

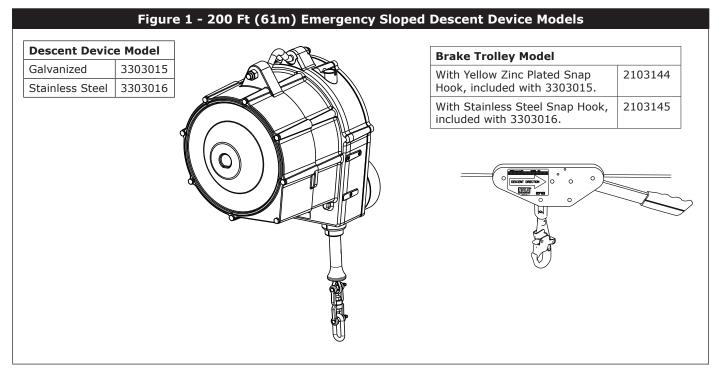
Rollgliss<sup>®</sup> 200 Ft Emergency Sloped Descent Device High Speed with Auto-Retract User Instruction Manual

# **Fall Protection**

This manual is intended to be used as part of an employee training program as required by OSHA. When used and maintained in accordance with the manufacturer's instructions, this product helps provide the method of emergency escape when working at height, as referenced by OSHA and industry guidelines including API RP 54 6.10.1.

# **DESCRIPTION:**

The Rollgliss<sup>™</sup> High Speed 200 foot Emergency Descent Devices with Auto-Retract are comprised of a Wire Rope Lifeline housed in a cast aluminum enclosure. An internal brake controls sloped descent speed of a single user attached to a manual brake trolley at the end of the lifeline.



# EN SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions prior to the use of this Pre-Engineered Rescue System. 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 Pre-Engineered Rescue System is intended for use as part of a complete personal fall protection and/or rescue 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 system is only to be used by trained users in workplace applications.

# **▲** WARNING

This Pre-Engineered Rescue System is intended for use as part of a complete personal fall protection and/or rescue system. It is expected that all users be fully trained in the safe installation and operation of their Pre-Engineered Rescue System. **Misuse of this system could result in serious injury or death.** For proper selection, operation, installation, maintenance, and service, refer to these User Instructions and all manufacturer recommendations, see your supervisor, or contact 3M Technical Service.

- To reduce the risks associated with working with a Pre-Engineered Rescue System which, if not avoided, could result in serious injury or death:
  - Inspect the system before each use and at least annually. Inspect in accordance with the User Instructions.
  - If inspection reveals an unsafe or defective condition in the device or a component of the device, remove the device from service and repair or replace according to the User Instructions.
  - Label the system 'UNUSABLE' and immediately remove the system from service if it has been subjected to fall arrest or impact force. Inspect and handle the system according to the User Instructions.
  - Ensure the rescue system and lifeline are kept free from all obstructions including, but not limited to, entanglement with other workers, yourself, and surrounding objects.
  - Follow all manufacturer recommendations when connecting a lifeline.
  - When performing rescue operations, always utilize fall protection safety measures as determined by your workplace rescue plan.
  - Do not touch parts of devices exposed to high friction during or after long descents, as these parts may get hot and cause burns.
  - Ensure proper edge protection is used if the lifeline may contact sharp edges or corners.
  - Ensure a clear descent path, and that the landing area is clear of any obstructions or hazards that you may contact.
  - Ensure that 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.
  - (AUTOMATIC DESCENT DEVICES) Only use in rescue applications.
  - (AUTOMATIC DESCENT DEVICES) Always record usage as defined by the User Instructions and remove from service in accordance with usage limits listed in the User Instructions.
  - (R550 DEVICES WITH HANDWHEEL) Ensure the operator always maintains control of the hand wheel when the system is under load.
  - (ROPE LIFELINE SYSTEMS) Use only rope described and approved 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 the fall protection equipment.
- Use Arc Flash or Hot Works systems 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 fallen worker 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.

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# **1.0 APPLICATION**

**1.1 PURPOSE:** The Rollgliss<sup>™</sup> Emergency Descent Device is intended for emergency sloped descent only. It controls the descent speed of one user, wearing a full Body harness, attached to the manual brake trolley on the end of the Emergency Descent Device's Lifeline.

WARNING: The Emergency Descent Device must not be used as a fall arrest device.

- **1.2 LIMITATIONS:** The following application limitations must be recognized and considered before using this product:
  - **A. CAPACITY:** This equipment is designed for use by persons with a combined weight (including tools, clothing, body support, etc.) of 75 lbs (34 kg) to 310 lbs (141 kg).
  - 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. The below values are approximate and can be affected by sag of Guide Cable, user weight, length of system, location of user on the span and environmental conditions. One can expect a range of +/- 2 ft/s for each listed speed.

**NOTE:** These descent speeds assume no additional braking is applied by use of the manual Brake Trolley.

Angle (from Vertical)	Weight Ibs (kg)	Descent Speed ft/s (m/s)			
75	120 lbs. (55 kg)	3.7 ft/s (1.1 m/s)			
75	220 lbs. (100 kg)	6.8 ft/s (2.1 m/s)			
75	300 lbs. (136 kg)	9.3 ft/s (2.8 m/s)			
70	120 lbs. (55 kg)	4.9 ft/s (1.5 m/s)			
70	220 lbs. (100 kg)	9.0 ft/s (2.7 m/s)			
70	300 lbs. (136 kg)	12.3 ft/s (3.7 m/s)			
65	120 lbs. (55 kg)	6.1 ft/s (1.8 m/s)			
65	220 lbs. (100 kg)	11.1 ft/s (3.4 m/s)			
65	300 lbs. (136 kg)	11.5 ft/s (3.5 m/s)			
60	120 lbs. (55 kg)	7.2 ft/s (2.2 m/s)			
60	220 lbs. (100 kg)	10.9 ft/s (3.3 m/s)			
60	300 lbs. (136 kg)	12.2 ft/s (3.7 m/s)			

### SLOPED DESCENT

Angle (from Vertical)	Weight lbs (kg)	Descent Speed ft/s (m/s)
55	120 lbs. (55 kg)	8.2 ft/s (2.5 m/s)
55	220 lbs. (100 kg)	11.5 ft/s (3.5 m/s)
55	300 lbs. (136 kg)	12.9 ft/s (3.9 m/s)
50	120 lbs. (55 kg)	9.2 ft/s (2.9 m/s)
50	220 lbs. (100 kg)	12.0 ft/s (3.6 m/s)
50	300 lbs. (136 kg)	13.6 ft/s (4.1 m/s)
45	120 lbs. (55 kg)	10.1 ft/s (3.1 m/s)
45	220 lbs. (100 kg)	12.4 ft/s (3.8 m/s)
45	300 lbs. (136 kg)	13.1 ft/s (4.0 m/s)

- **C. HAZARDOUS AREAS:** Use of the Emergency Descent Device 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:** The Emergency Descent Device 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 the Emergency Descent Device.

# 2.0 SYSTEM REQUIREMENTS

- **2.1 COMPATIBILITY OF COMPONENTS:** 3M Fall Protection equipment is designed for use with 3M Fall Protection approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may effect 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 3,000 lbs (1,361 kg). Connectors must be compatible in size, shape, and strength. Non compatible 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 200 FT EMERGENCY SLOPED DESCENT DEVICES: Anchorages used to suspend the Emergency Descent Device must sustain static loads, applied along the axis of the device, of at least 3,000 lbs (1,361 kg). 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.
- **2.4 GUIDE CABLE:** Applications with a sloped descent require a guide cable (see Figure 2, Item C). Systems requiring a guide cable must be designed by a qualified person. Descent speed is affected by the angle at which the guide cable is secured and the amount of sag in the guide cable. 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. The Guide Cable must be 3/8 inch (.9525 cm) to 5/8 inch (1.5875 cm) wire rope. The operation of the emergency descent system should be verified by performing a test descent in accordance with Section 3.2C.

**ANCHORAGE STRENGTH - GUIDE CABLE:** The table in Figure 2 provides approximate recommended anchorage strengths for various system configurations using 200 ft. (61 m) long, 5/8 inch (1.5875 m), 7x19 steel aircraft cable.

		Figu	re 2 - Installation Op	tions and Guide Cable A	nchorage Strengths		
Figure 2 - Installation Options and Guide Cable Anchorage Strengths							
[	Α	Guide Cable	Suspension Bar	Ė			
ľ	В	Guide Cable	e Sleeve				
	C1	Guide Cable	e Cable - Theoretical straight line le Cable - Line with Sag				
	C2	Guide Cable					
	D	Angle of Gu	ide Cable from Vertical				
	Е	Initial Guide	e Cable Sag				
ľ	F	Center of S	pan				
Angle from	e of G Verti	uide Cable cal	Length of System	Initial Guide Cable Sag	Recommended Anchorage Strength (Including 2:1 Safety Factor)		
45 Deg	grees		115 ft (35m)	8.3 ft (2.5 m)	2800 lbs (12.46 kN)		
45 Deg	grees		200 ft (61m)	14.4 ft (4.4 m)	3050 lbs (13.57 kN)		
60 Deg	grees		115 ft (35m)	5.5 ft (1.7 m)	3750 lbs (16.68 kN)		
60 Deg	grees		200 ft (61m)	10.0 ft (3.1 m)	4100 lbs (18.24 kN)		

# **3.0 INSTALLATION AND USE**

115 ft (35m)

200 ft (61m)

75 Degrees

75 Degrees

- **3.1 BEFORE EACH USE:** Carefully inspect the Emergency Descent Device in accordance with Section 5 of this instruction.
- **3.2 PLANNING:** 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 the load as specified by Section 2.3 in this instruction.

2.9 ft (0.9 m)

5.1 ft (1.6 m)

6900 lbs (30.69 kN)

7500 lbs (33.36 kN)

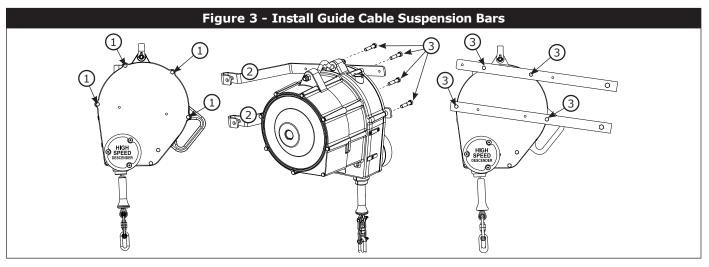
- **B. DESCENT PATH AND LANDING AREA CLEARANCE:** The planned descent path must be unobstructed. The landing area must be clear of obstructions to permit safe landing of the user. Failure to provide an unobstructed descent path and landing area may result in serious injury.
- **C. TEST THE SYSTEM:** 3M Fall Protection recommends performing a test descent using a 120 lb (55 kg) test weight. The descent speed should be uniform and allow the user to reach the landing area safely. The descent speed should be approximately as stated in Section 1.2B.

**NOTE:** The Emergency Descent Device does not need to be returned to a service center after a test descent.

- **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:** After use of the Emergency Descent Device, the auto retract function retracts the lifeline back in the device under control. Depending on the slope of the application, it may be necessary to assist the Brake Trolley back to the Descent Device. The Emergency Descent Device must be serviced by an authorized service center after a descent as the result of an emergency.

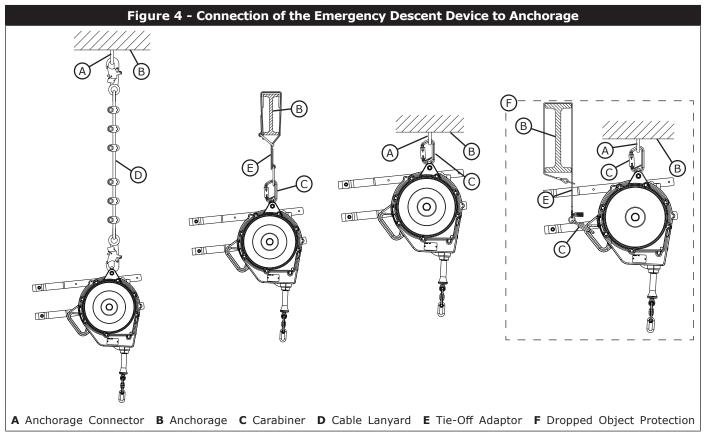
### 3.3 INSTALL GUIDE CABLE SUSPENSION BARS: See Figure 3.

- **Step 1.** Remove four 1/4-20 x 1-1/4 bolts.
- **Step 2.** Position suspension bars.
- **Step 3.** Install four 1/4-20 x 1-1/2 Bolts included in kit. Torque to 60 in lbs.



**3.4 CONNECT THE EMERGENCY DESCENT DEVICE TO AN ANCHORAGE:** Figure 4 illustrates connection of the Emergency Descent Device to an anchorage. See Section 2 for compatibility and anchorage strength requirements.

**DROPPED OBJECT PROTECTION:** The handle of the Emergency Descent Device can be connected to secondary anchorage with a Tie-Off Adaptor to prevent dropping the device during installation on primary anchorage.-



**3.5 CONNECT THE EMERGENCY DESCENT DEVICE TO A GUIDE CABLE:** Sloped angle descent applications require attaching the Emergency Descent Device to the Guide Cable. Use the suspension bar kit to attach the Emergency Descent Device to the Guide Cable as shown in Figure 5.

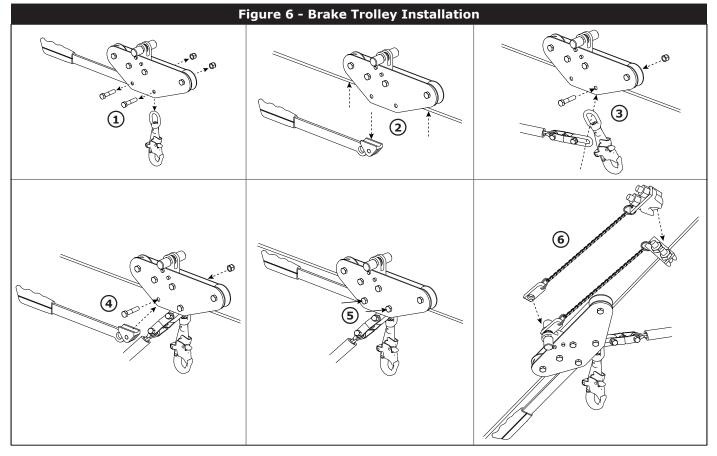
Step 1. Capture Guide Cable in Suspension Bars with 3/8-16 x 1-3/4 Bolts and 3/8-16 Nylok nuts. Torque to 60 in lbs.

**Step 2.** Capture Descender Swivel and Guide Cable in Brake Trolley. See detail in Section 3.6 and Figure 7.

# Figure 5 - Connect the Emergency Descent Device to a Guide Cable

### 3.6 INSTALL DESCENDER SWIVEL AND GUIDE CABLE IN BRAKE TROLLEY: See Figure 6.

- Step 1. Remove two Brake Trolley lower bolts, nuts and Snap Hook.
- Step 2. Remove the Brake Handle and enclose the Guide Cable inside the Brake Trolley
- **Step 3.** Install Descender swivel and Snap Hook with the same bolt and nut that was originally used to secure the Snap
- Hook. Step 4. Install Brake Handle back onto the Brake Trolley.
- **Step 5.** Tighten Brake Trolley fasteners to 60 in-lbs.
- **Step 6.** The Safety Clamp and Chain assembly prevents the Brake Trolley from unintentionally moving down the Guide Cable due to vibration, wind or other causes. Install the Safety Clamp on the Guide Cable at a location that will ensure that the Descender Brake Trolley is correctly positioned for emergency descent.



**3.7 CONNECT TO YOUR BODY SUPPORT:** A full body harness or other means of supporting the user must be used with the Emergency Descent Device device. Do not use a body belt with the Emergency Descent Device. Attachment of the Snap Hook to the frontal or sternal D-rings on a full body harness is recommended (Figure 7). Ensure the D-ring is positioned to hold yourself upright. See the full body harness manufacturer's instructions for more information.

**WARNING:** Do not use a body belt with the Emergency Descent Device. Body belts do not support your entire body, which may result in serious injury.

- **3.8 USE:** 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. See Figure 8.
  - 1. Connect Snap Hook to front D-ring.
  - 2. Grip Brake Trolley handle. (Figure 8A)
  - 3. Step off structure. Pull down on Brake Trolley handle to reduce descent speed.
  - 4. As you approach the landing, bend your knees and lean back slightly.
  - After landing, disconnect from your body support. The lifeline will retract back to the Emergency Descent Device. Depending on the slope of the application, it may be necessary to assist the Brake Trolley back to the Descent Device.

**WARNING:** The users of this equipment must be in good physical condition. The user must have the ability to absorb the landing.

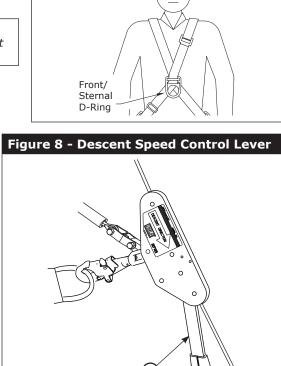


Figure 7 - Connect to a

Full Body Harness

# **4.0 TRAINING**

It is the responsibility of the user and purchaser of the Emergency Descent Device 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**

To ensure safe, efficient operation, the Emergency Descent Device should be inspected at intervals defined in Section 5.1. See Section 5.3 for inspection procedures.

- **5.1 FREQUENCY:** In addition to inspecting the Emergency Descent Device prior to each use, inspection should be performed at the following regular intervals:
  - **MONTHLY:** A monthly<sup>1</sup> formal inspection should be completed by a competent person<sup>2</sup> other than the user. A formal inspection should also be completed if the system parameters are changed, such as after a system is moved, rerigged, anchorages moved, etc. Extreme working conditions may require increasing the Inspection frequency. Inspect the Emergency Descent Device according to Section 5.3. Record inspection results in the Inspection and Maintenance Log or with the RFID system.
  - **EVERY TWO YEARS:** The Emergency Descent Device must be sent to an authorized service center every two years for inspection and service. See Section 6.2.
- **5.2 RFID TAG:** 200 Ft Emergency Sloped Descent Devices are equipped with a Radio Frequency Identification (RFID) tag (Section 8, Item D). The RFID tag on the Emergency Descent Device can be used in conjunction with the handheld RFID reading device and the web based RFID portal to simplify inspection and inventory control and provide records for fall protection equipment. If you are a first-time user, contact a Customer Service representative in the US at 800-328-1667. If you have already registered, go to: www.3M.com. Follow the instructions provided with the handheld RFID reader or on the web RFID portal to transfer your data to the web log.
- **1 Inspection Frequency:** Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of competent person inspections.
- **2 Competent Person:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

- 5.3 **INSPECTION STEPS:** Per the intervals defined in Section 5.1, inspect the Emergency Descent Device as follows:
  - **Step 1.** Inspect the Emergency Descent Device for loose fasteners and bent or damaged parts.
  - **Step 2.** Inspect the Emergency Descent Device housing for distortion, cracks, or other damage. Ensure the descent brake assembly is not damaged or distorted.
  - **Step 3.** The Emergency Descent Device lifeline must pull out and retract fully. Depending on the slope of the application, it may be necessary to assist the Brake Trolley back to the Descent Device. Inspect entire wire rope for cuts, kinks, broken wires, corrosion, or severely abraded areas. Slide the cable bumper up and inspect the wire rope and ferrules for cracks, corrosion, broken wires, etc.
  - **Step 4.** Device labels must be present and fully legible (see Section 8).
  - Step 5. Inspect for corrosion on the device.
  - **Step 6.** Inspect connecting hooks or carabiners for damage, corrosion, and working condition.
  - **Step 7.** Inspect all system components and subsystems according to manufacturer's instructions.
  - **Step 8.** Record inspection results in the Inspection and Maintenance Log (Section 9) or on the RFID web portal (Section 5.2).
- **5.4 UNSAFE OR DEFECTIVE CONDITIONS:** If inspection reveals an unsafe or defective condition, remove the device from service and contact an authorized service center for repair.

# 6.0 MAINTENANCE, SERVICE, STORAGE

**6.1 MAINTENANCE AND SERVICE:** 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 excess buildup of dirt, paint, etc., may prevent the lifeline from retracting back into the device.

Additional maintenance and servicing must be completed by an authorized service center. Do not attempt to disassemble the device.

NOTE: Only 3M Fall Protection or parties authorized in writing may make repairs to this equipment.

**6.2 STORAGE AND TRANSPORT:** Store and transport 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

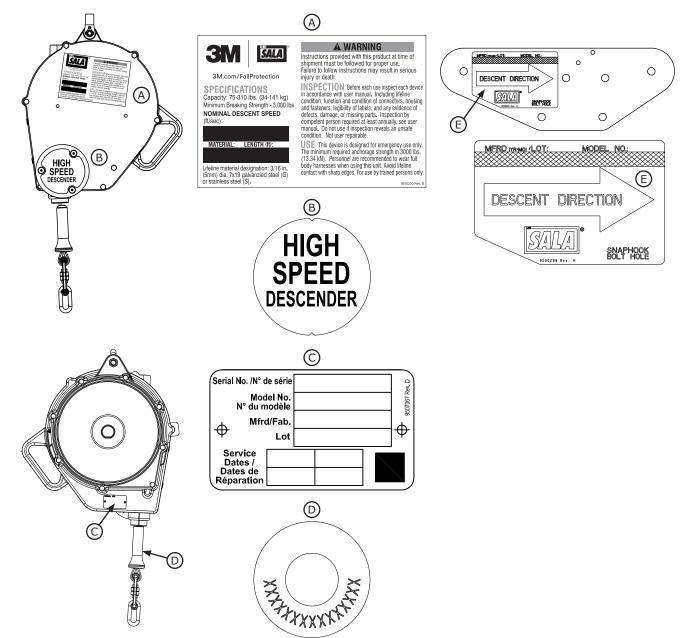
Housing:	Cast Aluminum
Anchorage Handle:	Stainless Steel
Fasteners:	Stainless Steel
Main Shaft:	Stainless Steel
Connecting Hook:	Stainless Steel
Cable Bumper:	Urethane
Lifeline (Stainless Steel):	3/16" (4.8 mm) dia. 7x19 Aircraft Wire Rope, 3,600 lbs (16 kN) minimum tensile strength
Finish Paint:	Polyester Baked Finish

### 7.2 PERFORMANCE SPECIFICATIONS

Capacity:	1 user - 75-310 lbs (34-141 kg)	
Nominal Descent Speed:	6 ft/sec (1.8 m/s)	

# 8.0 LABELING

The following labels should be securely attached to the Emergency Descent Device and should be fully legible:



# 9.0 INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER:					
MODEL NUMBER:					
DATE PURCHASED:		DATE OF FIRST USE:	DATE OF FIRST USE:		
INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED		
Approved By:					
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### 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 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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### Colombia

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# Fall Protection

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