FRONTLINE
FALL PROTECTION

Installation, Operating, Inspection and Maintenance Instructions
3-Function Fall Arrest/Retrieval/Lowering Self-Retracting Device

Model #: RAG503W-US

⚠ Warning

You must read and fully understand all instructions, or have all instructions explained to you, before attempting to use this equipment. Equipment must not be installed, operated or inspected by anyone who does not understand this Guide. Failure to observe these instructions could result in serious injury or death. Careless or improper use of this equipment can result in serious injury or death. Training and instruction review should be repeated at regular intervals. If you have any questions regarding these instructions or need additional copies, contact Frontline Fall Protection at:

www.FrontlineFall.com or info@FrontlineFall.com

IMPORTANT: THESE INSTRUCTIONS SHOULD BE KEPT WITH THE DEVICE AT ALL TIMES.

Description:

Frontline 3-way SRLs are fully integrated three (3) function devices that blend fall arrest, retrieval and lowering capabilities into one convenient unit. The device provides the ability to perform rescue operations in OSHA defined Confined Spaces, i.e. manholes, tanks, vats, etc.

Care should be taken to ensure that all equipment will be clear of electrical hazards and that proper ventilation has been provided in the work area before the worker descends into the confined space. All users must wear a full-body harness that complies with OSHA, so that an injured worker can be winched up and retrieved through an opening without having another person enter the confined workspace.

Personnel using the confined space safety system and personnel that may be required to perform a rescue operation must be instructed in the correct use of the system. All operators must read and understand all instructions pertaining to the use of the system and must be trained in its proper use. Refer to and follow all federal, state, and local standards/regulations that pertain to this type of equipment.

Specifications:

Model Number	RAG503W-US
Capacity Range	130-310* lbs. (59-140kg)
Lifeline Length	50' (15.2m)
Lifeline Diameter	3/16” (5mm)
Lifeline Strength	4200 lbs. (1905kg)
Lifeline Material	galv. steel cable
Brake system	Stainless Steel
Housing Material	Aluminum
Standards Compliance	OSHA, ANSI Z359.1, Z359.4, Z359.14
ANSI Z359.14 Class	A
Avg. Arresting Force	<1350 lbs. (6kN)
Max. Arrest Distance	≤ 24" (610mm)
Brake Activation Speed	4.5 ft./sec.
Weight	45 lbs.

*The SRL is designed for use by persons with a combined weight (clothing, tools, etc.) ranging from 130 lbs. (59kg) to 310 lbs. (140kg). Make sure all the components in your system are rated to an appropriate capacity for the application. **NOTE:** 130-310 lbs. (59-140kg.) is the capacity range allowed by ANSI Z359.14. This SRL has been designed and tested to a capacity of 350 lbs. (159kg) For weights between 310-350 lbs. (140-159kg) use Max. Arrest Distance ≤54” (1,372mm) to calculate potential fall distances.

Training:

From OSHA 1910.146 (see The Federal Register for the full text)
(g) Training.
(1) The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.
(2) Training shall be provided to each affected employee:
(i) Before the employee is first assigned duties under this section;
(ii) Before there is a change in assigned duties;
(iii) Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
(iv) Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required by paragraph (d)(3) of this section or that there are inadequacies in the employee's knowledge or use of these procedures.
(3) The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.
(4) The employer shall certify that the training required by paragraphs (g)(1) through (g)(3) of this section has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

Installation *(refer to Figure 4)*:

Mounting to Tripod:

The SRL is furnished with a mounting bracket (1) and locking pins (2) for attachment to a Frontline Tripod. The device can be mounted to any leg of the tripod; position the device on the tripod leg and align the holes in the mounting bracket with the holes in the tripod leg. Secure device with locking pins. Check that pin bearings are completely through the bracket and are fully extended. Insert the locking clips into the holes at the end of locking pins. Extend cable out of housing, open pulley by sliding sides in opposite directions, place cable over pulley sheave and close pulley (7). Attach pulley to eyebolt on the head of the tripod using a locking carabiner. Attach the locking swivel snaphook (5) at the end of the lifeline cable to the back D-ring of an appropriate full-body harness.

Mounting to Quadpod or Davit:

The device is furnished with a mounting bracket (1) and locking pins (2) for attachment to a Frontline Quadpod or Davit. The device can be mounted to either of the mounting positions on the quadpod/davit boom; position the device on the boom's mounting block and align the mounting holes on the bracket and block. Secure device with locking pins. Check that pin bearings are completely through the bracket and are fully extended. Insert the locking clips in the holes at end of locking pins. Extend cable out of housing, remove cable retaining pin at end of boom, place cable over pulley sheave and reinsert pin. Attach the locking swivel snaphook (5) at the end of the lifeline cable to the back D-ring of an appropriate full-body harness.

Inspection policy:

Both OSHA and ANSI require an inspection by the user before each use and ANSI also requires an additional inspection by a Competent Person other than the user at intervals of no more than one year.

OSHA and ANSI define a Competent Person as:

> One who is capable of identifying existing and predictable hazards in the surroundings and working conditions that are unsanitary, hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate such hazards.

ANSI Z359.1 E6.1.1 The purpose of two-level inspection of equipment is to provide two independent means for guarding against oversight in the detecting and controlling against the use of defective, damaged and improperly maintained equipment. If such equipment conditions are observed by the competent person's inspection, measures should be taken to provide the user with additional training or retraining in equipment inspection, maintenance, use and storage. Such observations may also suggest the need for election of alternative equipment more suitable for the conditions of use. The frequency of periodic inspection by a competent person should be established by the user's organization based upon careful consideration of relevant factors. Such factors include the nature and severity of workplace conditions affecting the equipment and the modes of use and exposure time of the equipment.

Inspection:

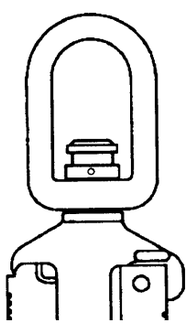


Figure 1 (New)

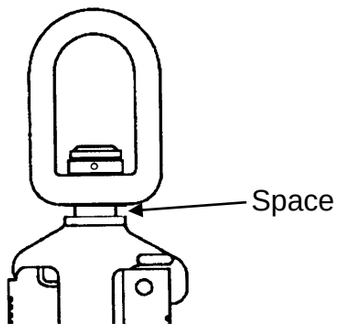


Figure 2 (Activated)

Inspection *(cont)*:

STRESS INDICATOR

Your retractable lifeline has been supplied with a stress indicator (6) that is an integral part of the locking swivel snaphook (5). When new, the stress indicator appears as shown in figure 1 (page 3). If subjected to a fall arrest impact (activated), it will appear as shown in figure 2 (page 3). **DO NOT USE** if the stress indicator has been activated.

BEFORE EACH USE

Inspect the entire fall arrest unit for any indication of damage, wear or malfunction to include, but not limited to, worn cable or damaged locking snaphook. Remove from service immediately if the unit is damaged, has been subjected to fall arrest forces, does not pass inspection, the stress indicator (figure 4, (6), page 7) has been activated or if the unit has not been inspected by a competent person within the last 12 months.

DO NOT attempt to adjust, repair or modify self-retracting lifelines/retrieval winches; for prompt repair, reconditioning or re-certification information, contact Frontline.

Inspect work area:

Inspect and clear the vicinity around the work area of debris and other materials that could cause injuries or interfere with the operation of the device.

Check cable:

Pull all cable out of housing and allow to retract slowly under light tension. While the cable is retracting, check for cuts, kinks, broken strands, excessive wear, foreign substances or other damage. ***Always wear gloves when handling cable***.

Check locking mechanism:

Pull approximately two (2) feet of cable out of the housing and give it a quick, hard tug. The cable should lock.

Check cable retraction before each use:

Pull approximately four (4) feet of cable out of the housing and allow to retract; maintain slight tension on cable. The cable should retract smoothly and completely. Do not allow cable to retract freely.

Inspect snaphooks and connecting hardware:

Snaphooks and connecting hardware shall not be distorted or have any sharp edges, burrs, cracks, worn parts or corrosion. The snaphook keeper spring shall provide tension to close the keeper in the locked position.

Warnings:

The RAG503W-US is an emergency safety and rescue device and **MUST NOT BE USED AS A MATERIAL HANDLING DEVICE.**

DO NOT USE IF:

- The device appears to be damaged.
- The cable is worn or partially cut.
- The locking snaphook does not function properly.
- The cable does not retract properly.
- The device does not lock and stop the cable.
- The unit has arrested a fall.
- The stress indicator has been activated.
- The winch does not function correctly.
- The unit has not inspected per policy/requirements.

- **DO NOT attempt to adjust, repair or modify Self-Retracting Lifelines; for prompt repair or reconditioning, contact Frontline Fall Protection.**
- **NEVER allow cable to retract freely.**
- **DO NOT** use steel cable near electrical lines or equipment.

Warnings *(continued)*:

- **DO NOT** attach more than one worker to the device.
- **DO NOT** use for lifting or towing except as described.
- **DO NOT** use as a work-positioning device.
- **DO NOT** attach anything to the snaphook at the end of the retractable lifeline cable to extend its length beyond its designed length.
- **NEVER** clamp off or stand on cable nor allow cable to become slack during use.
- **NEVER** allow cable to cross under or wrap around the legs, arms, neck or torso of the user or other workers.
- **NEVER** work above the anchor point.
- **ALWAYS** rig to allow a minimum of 3 ft. clearance to the next lower level or obstructions below.
- **ALWAYS** work directly under the anchor point. Worker must be vertically in line with device to avoid swing-fall injuries (pendulum effect).

Swing Fall Hazard

Work directly under your anchorage whenever possible. If a swing fall can occur, ensure that there are no hazards in the swing fall path. Total fall distance is greater in a swing fall than in a vertical fall. Ensure that you account for the added distance when calculating Minimum Required Fall Space.

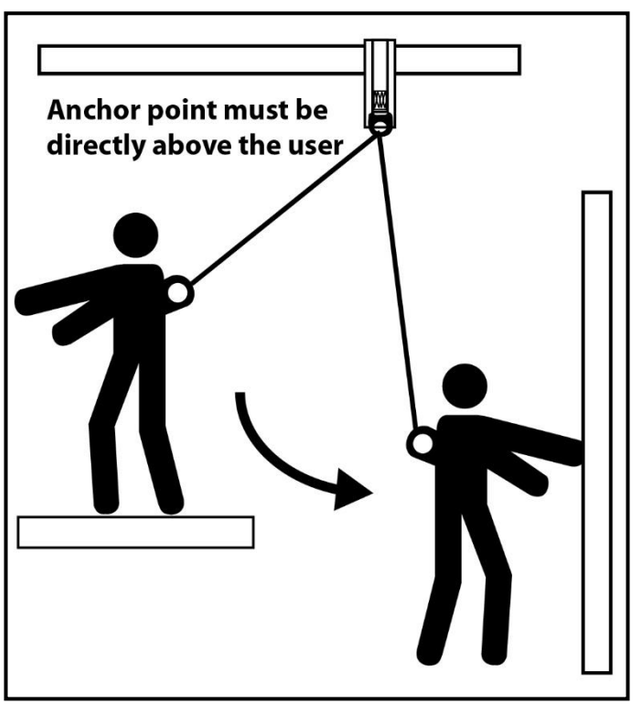


Figure 3

Operating Instructions *(refer to Figure 4)*:

Retractable Lifeline Operation (SRL mode for fall arrest):

1. Locate the knob (3) under the handle (4) on the winch side. Turn the knob counterclockwise 1/4 turn. The knob will spring outward.
2. Secure the handle (4) to the mounting bracket (1). Note: the handle must be in position 1 to attach to mounting bracket.
3. The cable should be free to pull out and retract.
4. The braking mechanism can be checked by pulling out two (2) feet of cable and quickly pulling outward on the cable. The brake should engage and hold until the tension is released on the cable. **Caution:** Gloves should be worn when handling cable.
5. Always maintain a light tension on the cable as it retracts into the housing.

Operating Instructions *(continued)*:

Winch System Operation (for emergency retrieval or rescue):

1. Unscrew the crank handle (4) from the mounting bracket and slide it outward. When demonstrating or testing be sure to pull out several feet of cable and hold it in position to eliminate possible damage to the device.
2. The handle has two positions, Position 1 requires more force but allows for faster retrieval, position 2 requires less force but may require more time to retrieve the worker. To switch between positions, unscrew the lock nut in the center of the handle (4), move the handle to the desired position and reinstall the lock nut.
3. Locate the knob (3) under the handle (4) on the winch side. Push the knob in and turn clockwise 1/4 turn to lock the unit in the retrieval mode. The winch should now be engaged.
4. While maintaining outward tension on the cable, rotate the winch handle clockwise to crank the cable back into the housing.
5. To extend the cable for lowering while in the retrieval mode (winching), crank counterclockwise. When cranking the cable out, a minimum of 75 pounds must be on the cable.
6. To extend the cable quickly without load, set the selection knob to the retractable lifeline position, pull out the required amount of cable, then set the selector knob to the retrieval position for recovery. For safety reasons, the mode cannot be changed while the unit is under load.

This unit is designed as backup fall protection when:

- A worker ascends or descends a ladder in a confined space.
- A worker is raised or lowered in a confined space with a separate winch.

Never use this device in retrieval mode for raising or lowering of a worker without an independent fall protection system.

CAUTION: Do not crank all of the cable back into the housing or through the pulley (7). This will cause excessive tension on the cable and may cause equipment damage or personal injury. Should there be excessive tension, attach a minimum weight of 75 pounds to the cable and crank the handle counterclockwise until the pressure is released. When the job is completed, screw the winch handle into the bracket; remove the device from the tripod/quadpod/davit and store/transport device in a carrying bag.

Equipment must be inspected before each use; if bent, damaged or if parts have been substituted **DO NOT USE.** Return to Frontline for reconditioning or repair.

IMPORTANT: This device should be returned to our facilities on an annual basis for physical inspection and re-certification or whenever subjected to fall arrest forces (impact loaded). Only original Frontline replacement parts are approved for use in this device.

IF YOU HAVE ANY QUESTIONS CONCERNING THE CORRECT USAGE OF THIS OR ANY FRONTLINE PRODUCT, DO NOT USE, CONTACT FRONTLINE FALL PROTECTION AT: www.FrontlineFall.com or info@FrontlineFall.com

Do not try to adjust, repair or modify Frontline self-retracting lifelines/retrieval winches; for prompt service, please contact Frontline. See page 8 of these instructions for contact info.

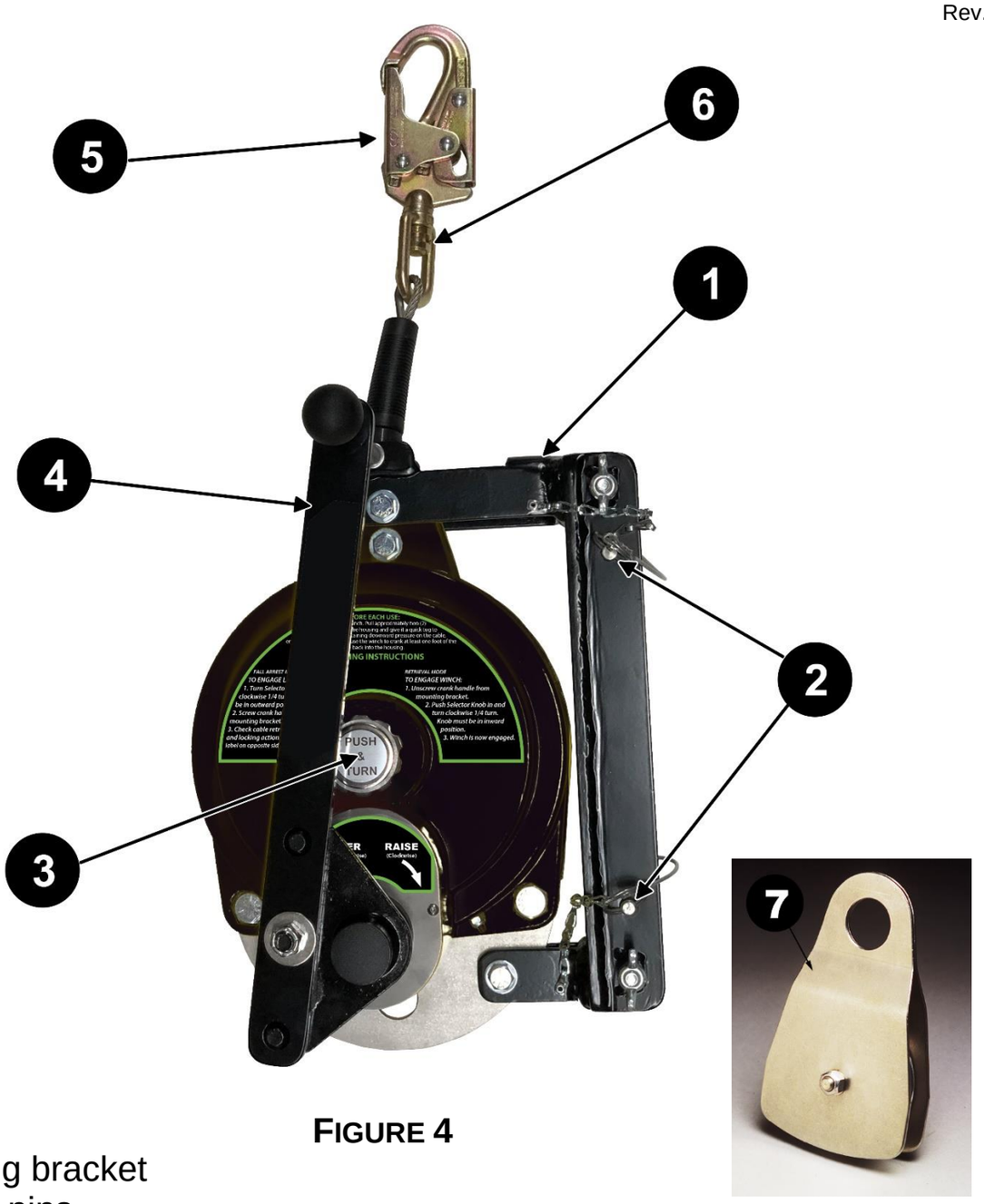
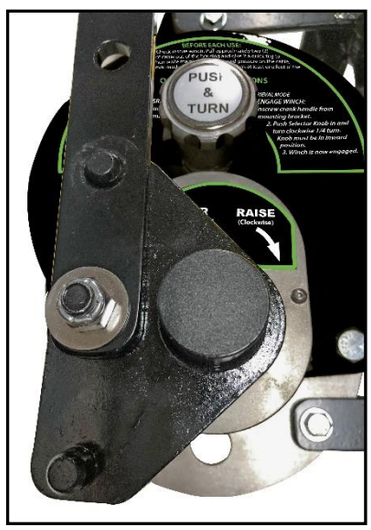


FIGURE 4

1. Mounting bracket
2. Locking pins
3. Mode selection knob
4. Winch handle
5. Swivel locking snaphook
6. Stress indicator
7. Split sheave pulley (not included)

Handle Position 1



Handle Position 2

Inspection Log:

Model #: _____	
Serial #: _____	
Date of Purchase: _____	
Date of first use: _____	

Notes:

_____

_____

_____

_____

_____

_____

_____

_____

Frontline Fall Protection

2023 NW 84th Ave
Miami, FL 33122
305-631-2780
www.FrontlineFall.com - info@FrontlineFall.com