each part of the system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. Alterations or misuse of this equipment, or failure to follow instructions, may result in serious injury or death.

IMPORTANT: If you have questions on the use, care, or suitability of this equipment for your application, contact DBI/SALA.

IMPORTANT: Record the product identification information from the ID label in the inspection and maintenance log in section 9.0 of this manual.

DESCRIPTION

The Emergency Descent Device is available as a vertical or sloped descent model. The vertical descent model incorporates a snap hook attached to the device lifeline. The sloped descent model is designed to be attached to a guide cable, and includes a guide cable sleeve. See Figure 1.

1.0 APPLICATION

- 1.1 PURPOSE:** The Emergency Descent Device is intended to be used as a component of an emergency escape system to provide a means of controlled descent from an elevated structure. The guide cable sleeve and suspension bar kit is used to attach the Emergency Descent Device to a guide cable, and should be used for applications where it is necessary to direct the user to a specific landing area, or when the user must be held stable during the descent (i.e. windy conditions).

WARNING: *The Emergency Descent Device must not be used for fall protection.*

- 1.2 LIMITATIONS:** The following application limitations must be considered before using this equipment:

- A. CAPACITY:** This equipment is designed for use by persons with a combined weight (including tools, clothing, body support, etc.) of 75 lbs. to 310 lbs.
- B. DESCENT SPEED:** The speed at which the user will be lowered when using the Emergency Descent Device increases with the combined weight of the user. For vertical descents the approximate descent speeds are as follows:

120 lbs. Combined Weight:	6.8 feet/second
220 lbs. Combined Weight:	8.8 feet/second
300 lbs. Combined Weight:	10.0 feet/second

When using the Emergency Descent Device with a guide cable, the descent speed of the user will decrease as the slope of the guide cable decreases.

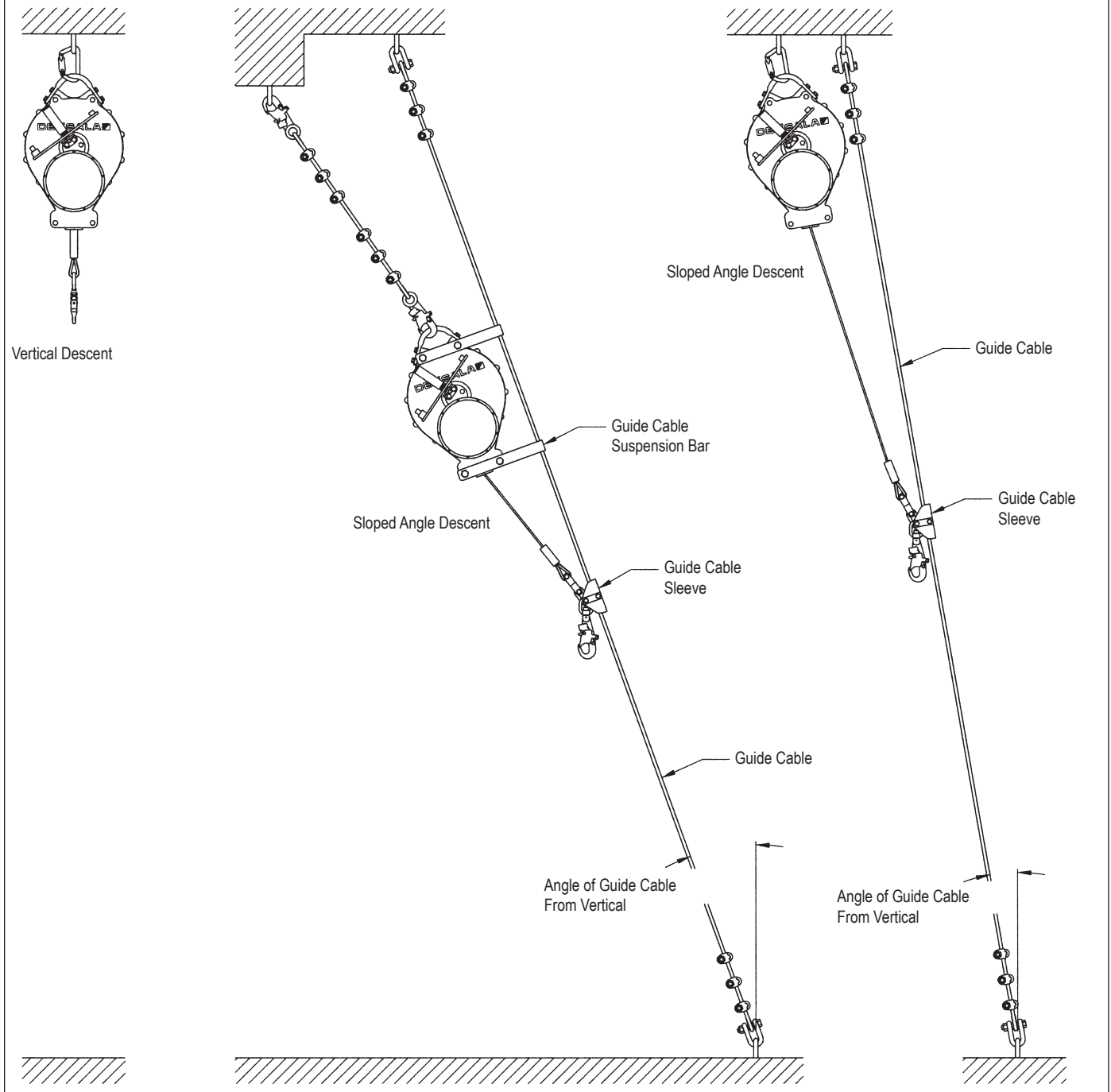
- C. HAZARDOUS AREAS:** Use of this equipment in hazardous areas may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to: high heat, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, and sharp edges.
- D. TRAINING:** This equipment is intended to be installed and used by persons trained in its correct application and use.

- 1.3 APPLICABLE STANDARDS:** Refer to local, state, and federal (OSHA) standards for requirements governing the use of this equipment.

2.0 SYSTEM REQUIREMENTS

- 2.1 COMPATIBILITY OF COMPONENTS:** This equipment is designed to be used with DBI/SALA approved components. Substitutions or replacements made with non-approved components may jeopardize compatibility of equipment, and may affect the safety and reliability of the complete system.
- 2.2 COMPATIBILITY OF CONNECTORS:** Connectors (hooks, carabiners, D-rings) used to suspend the Emergency Descent Device must be capable of supporting at least 3,100 lbs. Connectors must be compatible in size, shape, and strength. Noncompatible connectors may unintentionally disengage (roll-out). Roll-out occurs when interference between the connector and anchorage connector causes the hook or carabiner gate to unintentionally open and release. Self locking snap hooks and carabiners must be used with this system to reduce the possibility of roll-out. Do not use connectors that will not completely close over the attachment element.
- 2.3 ANCHORAGE STRENGTH FOR EMERGENCY DESCENT DEVICE:** Anchorages used to suspend the Emergency Descent Device must sustain static loads, applied along the axis of the device, of at least 3,100 lbs. When more than one Emergency Descent Device is attached to an anchorage the strengths stated above must be multiplied by the number of descent devices attached to the anchorage. Anchorages used to support a guide cable, when applicable, must be sufficiently strong to withstand the forces generated in the guide cable during descent.

Figure 2 - Installation Configurations



2.4 GUIDE CABLE: Applications with a sloped descent require a guide cable. See Figure 2. Systems requiring a guide cable must be designed by a qualified person. The angle at which the guide cable is secured, as well as the amount of sag in the guide cable, will affect the descent speed. The guide cable must be installed with sufficient slope and limited sag to ensure the user will reach the landing area in the event of an emergency descent. The guide cable and the anchorage point must support the weight of the user in a descent. Guide cable must be 3/8 inch to 5/8 inch wire rope. The operation of the emergency descent system should be verified by performing a test descent in accordance with section 3.2.C.

ANCHORAGE STRENGTH FOR GUIDE CABLE: Table 1 provides recommended anchorage strengths for various system configurations using 200 ft. long, 5/8 inch, 7x19 steel aircraft cable. When the angle of the guide cable from vertical is ten degrees or less, a minimum anchorage strength of 5,000 lbs. is recommended.

Table 1 - Guide Cable Anchorage Strength Recommendations			
Angle of Guide Cable From Vertical	Guide Cable Pretension	Initial Guide Cable Sag	Recommended Anchorage Strength (including 2:1 Safety Factor)
15 degrees	460 lbs.	24 inches	5,400 lbs.
15 degrees	230 lbs.	48 inches	5,000 lbs.
15 degrees	150 lbs.	72 inches	5,000 lbs.
15 degrees	120 lbs.	96 inches	5,000 lbs.
30 degrees	890 lbs.	24 inches	9,900 lbs.
30 degrees	450 lbs.	48 inches	7,700 lbs.
30 degrees	300 lbs.	72 inches	5,900 lbs.
30 degrees	220 lbs.	96 inches	5,000 lbs.
45 degrees	1,260 lbs.	24 inches	13,100 lbs.
45 degrees	630 lbs.	48 inches	11,000 lbs.
45 degrees	420 lbs.	72 inches	9,000 lbs.
45 degrees	320 lbs.	96 inches	7,400 lbs.

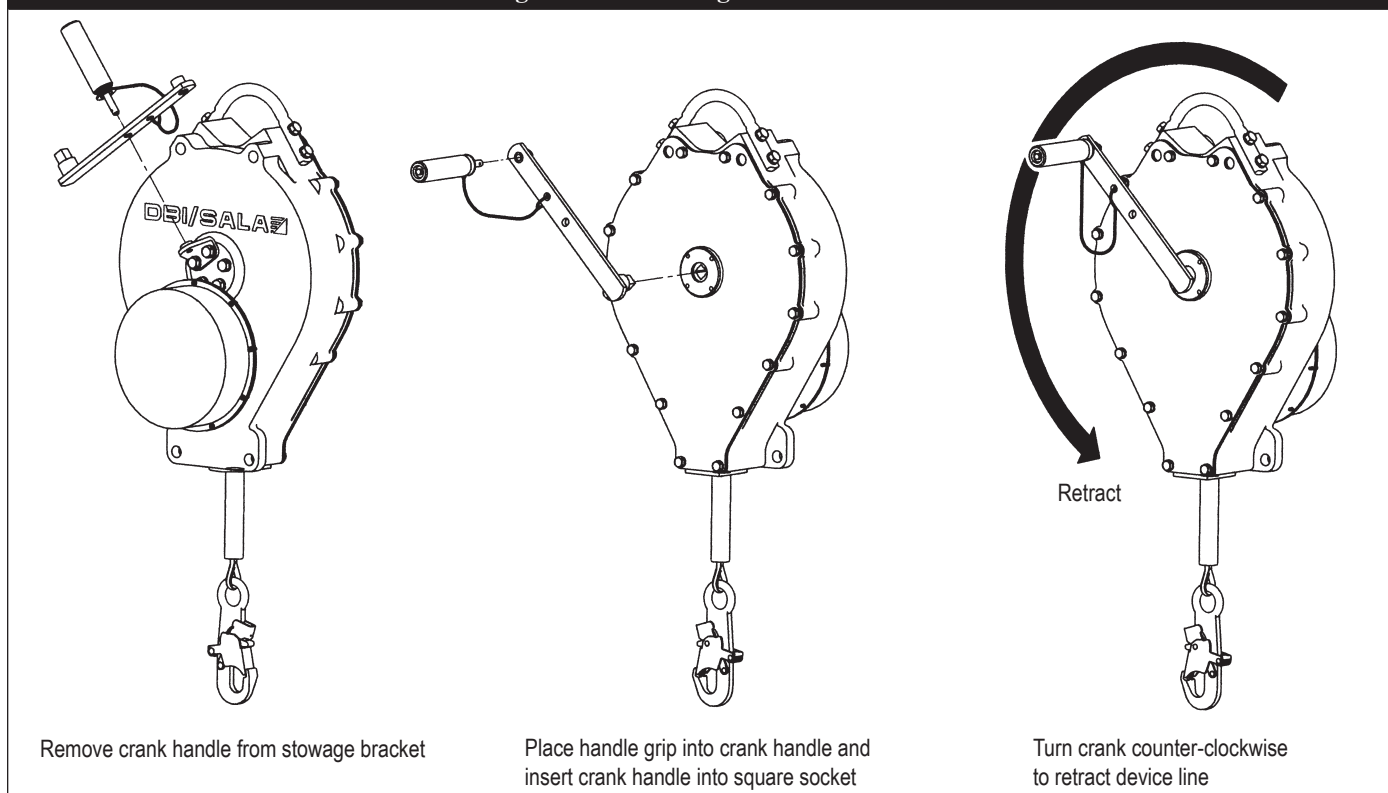
3.0 INSTALLATION AND USE

3.1 BEFORE EACH USE of this equipment, carefully inspect it according to section 5.0 of this manual.

3.2 PLAN your emergency escape system and how it will be used before starting your work. Consider all factors that will affect your safety before, during, and after an escape. Consider the following when planning your system:

- A. ANCHORAGE:** Select a rigid anchorage point that is capable of supporting at least 3,100 lbs. See section 2.3.
- B. DESCENT PATH AND LANDING AREA CLEARANCE:** Your descent path must be unobstructed. The landing area must be clear of obstructions to permit safe landing of the user. Failure to provide an unobstructed descent path and landing area may result in serious injury.

Figure 3 - Retracting the Device Line

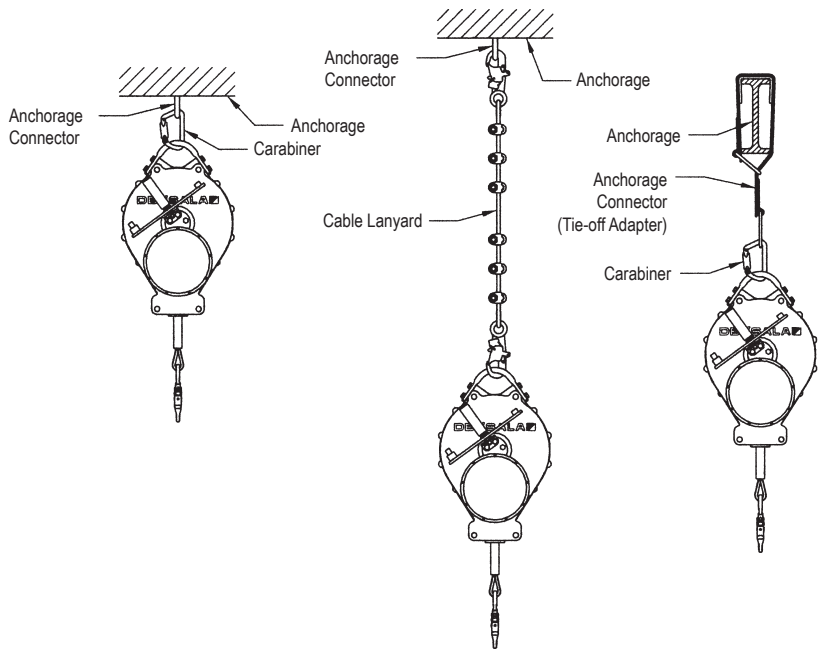


C. TESTING THE SYSTEM: DBI/SALA recommends performing a test descent using a 120 lb. weight (minimum). The descent speed should be uniform, and allow the user to reach the landing area safely. For vertical descent applications the descent speed should be approximately as stated in section 1.2.B. Descent speed will be lower for sloped applications.

D. SHARP EDGES: Avoid using this equipment where system components will be in contact with, or abrade against, unprotected sharp edges. If working with this equipment near sharp edges is unavoidable, cover the sharp edge with a heavy pad.

E. AFTER A DESCENT: See Figure 3. To retract the device line, remove crank handle from stowage bracket. Place handle grip into crank handle. Insert crank handle into square socket on the opposite side of the device. Retract the device line by turning the crank handle counter-clockwise. Remove handle grip from crank handle and return to stowage position on crank handle. Return crank handle to stowage bracket. The system is now ready for another descent.

Figure 4 - Connecting the Emergency Descent Device to the Anchorage

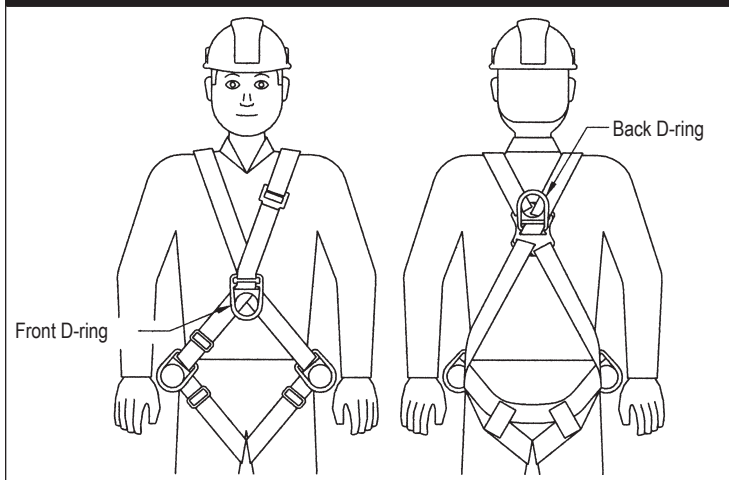


3.3 INSTALLATION: The Emergency Descent Device may be configured for a vertical or sloped application. See Figure 2 for acceptable installation configurations.

3.4 CONNECTING EMERGENCY DESCENT DEVICE TO ANCHORAGE: Figure 4 illustrates means of attaching the Emergency Descent Device to the anchorage. See section 2.0 for compatibility and anchorage strength requirements.

3.5 CONNECTING TO BODY SUPPORT: See Figure 5. A full body harness or other means of supporting the user must be used with this device. Do not use a body belt with this device. When using a full body harness, connect to the front or back D-ring. Ensure the D-ring is positioned to hold yourself upright. See full body harness manufacturer's instructions for more information.

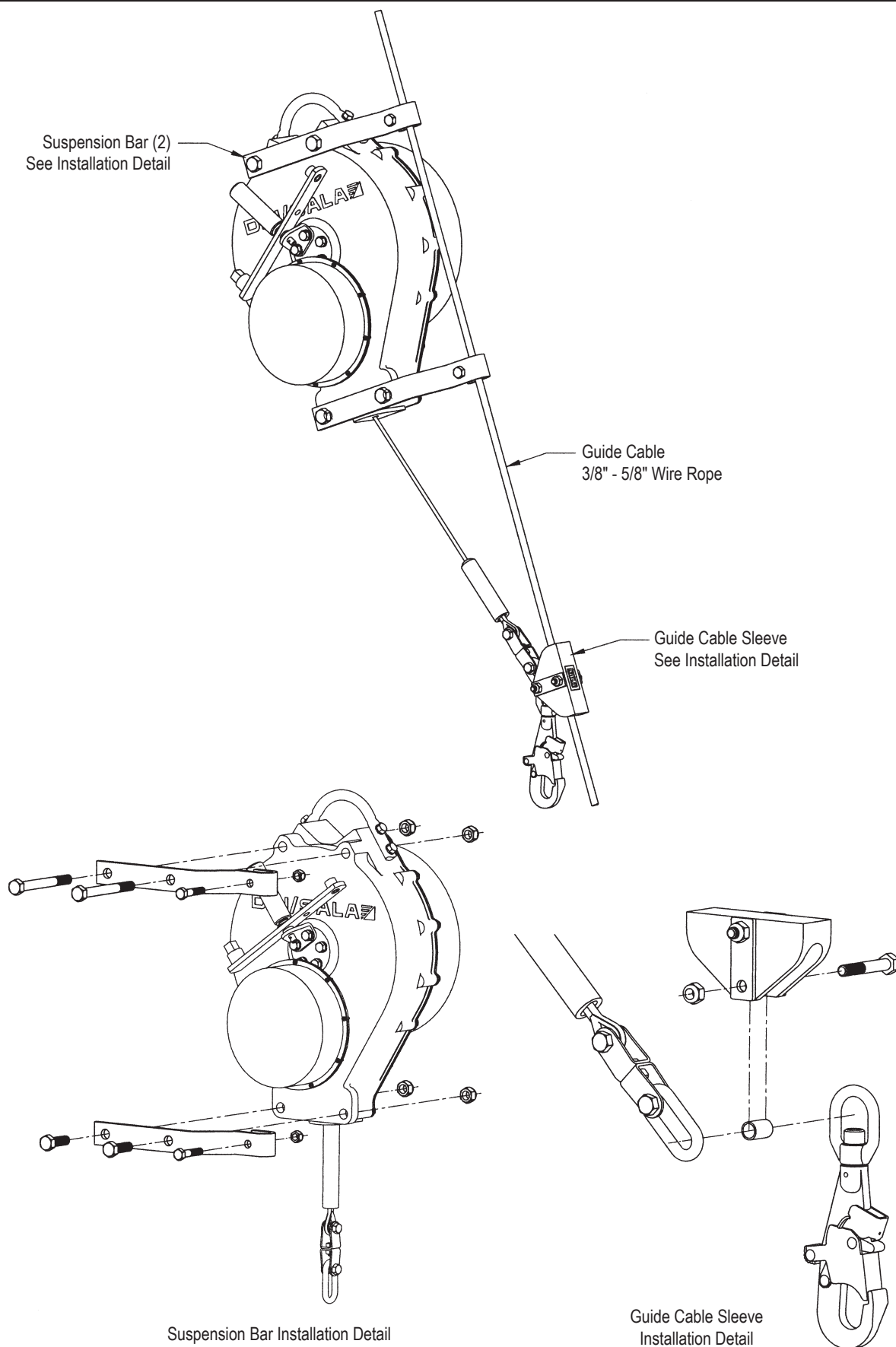
Figure 5 - Connecting to Full Body Harness



WARNING: Do not use a body belt with this equipment. Body belts do not support your entire body, which may result in serious injury.

3.6 CONNECTING EMERGENCY DESCENT DEVICE TO GUIDE CABLE: Some sloped angle descent applications may require attaching the Emergency Descent Device to the guide cable (see Figure 2). Use the guide cable sleeve and suspension bar kit to attach the Emergency Descent Device to the guide cable as shown in Figure 6.

Figure 6 - Connecting Emergency Descent Device to Guide Cable, Sloped Descent Applications



- 3.7 USE:** Connect to the appropriate connection on your body support. Check your descent path and landing area for obstructions before stepping off the structure. The device will allow you to descend at a rapid rate. Do not grasp the guide cable while descending. Bend your knees and be prepared for landing. After landing, disconnect from your body support. Retract the hook back to the device as stated in section 3.2.E.

WARNING: The users of this equipment must be in good physical condition. The device will allow rapid descent; the user must have the ability to absorb the landing.

4.0 TRAINING

- 4.1** It is the responsibility of the user and purchaser of this equipment to be trained in the correct care and use of this equipment. The user and purchaser must be aware of the operating characteristics, application limits, and consequences of improper use of this equipment.

WARNING: Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated on a periodic basis.

5.0 INSPECTION

- 5.1 MONTHLY:** A formal inspection should be completed by a competent person other than the user. A formal inspection should be completed if the system parameters are changed, such as after a system is moved, Re-rigged, anchorages moved, guide cable angle changed, etc. Extreme working conditions may require increasing the Inspection frequency. Inspect the Emergency Descent Device according to sections 5.2 and 5.3. Record inspection results in the inspection and maintenance log in section 9.0.

EVERY TWO YEARS: The device must be sent to an authorized service center for inspection and service. See section 6.2.

5.2 INSPECTION STEPS:

Step 1. Inspect device for loose fasteners and bent or damaged parts.

Step 2. Inspect device housing for distortion, cracks, or other damage. Ensure the anchorage handle and crank handle is not damaged or distorted.

Step 3. Device lifeline must pull out and retract fully. Inspect wire rope for cuts, kinks, broken wires, corrosion, or severely abraded areas.

Step 4. Device labels must be present and fully legible. See section 8.0.

Step 5. Inspect for corrosion on the entire device.

Step 6. Inspect connecting hooks or carabiners for damage, corrosion, and working condition.

Step 7. Inspect Guide Cable Sleeve for excessive wear.

Step 8. Inspect guide cable. Inspect wire rope for cuts, kinks, broken wires, corrosion, or severely abraded areas. If guide cable is damaged do not use the system.

Step 9. Inspect each system component and subsystem according to manufacturer's instructions.

Step 10. Record inspection results in section 9.0.

- 5.3** If inspection reveals an unsafe or defective condition, remove device from service and contact an authorized service center for repair.

6.0 MAINTENANCE, SERVICING, STORAGE

- 6.1 MAINTENANCE:** Periodically clean the exterior of the Emergency Descent Device with water and mild detergent. Position the device so excess water can drain out. Clean labels as required. Clean device lifeline with water and mild detergent. Rinse and thoroughly air dry. Do not force dry with heat. An excessive buildup of dirt, paint, etc., may prevent the lifeline from retracting back into the device.
- 6.2 SERVICING:** Maintenance and servicing must be completed by an authorized service center. An authorization and return number must be issued by DBI/SALA. Do not attempt to disassemble the device. The Emergency Descent Device is required to be serviced at least every two years by an authorized service center. Extreme working conditions may require increasing the service frequency. Contact DBI/SALA for service frequencies when this equipment is used in extreme working conditions. Service shall include an intensive inspection and cleaning of all components. Failure to provide required service may shorten the product life and compromise safety and performance.

NOTE: Only DBI/SALA or parties authorized in writing may make repairs to this equipment.

- 6.3 STORAGE:** Store the Emergency Descent Device in a cool, dry, clean environment, out of direct sunlight. Avoid areas where chemical or organic vapors are present. Thoroughly inspect the Emergency Descent Device after extended storage.

7.0 SPECIFICATIONS

7.1 MATERIALS:

EMERGENCY DESCENT DEVICE:

Housing: Cast aluminum

Housing Cover: Stainless steel

Anchorage Handle: Stainless steel

Fasteners: Stainless steel

Main Shaft: Stainless steel

Crank Handle: Plated steel, plastic grip,
stainless steel detent pin

Connecting Hook: Forged alloy steel

Cable Bumper: Urethane

Lifeline (Galvanized): 3/16" dia., 7x19 aircraft wire rope, 4,200 lbs.
minimum tensile strength

Lifeline (Stainless steel): 3/16" dia. 7x19 aircraft wire rope, 3,600 lbs.
minimum tensile strength

Finish Paint: Polyester baked finish

GUIDE CABLE SLEEVE AND SUSPENSION BAR KIT:

Guide Cable Sleeve: Nylon wear pad, Stainless steel side plates and fasteners.

Suspension Bars and Mounting Hardware: Stainless steel

7.2 PERFORMANCE SPECIFICATIONS:

Capacity: 75-310 lbs., one person

Nominal Descent Speed: 8 feet/second

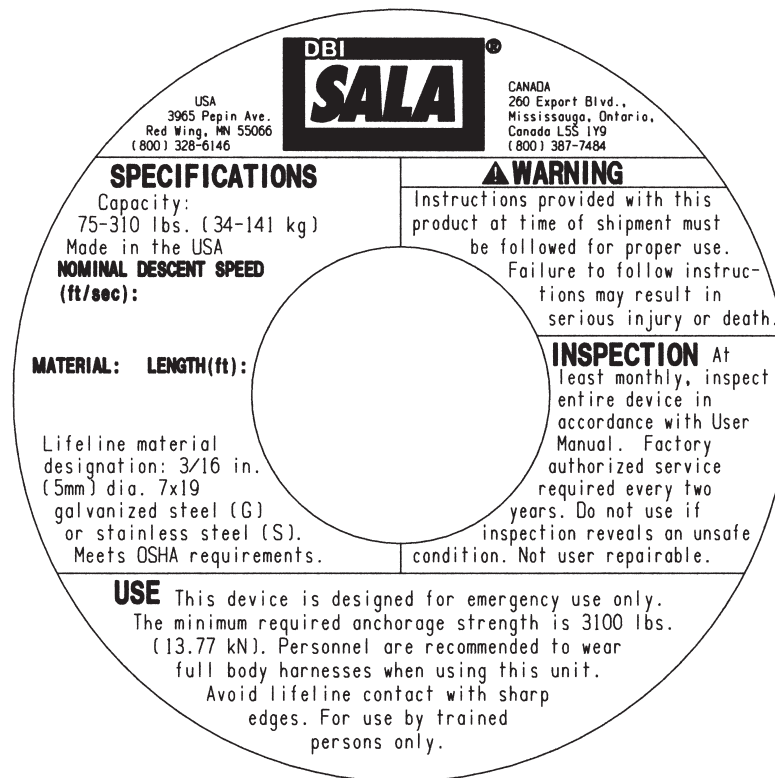
Emergency Descent Device Weight: 50 lbs.

Guide Cable and Suspension Bar Kit Weight: 5 lbs.

Emergency Descent Device meets OSHA requirements

8.0 LABELING

8.1 This label must be present and fully legible:



9.0 INSPECTION AND MAINTENANCE LOG

INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:	
MODEL NUMBER:	
DATE PURCHASED:	DATE OF FIRST USE:

[illegible]

INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:			
MODEL NUMBER:			
DATE PURCHASED:		DATE OF FIRST USE:	

[illegible]

LIMITED LIFETIME WARRANTY

Warranty to End User: D B Industries, Inc., dba CAPITAL SAFETY USA ("CAPITAL SAFETY") warrants to the original end user ("End User") that its products are free from defects in materials and workmanship under normal use and service. This warranty extends for the lifetime of the product from the date the product is purchased by the End User, in new and unused condition, from a CAPITAL SAFETY authorized distributor. CAPITAL SAFETY'S entire liability to End User and End User's exclusive remedy under this warranty is limited to the repair or replacement in kind of any defective product within its lifetime (as CAPITAL SAFETY in its sole discretion determines and deems appropriate). No oral or written information or advice given by CAPITAL SAFETY, its distributors, directors, officers, agents or employees shall create any different or additional warranties or in any way increase the scope of this warranty. CAPITAL SAFETY will not accept liability for defects that are the result of product abuse, misuse, alteration or modification, or for defects that are due to a failure to install, maintain, or use the product in accordance with the manufacturer's instructions.

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