



Fall Protection

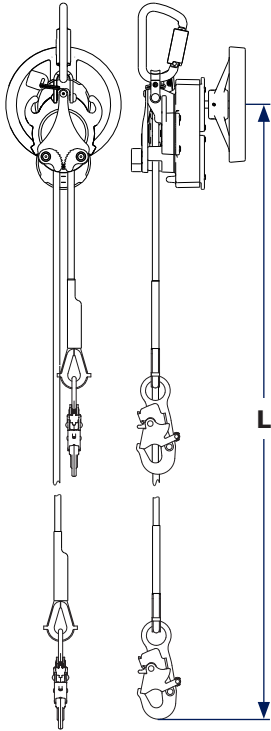
ANSI Z359.4	OSHA 1926.502 OSHA 1910.140
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ROLLGLISS® R550
Rescue & Escape Device

USER INSTRUCTIONS
5908058 REV. A

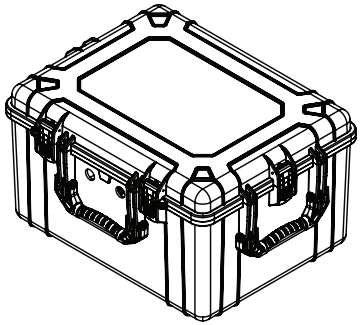
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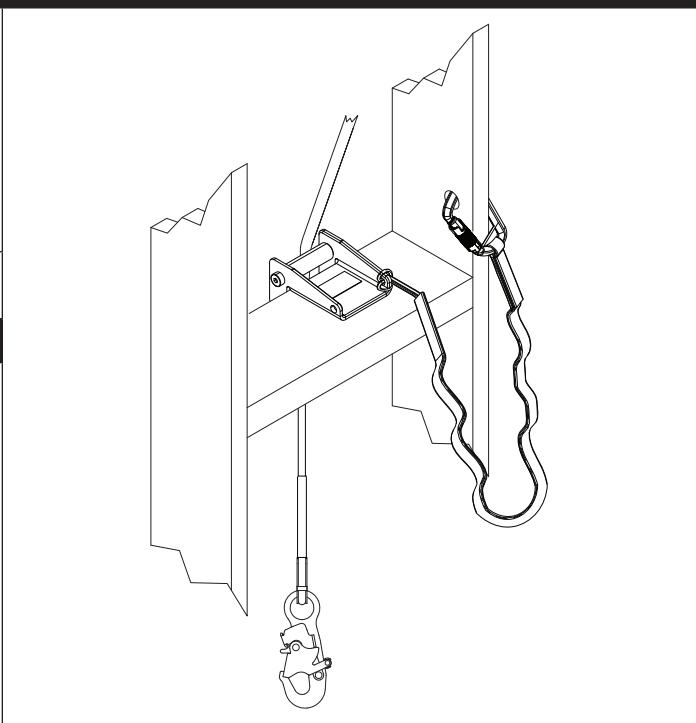
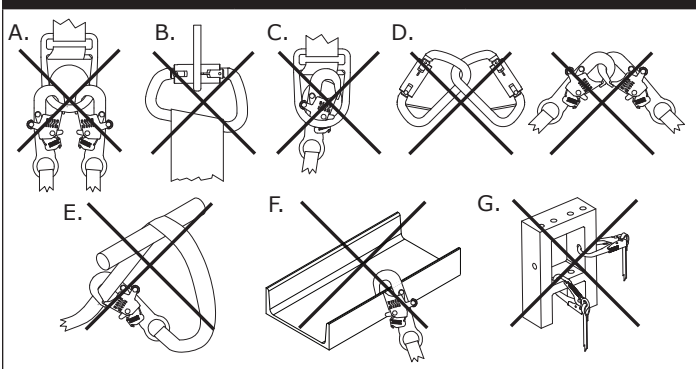
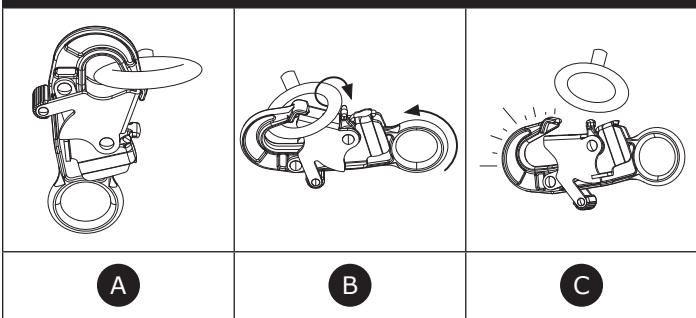
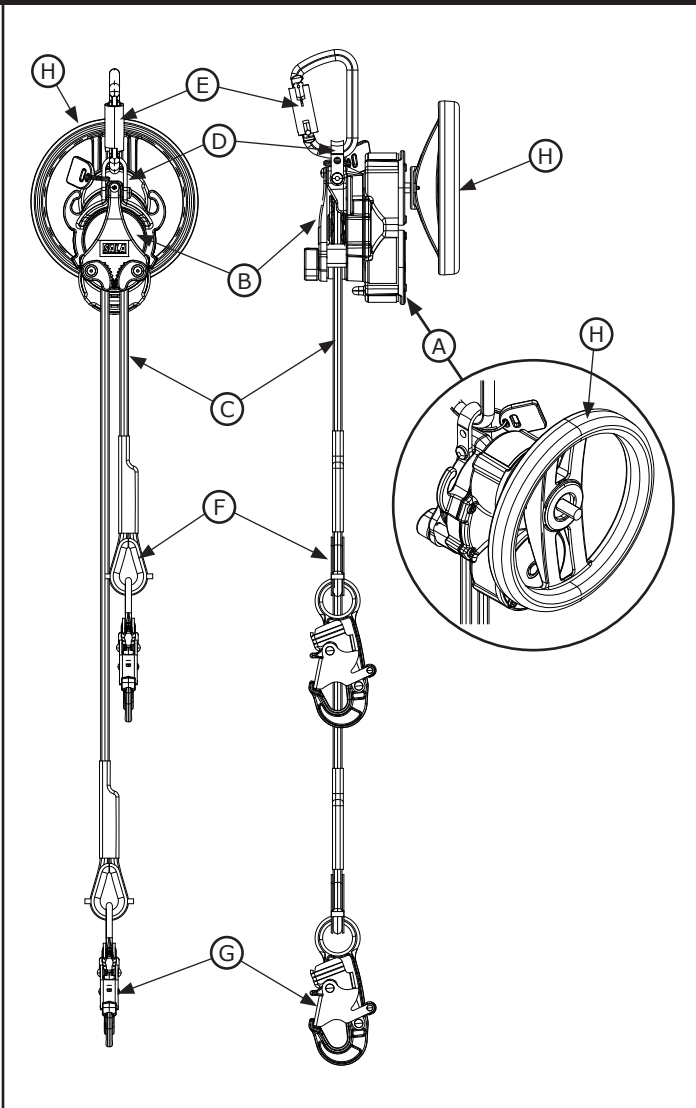
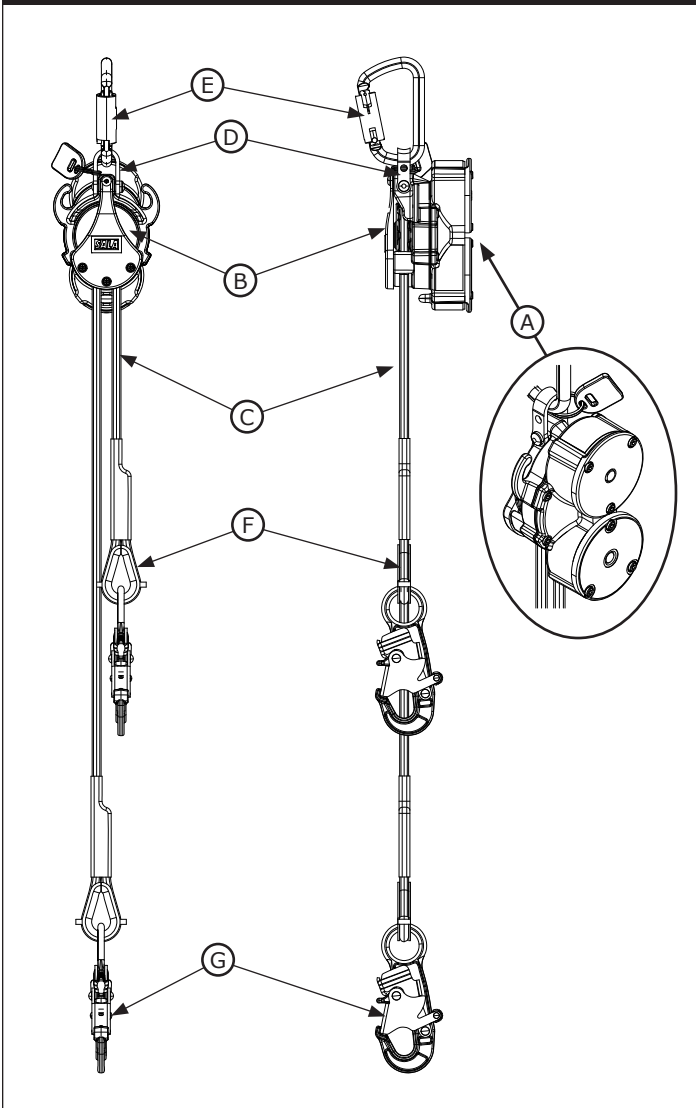
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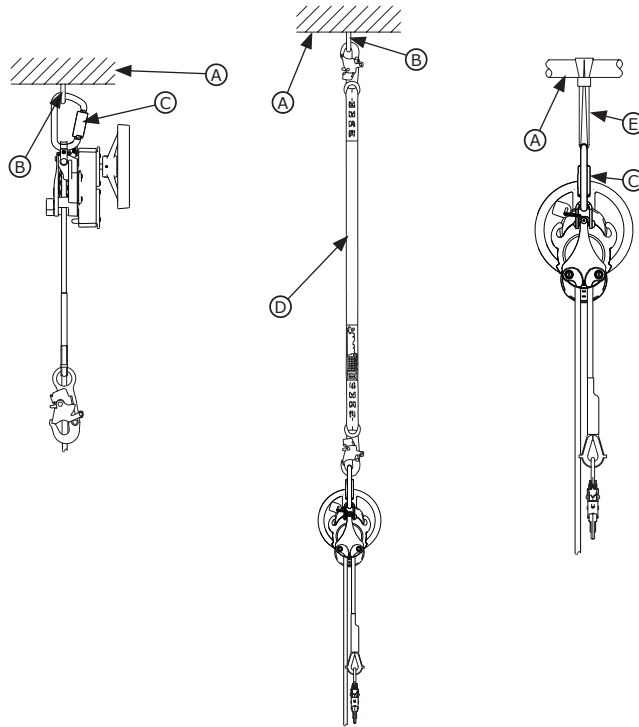
3334XXX		
A	L	W
3334150	150 ft. (45.72 m)	35.3 lb. (16.0 kg)
3334250	250 ft. (76.2 m)	42.9 lb. (19.5 kg)
3334350	350 ft. (106.7 m)	44.8 lb. (20.3 kg)

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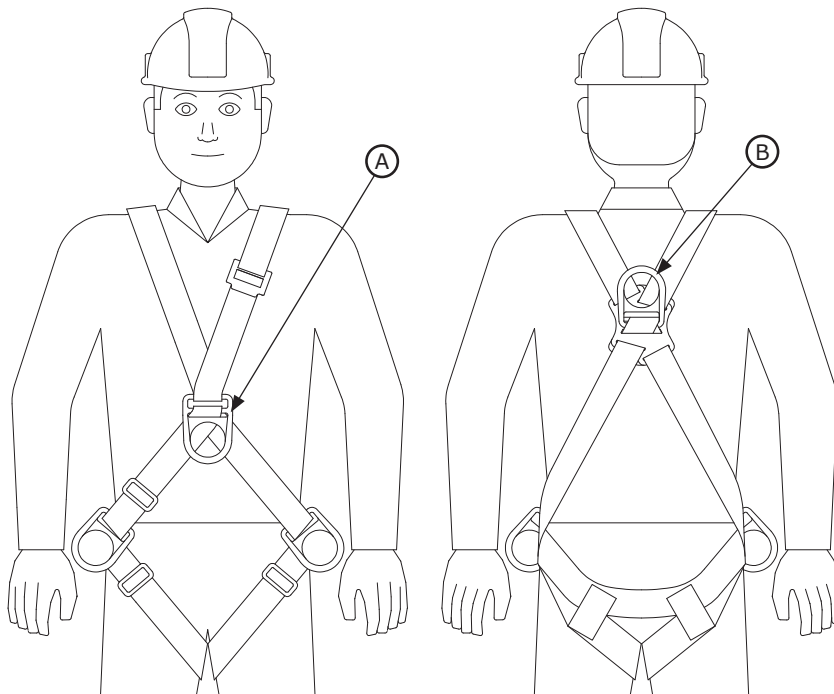


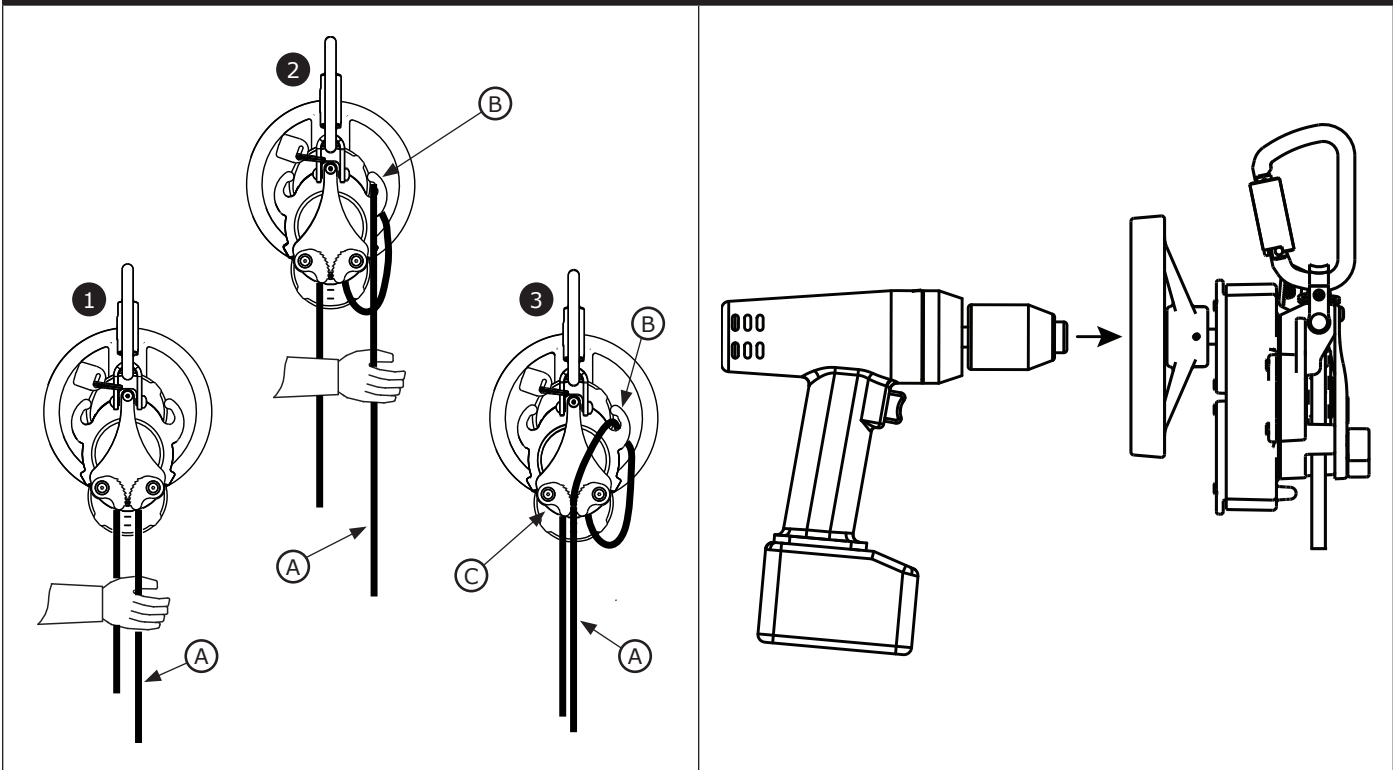
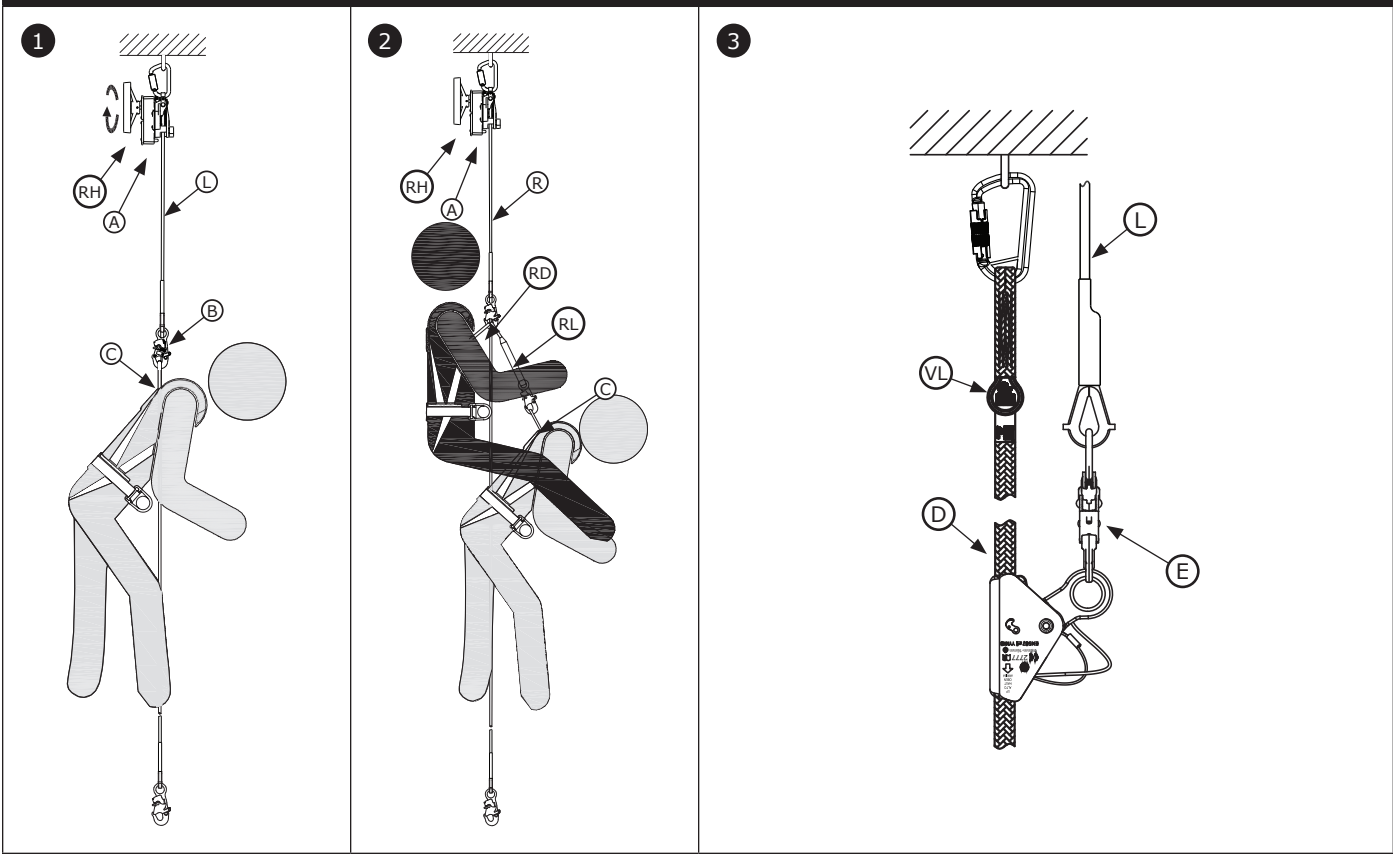


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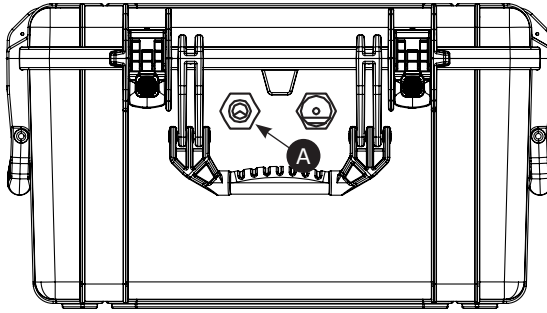
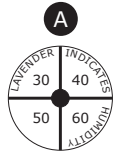


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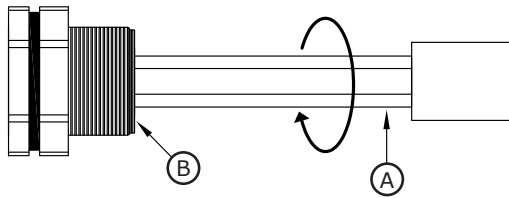




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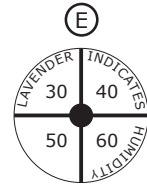
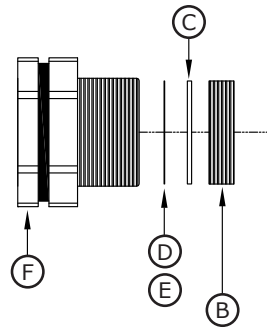


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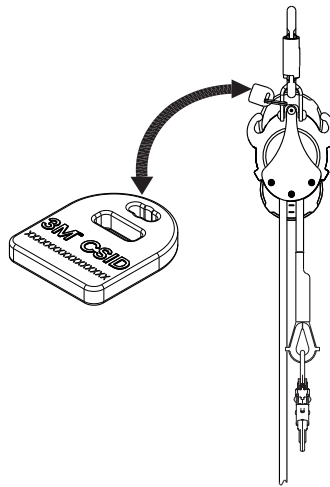


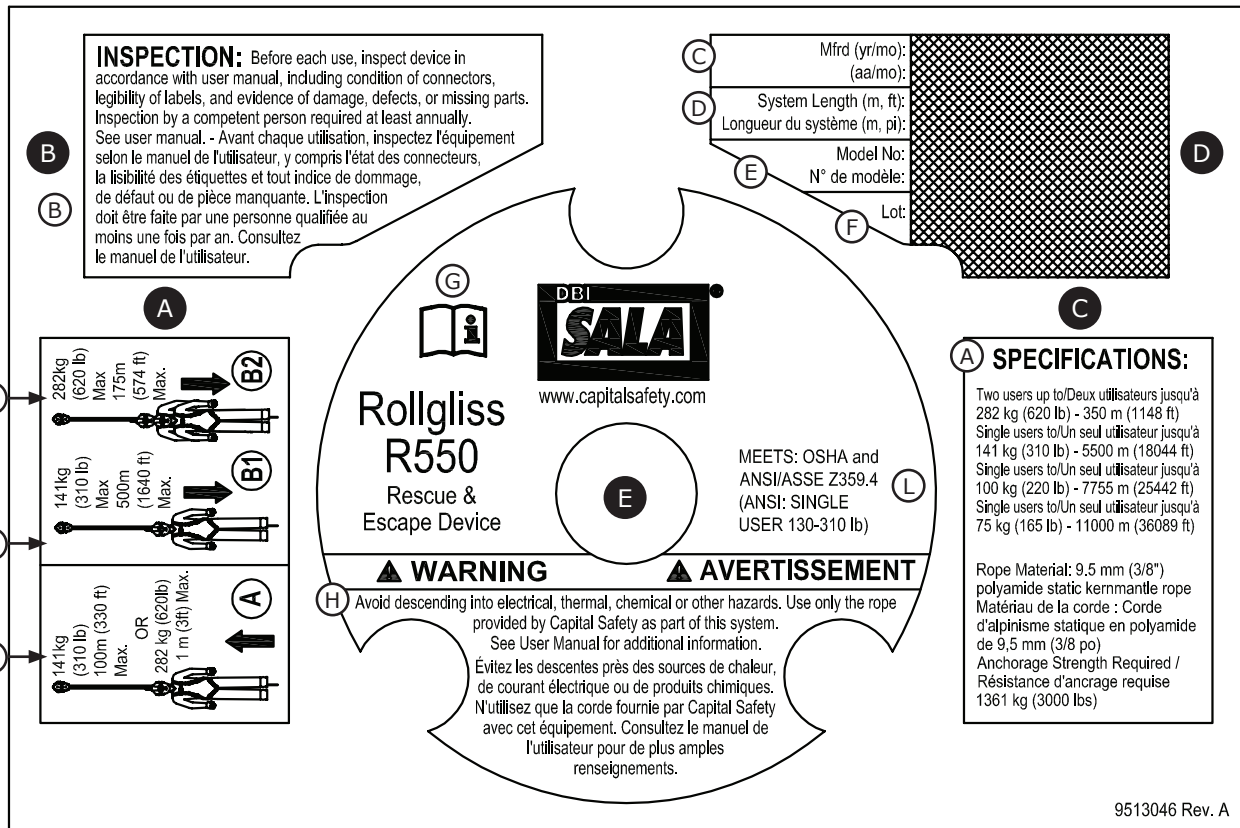
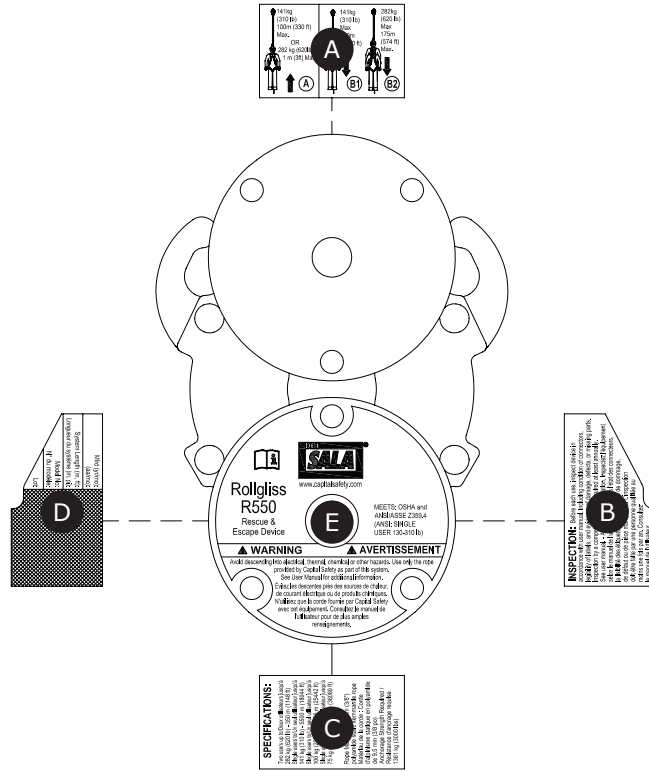
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9513046 Rev. A

SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions, prior to the use of this product. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.

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

Intended Use:

This product is used as part of a complete 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 these instructions, is not approved by 3M and could result in serious injury or death.

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



WARNING

This product is used as part of a complete Fall Protection system. All users must be fully trained in the safe installation and operation of their complete Fall Protection system. **Misuse of this product could result in serious injury or death.** For proper selection, operation, installation, maintenance, and service, refer to all instruction manuals and manufacturer recommendations. For more information, see your supervisor or contact 3M Technical Services.

- **To reduce the risks associated with working with a Rescue Device which, if not avoided, could result in serious injury or death:**
 - Inspect the product before each use and after any fall event, in accordance with the procedures defined in these instructions.
 - If inspection reveals an unsafe or defective condition, remove the product from service immediately and clearly tag it "DO NOT USE". Destroy or repair the product as required by these instructions.
 - Any product that has been subject to fall arrest or impact force must be immediately removed from service. Destroy or repair the product as required by these instructions.
 - Ensure that Fall Protection systems assembled from components made by different manufacturers are compatible and meet the requirements of applicable Fall Protection regulations, standards, or requirements. Always consult a Competent or Qualified Person before using these systems.
 - Always maintain 100% tie-off.
 - Ensure the lifeline is kept free from all hazards, including, but not limited to: entanglement with users, other workers, moving machinery, other surrounding objects, or impact from overhead objects that could fall onto the lifeline or users.
 - Use appropriate edge protection when the lifeline may contact sharp edges or abrasive surfaces.
 - Do not twist, tie, knot, or allow slack in the lifeline.
 - Do not touch parts of the system exposed to friction during or after a descent; these parts become hot and may cause burns.
 - Follow all manufacturer recommendations when connecting a lifeline.
 - Always follow your workplace rescue plan when performing rescue operations.
 - Do not use this product unless you have received technical rescue training.
 - Use caution when installing, using, or moving the product as moving parts may create pinch points.
 - Always record descents as specified by these instructions and remove product from service as necessary in accordance with listed usage limits.
 - The operator must always maintain control of the hand wheel while the system is under load.
- **To reduce the risks associated with working at height which, if not avoided, could result in serious injury or death:**
 - Your health and physical condition must allow you to safely work at height and to withstand all forces associated with a fall arrest event. Consult your doctor if you have questions regarding your ability to use this equipment.
 - Never exceed allowable capacity of your Fall Protection equipment.
 - Never exceed the maximum free fall distance specified for your Fall Protection equipment.
 - Do not use any Fall Protection equipment that fails inspection, or if you have concerns about the use or suitability of the equipment. Contact 3M Technical Services with any questions.
 - Some subsystem and component combinations may interfere with the operation of this equipment. Only use compatible connections. Contact 3M Technical Services before using this equipment in combination with components or subsystems other than those described in these instructions.
 - Use extra precautions when working around moving machinery, electrical hazards, extreme temperatures, chemical hazards, explosive or toxic gases, sharp edges, abrasive surfaces, or below overhead materials that could fall onto you or your Fall Protection equipment.
 - Ensure use of your product is rated for the hazards present in your work environment.
 - Ensure there is sufficient fall clearance when working at height.
 - Never modify or alter your Fall Protection equipment. Only 3M, or persons authorized in writing by 3M, may make repairs to 3M equipment.
 - Before using Fall Protection equipment, ensure a written rescue plan is in place to provide prompt rescue if a fall incident occurs.
 - If a fall incident occurs, immediately seek medical attention for the fallen worker.
 - Only use a Full Body Harness for Fall Arrest applications. Do not use a body belt.
 - Minimize swing falls by working as directly below the anchorage point as possible.
 - A secondary Fall Protection system must be used when training with this product. Trainees must not be exposed to an unintended fall hazard.
 - Always wear appropriate Personal Protective Equipment when installing, using, or inspecting the product.
 - Never work below a suspended load or worker.

Prior to installation and use of this equipment, record the product identification information from the ID label in the Inspection and Maintenance Log (Table 2) at the back of this manual.

Always ensure you are using the latest revision of your 3M instruction manual. Visit the 3M website or contact 3M Technical Services for updated instruction manuals.

PRODUCT DESCRIPTION:

Figure 1 illustrates the 3M™ DBI-SALA® Rollgliss™ R550 Rescue & Escape Device (R550 Device). The R550 Device is a rescue device that is intended to lower one or two people simultaneously from an elevated height to a lower level in a rescue situation.

Figure 2 illustrates components of the R550 Device. See Table 1 for Component Specifications. The body of the R550 Device is comprised of the Housing Assembly (A). The Rope Sheave (B) is held within the Housing Assembly and ensures smooth operation of the Lifeline (C). The Anchor Loop (D) secures the Carabiner (E) to the top of the system, in addition to modular components; in conjunction, the two components secure the R550 Device to an anchorage point. The Thimble (F) of the Lifeline secures the Snap Hooks (G), which connect to the harness of the user. The Rescue Hub (H) is attached to the Housing Assembly and facilitates rescue applications for the 3327XXX series of R550 Device models.

Table 1 – Specifications

System Specifications:				
Product Models:	See Figure 1 for a full list of models covered by these user instructions. The last three digits of the Model Number (A), signified by 'XXX', indicate the maximum length (L) in meters.			
Capacity:	The capacity of the R550 Device depends upon the number of users, the total weight of those users, the distance to be traveled, and the number of times the device has been used to maximum descent distance previously.			
	Users	Total Weight (including tools, clothing, etc.)	Maximum Descent Distance	Number of Descents of Maximum Descent Distance
	2 Persons	130 lb. - 620 lb. (59 kg - 282 kg)	574 ft. (175 m)	2
	1 Person	130 lb. - 310 lb. (59 kg - 141 kg)	1,640 ft. (500 m)	11
	1 Person	130 lb. - 220 lb. (59 kg - 100 kg)	1,640 ft. (500 m)	16
	1 Person	130 lb. - 165 lb. (59 kg - 75 kg)	1,640 ft. (500 m)	22
	Maximum Recommended Lifting Capacity and Height	1 Person: 141 kg for a distance of 100 m 2 Persons: 282 kg for a slight distance for rescue only.		
Anchorage Strength:	The structure to which the R550 Device is mounted must be capable of sustaining force in the anticipated direction(s) of loading. Each Anchorage Point location must be capable of sustaining the following values:			
	ANSI	3,100 lbf (13.3 kN)		
	When more than one R550 Device is attached to an anchorage the strengths stated above must be multiplied by the number of descent devices attached to the anchorage.			
	The R550 Device should not be attached to an Anchorage Connector if such an attachment would reduce the strength of the anchorage below requirements. See the manufacturer instructions of your Anchorage Connector for more information.			
Service Temperature	-40°F (-40°C) Minimum Service Temperature			
Anchorage Connector Breaking Strength:	5,000 lbf (22.2 kN) Minimum Breaking Strength			
Weight:	See Figure 1 for the weight (W) of each product model.			

Component Specifications:

Figure 2 Reference	Component	Materials
(A)	Housing Assembly	Aluminum/Steel
(B)	Rope Sheave	Aluminum
(C)	Lifeline	3/8" nylon rope
(D)	Anchor Loop	Stainless steel
(E)	Carabiner	Steel (2000112)
(F)	Thimble	Plastic; 3/8" nylon rope
(G)	Snap Hook	Steel (9502116)
(H)	Rescue Hub	Nylon

Table 1 – Specifications

Performance Specifications:

Minimum Descent Load:	130 lb. (59 kg)		
Maximum Allowed Descent Height:	1 Person: 1,640 ft. (500 m) when system length permits 2 Persons: 574 ft. (175 m) when system length permits		
Nominal Descent Speed:	1 Person: 2.0 ft/s - 3.0 ft/s (0.6 m/s - 0.9 m/s) 2 Persons: 2.0 ft/s - 4.0 ft/s (0.6 m/s - 1.2 m/s)		
Maximum Consecutive Descents:	The Maximum Number of Consecutive Descents is equal to the Total Cumulative Descent Distance divided by the Descent Height. Total Cumulative Descent Distances for various weight limitations are as follows:		
	2 Persons up to 620 lb. (282 kg)	1,148 ft. (350 m)	
	1 Person up to 310 lb. (140 kg)	18,044 ft. (5,500 m)	
	1 Person up to 220 lb. (100 kg)	25,443 ft. (7,755 m)	
	1 Person up to 165 lb. (75 kg)	36,089 ft. (11,000 m)	
Descent Energy Rating:	The Descent Energy Rating of your R550 Rescue and Escape Device is a calculable measure of wear on your device. Factors influencing Descent Energy Rating include user weight, descent height, the number of previous descents, and the number of simultaneous users. The Descent Energy Rating is the Descent Energy Classification of your R550 Rescue and Escape Device per the respective standard. If your device exceeds its Descent Energy Rating Limit, it must be removed from service immediately and managed according to the specifics of Section 4.1. The Descent Energy Rating Limit of your R550 Rescue & Escape Device is determined by the number of users and the applicable standard for use:		
	Standard	Number of Simultaneous Users	
	Descent Energy Rating Limit		
	ANSI Z359.4	One or two users	300,000 ft-lb (406,750 joules)
	CSA Z259.3-12 (Type 1, Class A)	One user	5,531,700 ft-lb (7,500,000 joules)
	CSA Z259.3-12 (Type 1, Class C)	Two users	368,700 ft-lb (500,000 joules)
	<input checked="" type="checkbox"/> All users must weigh no more than 310 lb. (140 kg) each.		
	At any time, the Descent Energy Rating of your R550 Device must not exceed its limit. Descent Energy Rating can be calculated with the following equation:		
	$E = W \times H \times N$		
	Where "E" is the Descent Energy Rating in foot-pounds (ft-lb), "W" is the User Weight in pounds (lb.), "H" is the Descent Height in feet (ft.), and "N" is the total number of descents your R550 Device has experienced.		
If, at any time, your R550 Device has a Descent Energy Rating (E) equal to or greater than the Descent Energy Rating Limit, it must be removed from service immediately and marked "DO NOT USE".			
For metric units, the following equation should be used instead:			
$E = W \times H \times N \times G$			
Where "E" is the Descent Energy Rating in Newton-meters (N-m), "W" is the User Weight in kilograms (kg), "H" is the Descent Height in meters (m), "N" is the total number of descents your R550 Device has experienced, and "G" is the acceleration due to gravity (9.81 m/s ²).			

1.0 PRODUCT APPLICATION

- 1.1 PURPOSE:** The R550 Rescue & Escape Device is intended to lower one or two people simultaneously from an elevated height to a lower level in a rescue situation. Multiple people may descend one after another using the device. The descent speed is automatically limited during descent. Models incorporating a hand wheel allow for raising persons a short distance to facilitate rescue.

Rescue Only: This device is for use in rescue situations only. Do not connect Lifting Equipment to the R550 Rescue & Escape Device and do not use the device for any purpose other than for rescue.

- 1.2 STANDARDS:** Your R550 Rescue & Escape Device conforms to the national or regional standard(s) identified on the front cover of these instructions. If this product is resold outside the original country of destination, the re-seller must provide these instructions in the language of the country in which the product will be used.
- 1.3 SUPERVISION:** Use of this equipment must be supervised by a Competent Person¹.
- 1.4 TRAINING:** This equipment must be installed and used by persons trained in its correct application. This manual is to be used as part of an employee training program as required by national, state, and/or regional regulations. It is the responsibility of the users and installers of this equipment to ensure they are familiar with these instructions, trained in the correct care and use of this equipment, and are aware of the operating characteristics, application limitations, and consequences of improper use of this equipment.
- 1.5 RESCUE PLAN:** When using this equipment and connecting subsystem(s), the employer must have a rescue plan and the means at hand to implement and communicate that plan to users, authorized persons², and rescuers³. A trained, on-site rescue team is recommended. Training should be provided on a periodic basis to ensure rescuer proficiency. Team members should be provided with the equipment and techniques necessary to perform a successful rescue. Rescuers should be provided with these User Instructions.
- 1.6 INSPECTION FREQUENCY:** The R550 Rescue & Escape Device shall be inspected by the user before each use and, additionally, by a Competent Person other than the user at intervals of no longer than one year.⁴ Inspection procedures are described in the "Inspection and Maintenance Log" (Table 2). Results of each Competent Person inspection should be recorded on copies of the "Inspection and Maintenance Log".
- 1.7 AFTER A FALL:** If the R550 Rescue & Escape Device is subjected to the forces of arresting a fall, it must be removed from service immediately, clearly marked "DO NOT USE", and then either destroyed or forwarded to 3M for replacement or repair.

2.0 SYSTEM REQUIREMENTS

- 2.1 ANCHORAGE:** The structure on which the R550 Rescue & Escape Device is placed or mounted must meet the Anchorage specifications defined in Table 1.
- 2.2 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. Maintain a minimum distance of 1.0 ft. (31 cm) away from any vertical surface to ensure safe descent.
- 2.3 HAZARDS:** Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to: heat, chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, or overhead materials that may fall and contact the user or device. Contact 3M Technical Services for further clarification.
- 2.4 SHARP EDGES:** Avoid using this equipment where system components will be in contact with, or scrape against, unprotected sharp edges and abrasive surfaces. An Edge Protector (Figure 5) or protective padding must be used when descending over sharp edges or abrasive surfaces.
- 2.5 COMPONENT COMPATIBILITY:** 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 the safety and reliability of the complete system.
- 2.6 CONNECTOR COMPATIBILITY:** 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 lbf (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 3). Connectors must be compatible in size, shape, and strength. 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).

1 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.

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

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

4 Inspection Frequency: Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of competent person inspections.

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 4 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- A. To a D-ring to which another connector is attached.
- B. 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 complies is equipped with a 3,600 lbf (16 kN) gate. Check the marking on your snap hook to verify that it is appropriate for your application.
- C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- D. To each other.
- E. 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).
- F. 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.
- G. In a manner that does not allow the connector to align properly while under load.

3.0 INSTALLATION

Installation of the Rollgliss™ R550 Rescue & Escape Device must be supervised by a Qualified Person¹. The installation must be certified by a Competent Person as meeting the criteria for a Certified Anchorage, or that it is capable of supporting the potential forces that could be encountered during a fall.

3.1 PLANNING: Plan your R550 Device and how it will be used before starting your work. Account for all factors that may affect your safety before, during and after a fall. Consider all requirements, limitations and specifications defined in Section 2 and Table 1.

3.2 INSTALLING THE R550 RESCUE & ESCAPE DEVICE: The R550 Device may be connected to an anchorage or to a fixed ladder. Ensure that the R550 Device is properly installed before use, according to the following procedures:

When connecting the R550 Device to an Anchorage, confirm that the connection arrangement will not block or restrict a descent.

- **Connecting the R550 Device to an Anchorage:** See Figure 6 for examples of connection of the R550 Descender to an anchorage. See Section 2 for compatibility and anchorage strength requirements.

(A)	Anchorage
(B)	Anchorage Connector
(C)	Carabiner
(D)	Web Lanyard
(E)	Anchorage Connector (Web Slings)

- **Preparing the Lifeline:** Lower one end of the lifeline to the ground or landing below. Ensure that the lifeline is free of knots or kinks.

4.0 USE

4.1 BEFORE EACH USE: Verify that your work area and Fall Protection system meet all criteria defined in these instructions. Verify that a formal Rescue Plan is in place. Inspect the R550 Rescue Device per the 'User' inspection points defined on the "Inspection and Maintenance Log". Confirm that the Descent Energy Rating of the device does not exceed its limit (see Table 1). If inspection reveals an unsafe or defective condition, if the device exceeds its Descent Energy Rating Limit, or if there is any doubt about its condition for safe use, remove the product from service immediately. Clearly tag the product "DO NOT USE". See Section 5 for more information.

4.2 RESCUE APPLICATIONS: The R550 Rescue & Escape Device may be used for rescue applications according to the following methods:

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

Users of this equipment must be in good physical condition. The user must have the ability to absorb the landing.

Always wear gloves when handling the lifeline to control descent speed.

SINGLE-PERSON UNASSISTED ESCAPE: Procedures for performing an unassisted descent with the R550 Rescue System are as follows:

1. **Connect to a Full Body Harness or other Body Support (Figure 7):** A full body harness or other means of supporting the user must be used with the R550 Device. Do not use a body belt with this device. When using a full body harness, connect the Snap Hook on the lifeline to the sternal D-ring (A) or dorsal D-ring (B). Ensure the D-ring is positioned to hold the user upright. See the full body harness manufacturer's instructions for more information.
2. **Prepare the Lifeline for Descent:** Prior to descent, the section of lifeline between the user and the R550 Device must be tightened to remove any slack. Tighten the lifeline by pulling on the free end of the rope until slack between the user and R550 Device is removed. Once the lifeline is taut, hold the free end of the lifeline tightly until descent is initiated.
3. **Descend to Safety:** Release the free end of the lifeline to initiate descent. Descent speed will be automatically controlled to a rate described in Table 1 by the R550 Device's centrifugal brake. Descent may be slowed, interrupted or prevented by using the following methods (see Figure 9):
 - 1: Slow or interrupt descent by firmly grasping the free end of the Lifeline (A).
 - 2: Use the Pigtail (B) while firmly grasping the free end of the Lifeline (A) to provide additional descent control.
 - 3: Prevent unintentional descent by securing the free end of the Lifeline (A) with the Pigtail (B) and Cam Cleats (C). Bend your knees to prepare for landing. After landing, disconnect the lifeline from the body support.

The R550 Device may become hot during use which could injure the user if parts other than those used to control the descent are touched. Use beyond the specified load and descent length limits may generate excessive heat which could damage the descent line.

4. **Prepare for the Next Descent:** After use of the R550 Device, the lifeline must be pulled through the device as needed to position a lifeline end and Snap Hook adjacent to the next person to descend.

REMOTE ASSISTED RESCUE: See Figure 8.1 for reference. The R550 Device is equipped with a Rescue Hub (RH) which can be used in remote assisted rescues to raise the fall victim to permit removal of their Fall Arrest subsystem (lanyard, etc.) prior to descent to safety. Procedures are as follows:

During a rescue, there should be direct or indirect visual contact or some other means of communication with the fall victim at all times during the rescue process.

- Lower or Raise One End of the Lifeline to the Victim:** Pull the lifeline (L) through the R550 Device (A) as needed until the snap hook (B) on one end of the lifeline is adjacent to the desired connection point on the victim's body support (C).
- Connect to the Victim's Full Body Harness or other Body Support:** Connect the snap hook (B) on the rescue end of the lifeline to the sternal D-ring or dorsal D-ring (C). Ensure the D-ring is positioned to hold the user upright.

In the event the connection point on the victim's body support is not within reach, the rope grab accessory (Figure 8.3, D) can be attached upside down (↓) on the victim's lanyard (VL) and locked in place. The snap hook on the R550 lifeline (L) can be attached to the eye (E) on the rope grab (D) and the rescue hub (RH) can be used to raise the victim to safety or to a point where their initial fall protection system can be released to allow lowering the victim to safety.

- Raise the Victim to Disconnect the Fall Arrest Subsystem:** Rotate the Rescue Hub (RH) to raise the victim's weight from the fall arrest subsystem and onto the R550 Device. Secure the Free End of the lifeline with the R550 Device's Pigtail and Cam Cleats to prevent unintentional descent (see Figure 9). Disconnect the Victim's fall arrest subsystem (lanyard, etc.).
 - Alternate Option (Figure 10):** The R550 Device is also configured to allow a Power Drill (minimum 0.5 in. chuck and 400 lbf-in. torque) to be attached to the center of the Rescue Hub which can be used in remote assisted rescues to raise the fall victim. (See Table 1 for an example of lifting distances.) Attach the Power Drill directly to the shaft at the center of the Rescue Hub (see Figure 9). Use the attached Power Drill to rotate the Rescue Hub to raise the victim's weight from the fall arrest subsystem and onto the R550 Device. Secure the Free End of the lifeline with the R550 Device's Pigtail and Cam Cleats to prevent unintentional descent (see Figure 10). Detach the Power Drill by lowering the victim's weight onto the unit's Pigtail and Cam Cleats and then releasing the Power Drill from the center of the Rescue Hub. Once the Powered Drill is removed, disconnect the victim's Fall Arrest subsystem (lanyard, etc.).

Table 1: Single Battery Lifting Distances in either direction for DeWalt 18V Drill (Model DCD990M2)

	Low Speed	Medium Speed	High Speed
220 lb. (100 kg) Load	250 ft. (76 m)*	250 ft. (76 m)*	175 ft. (53 m)*
310 lb. (140 kg) Load	200 ft. (61 m)*	150 ft. (46 m)*	NA**

* Lifting distance based on full battery charge, ambient temperature of 72°F (22°C).
 ** High speeds with high loads not recommended.

Power Drill lifting capabilities will vary with victim load, battery charge, drill model, and environmental conditions. The lowest drill speed setting is recommended to maximize battery life and to reduce the risk of damaging the drill or the R550 Descender. Loads greater than 310 lb. (140 kg) should not be lifted with the Power Drill option. Lifting in reverse direction will typically decrease the lifting distance capacity of a single battery charge.

- Prepare the Lifeline for Descent:** Prior to descent, the section of lifeline between the user and the R550 Device must be tightened to remove any slack. Tighten the lifeline by pulling on the free end of the lifeline until slack between the user and R550 Device is removed. Once the lifeline is taut, hold the free end of the lifeline tightly until descent is initiated.
- Descend to Safety:** Release the free end of the lifeline to initiate descent. Descent speed will be automatically controlled to a rate described in Table 1 by the R550 Device's centrifugal brake. Descent may be interrupted by firmly grasping the free end of the lifeline (see Figure 9). Bend your knees to prepare for landing. After landing, disconnect the lifeline from the body support. Record all descents in the Descent Log (Table 3).

The R550 Rescue & Escape Device may become hot during use which could injure the user if parts other than those used to control the descent are touched. Use beyond the specified load and descent length limits may generate excessive heat which could damage the descent line.

SIMULTANEOUS RESCUE AND ESCAPE: See Figure 8.2. In situations where the fall victim requires assistance, simultaneous rescue and escape allows a rescuer to accompany the victim during descent:

During a rescue, there should be direct or indirect visual contact or some other means of communication with the fall victim at all times during the rescue process.

Two-person descents with the R550 Device should not exceed a total combined weight (including tools, clothing, body support, etc.) of 620 lb. (282 kg) and a descent distance of 574 ft. (175 m).

- Descend to the Victim:** In situations where the fall victim is suspended by their existing fall arrest subsystem, it will be necessary for the rescuer to descend to the victim's location to provide assistance. Descend to the victim per the steps in Section 4.2 - "Single Person Unassisted Escape".

When the victim's position is reached, descent can be interrupted by firmly grasping and holding the free end of the rope (see Figure 9). If a secondary rescuer is available at the R550 Device, the free end of the rope can be passed through the pigtail and then secured in the cam cleats to prevent unintentional descent while the primary rescuer is securing the victim.

2. **Connect the Victim to the R550 Device:** Connect a rescue lanyard (RL) (or similar equipment) between the lifeline snap hook connected to the rescuer's full body harness front D-ring (RD) or the back D-ring on the victim's full body harness (C).

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

3. **Disconnect the Victim's Fall Arrest Subsystem:** Ensure that the victim is securely attached to the R550 Device and then detach the victim's fall arrest subsystem (lanyard, etc.) to free the victim for descent.

If a secondary rescuer is available at the R550 Rescue & Escape Device, the Rescue Hub can be used to raise the victim slightly for detachment of their fall arrest subsystem.

4. **Descend to Safety:** Release the free end of the lifeline to initiate descent. Descent speed will be automatically controlled to a rate described in Table 1 by the R550 Device's centrifugal brake. Descent may be interrupted by firmly grasping the free end of the lifeline (see Figure 9). Bend your knees to prepare for landing. After landing, disconnect the lifeline from the body support. Record all descents in the Descent Log (Table 3).

The R550 Device may become hot during use which could injure the user if parts other than those used to control the descent are touched. Use beyond the specified load and descent length limits may generate excessive heat which could damage the descent line.

- 4.3 **AFTER A RESCUE:** The R550 Device must be removed from service following use in a rescue event. The R550 Device should then be destroyed or sent to an authorized service center for inspection and repair. See Section 5.3 for more information.

5.0 INSPECTION

After product has been removed from service, it may not be returned to service until a Competent Person confirms in writing that it is acceptable to do so.

- 5.1 **INSPECTION FREQUENCY:** The R550 Device must be inspected at the intervals defined in Section 1. Additionally, the R550 Device must be sent to an authorized service center for inspection and service every five years. See Section 5.3 for more information. Inspection procedures are described in the "Inspection and Maintenance Log" (Table 2). Inspect all other components of the Fall Protection System per the frequencies and procedures defined in the manufacturer's instructions.

Humidity Resistant Case Inspection: If the R550 Device is stored continuously in a Humidity Resistant Case (see Figure 11), monthly and yearly inspections are not required and the device may be sent to an authorized service center at intervals not to exceed ten years. In addition to inspection prior to each use, the Humidity Indicator on the case (see Figure 11) should be inspected annually and the date and inspector's initials logged on the Case Inspection Label. If the Humidity Indicator displays a reading of 60 or greater (Pie Sector Indicator), the case should be removed from service and the contents inspected per the procedures defined in the "Inspection and Maintenance Log" (Table 2).

- 5.2 **DEFECTS:** If the product cannot be returned to service because of an existing defect or unsafe condition, or because it has been subjected to a fall arrest, either destroy or contact 3M or a 3M-authorized service center about possible repair.
- 5.3 **RECERTIFICATION:** After it has been removed from service, or at least every five years (excluding humidity resistant case storage), the R550 Device must be sent to an authorized service center for thorough inspection, maintenance, and recertification.
- 5.4 **PRODUCT LIFE:** The functional life of the R550 Device is determined by work conditions and maintenance. As long as the product passes inspection criteria, it may remain in service.

6.0 MAINTENANCE, SERVICING, STORAGE

Equipment that is in need of maintenance or scheduled for maintenance should be tagged "DO NOT USE". These equipment tags should not be removed until maintenance is performed.

- 6.1 **CLEANING:** Periodically clean the R550 Device's metal components with a soft brush, warm water, and a mild soap solution. Ensure parts are thoroughly rinsed with clean water.
- 6.2 **SERVICE:** Only 3M or parties authorized in writing by 3M may make repairs to this equipment.
- 6.3 **STORAGE AND TRANSPORT:** When not in use, store and transport the R550 Device in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the device after extended storage. If the R550 Device cannot be stored in a properly suitable environment, a Humidity Resistant Case should be used.

R550 Devices installed at a workstation and left in place between inspections should be adequately protected from environmental conditions.

7.0 RFID TAG

- 7.1 LOCATION:** 3M product covered in these user instructions is equipped with a Radio Frequency Identification (RFID) Tag. RFID Tags may be used in coordination with an RFID Tag Scanner for recording product inspection results. See Figure 13 for where your RFID Tag is located.
- 7.2 DISPOSAL:** Prior to disposing of this product, remove the RFID Tag and dispose/recycle in accordance with local regulations. For more information, please visit our website: <http://www.3M.com/FallProtection/RFID>

8.0 LABELS and MARKINGS

- 8.1 LABELS:** Figure 14 illustrates labels present on the R550 Device. Labels must be replaced if they are not present and fully legible. Information provided on each label is as follows:

Ⓐ	Refer to Table 1.
Ⓑ	Refer to Section 5.
Ⓒ	Manufactured (Year/Month)
Ⓓ	System Length (meters, feet)
Ⓔ	Model Number
Ⓕ	Lot Number
Ⓖ	Read all user instructions.
Ⓗ	Avoid descending into electrical, thermal, chemical, or other hazards. Use only the rope provided by 3M as part of this system. See User Manual for additional information.
Ⓘ	Maximum lifting weight and height.
Ⓝ	Maximum single user descent weight and height.
Ⓚ	Maximum two user descent weight and height.
Ⓛ	Applicable Standards

Table 2 – Inspection and Maintenance Log

Inspection Date:		Inspected By:	
Component:	Inspection: (See Section 2 for <i>Inspection Frequency</i>)	User	Competent Person
R550 Device (Figure 2)	Inspect for loose fasteners and bent or damaged parts.	<input type="checkbox"/>	<input type="checkbox"/>
	Inspect the Housing Assembly (A), Rope Sheave (B), Anchor Loop (D), Thimble (F), and Rescue Hub (H) for distortion, cracks, or other damage.	<input type="checkbox"/>	<input type="checkbox"/>
	If the R550 Device is stored in a Humidity Resistant Case, inspect the Humidity Indicator on the outside of the case (see Figure 12). If the Humidity Indicator displays a reading of 60 or greater (pie sector indicator): (1) Open the case and inspect the R550 Device per the remaining steps. (2) Maintain the case as described in Section 6.1.	<input type="checkbox"/>	<input type="checkbox"/>
	Ensure the Lifeline (C) pulls through the device smoothly. Inspect the entire rope for cuts, burns, severely abraded areas, and excessive wear.	<input type="checkbox"/>	<input type="checkbox"/>
	Inspect the Carabiner (E) and Snap Hooks (G) for damage, corrosion, and working condition.	<input type="checkbox"/>	<input type="checkbox"/>
	Inspect the entire unit for signs of corrosion.	<input type="checkbox"/>	<input type="checkbox"/>
Labels (Figure 14)	Verify that all labels are present and fully legible.	<input type="checkbox"/>	<input type="checkbox"/>
Fall Protection Equipment	Additional Fall Protection equipment that is used with the R550 Rescue Device should be inspected per the manufacturer instructions.	<input type="checkbox"/>	<input type="checkbox"/>
Structure	Verify the structure to which the structure is attached meets the strength requirements from Table 1 in all possible directions of loading.	<input type="checkbox"/>	<input type="checkbox"/>

Serial Number(s):	Date Purchased:
Model Number(s):	Date of First Use:

Corrective Action/Maintenance:	Approved By:	Next inspection due:
	Date:	
Corrective Action/Maintenance:	Approved By:	Next inspection due:
	Date:	
Corrective Action/Maintenance:	Approved By:	Next inspection due:
	Date:	
Corrective Action/Maintenance:	Approved By:	Next inspection due:
	Date:	
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	Date:	
Corrective Action/Maintenance:	Approved By:	Next inspection due:
	Date:	

GLOBAL 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 local laws, 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 in your region for assistance.

LIMITATION OF LIABILITY: TO THE EXTENT PERMITTED BY LOCAL LAWS, 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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EU DECLARATION OF CONFORMITY:
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