User Instructions for 3M™ Self Retracting Lanyards

Important: Keep these User Instructions for reference.
GENERAL SAFETY INFORMATION

Under Penalty of Law

These User Instructions are not to be removed except by the user of this equipment. Current User Instructions must always be available to the user.

WARNING

1. Compliant fall protection and emergency rescue systems help prevent serious injury during fall arrest. Users must read and understand the User Instructions provided with the product and be properly trained by their employer prior to use per OSHA 29 CFR 1910.66 and 1926.503 or applicable local standards. Misuse or failure to follow warnings and instructions may result in serious personal injury or death. For proper use, see supervisor, User Instructions, or call Technical Service at 800-243-4630.

2. Failure to follow all instructions and limitations on the use of Self Retracting Lanyards may result in serious personal injury or death.

3. Minors, pregnant women and anyone with a history of either back or neck problems should not use this equipment.

4. Self Retracting Lanyards, including those with Rescue Capability, are designed for a single user.

5. Not all fall protection components are rated for the same user weight capacity. Users must be within each component’s capacity range.

6. Before using a personal fall arrest system, employees must be trained in accordance with the requirements of OSHA 29 CFR 1910.66 in the safe use of the system and its components.

7. Personal fall arrest systems, including Self Retracting Lanyards, must be inspected prior to each use for wear, damage, and other deterioration, and defective components must be immediately removed from service in accordance with the requirements of OSHA 29 CFR 1910.66 and 1926.502.

8. Do not use or install equipment without proper training from a “competent person” as defined by OSHA 29 CFR 1926.32(f).

9. Caution must be taken when using Self Retracting Lanyards near moving machinery, electrical hazards, sharp edges, or abrasive surfaces. Contact with these elements may cause equipment failure, personal injury, or death.

10. Do not expose Self Retracting Lanyards to chemicals or harsh solutions which may have a harmful effect. Contact 3M Technical Service with any questions.

11. Users must perform a locking test on Self Retracting Lanyards before each use by pulling smoothly on the lanyard, then pulling sharply on the lanyard to engage the locking mechanism. Remove from service if the locking mechanism does not lock.

12. Striking objects horizontally due to the pendulum affect of a swing fall may cause serious injury or death.

13. Never attach the unused leg of the Dual Leg Retractable back to the harness at any location other than an approved lanyard storage keeper.

14. Self Retracting Lanyards are designed to be used in temperatures ranging from -40°F to +130°F (-40°C to +54°C).

15. The addition of the 3M 3012 Personal Energy Absorber may increase the clearance requirements by 3½ feet (1.07 m). The additional distance must be taken into consideration during the clearance calculation process.
16. Never allow slack in the cable of a Self Retracting Lanyard while in rescue mode.
17. Never use combinations of components or subsystems that may affect, or interfere with the safe function of each other. If you do not know if combinations of components or subsystems may affect the safety function of each other, contact Technical Services at 800-243-4630.
18. Store Self Retracting Lanyards in a cool, dry, clean environment, out of direct sunlight, when not in use.
19. After a fall occurs, or if any part of the load indicator warning is showing, the Self Retracting Lanyard must be immediately removed from service for authorized repairs or disposal.
20. If inspection reveals any defect, inadequate maintenance, or unsafe condition, immediately remove from service for authorized repairs or disposal.
21. Only 3M, or persons or entities authorized in writing by 3M, shall make repairs or alterations to the equipment.
22. Alterations or misuse may result in serious personal injury or death.

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CAUTION

1. If a Self Retracting Lanyard is used in conjunction with a cross-arm strap anchorage connector, other anchorage extension, or horizontal lifeline, the additional length of the anchorage connector, or sag from the lifeline must be taken into consideration during the clearance calculation process.
2. Wear proper Personal Protective Equipment when performing Inspection, Cleaning and Maintenance procedures. Safety glasses & gloves are recommended.

FALL ARREST SYSTEM COMPONENTS

System Components
A complete fall arrest system consists of the following components: Anchorage, Body Support, and Connecting Devices. **Note:** For continuous protection, more than one system may be needed.

Anchorage
An anchorage, as defined by OSHA 29 CFR 1926.502 “shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as follows: as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.”

Body Support
A body support is the component of a personal fall arrest system that is worn on or around the body. Per OSHA 29 CFR 1926.502 effective January 1, 1998, body belts are not acceptable as part of a personal fall arrest system. **Note:** The use of a body belt in a positioning device system is acceptable. **Full body harnesses must be used for all fall arrest systems.**

Connecting Devices
A connecting method is the link between the body support and anchorage. Connecting methods will vary depending on the application.
USE INSTRUCTIONS AND LIMITATIONS

Important
Before use, the user must read and understand these User Instructions. Keep these User Instructions for reference.

Purpose
3M Self Retracting Lanyards (SRL’s) are for individual use and designed to be used as part of a personal fall arrest system, to help limit the fall arrest forces in the event of a fall.

Use Instructions
1. The complete fall protection system must be planned (including all components, calculating fall clearance, and swing fall) before using.
2. Users must have a rescue plan, and the means at hand to implement it, that provides for the prompt rescue of employees in the event of a fall, or assures that employees are able to rescue themselves.

Use Limitations
1. Self Retracting Lanyards, including those with Rescue Capability, are designed for a single user with a capacity up to 310 lb (141 kg) or 400 lb (181 kg) including clothing, tools, etc. See individual product label for capacity ratings.
2. Self Retracting Lanyards shall only be used as part of a personal fall arrest system that limits the maximum free fall distance to 2 feet (0.6 m). If used with 3M 3012 Personal Energy Absorber, the Self Retracting Lanyard may be used in leading edge applications with free falls exceeding 2 feet (0.6 m) up to a maximum of 6 feet (1.8 m) with a 310 lb (141 kg) user capacity.
3. Self Retracting Lanyards must be used with a full body harness.
4. Do not allow the line constituent to retract into the unit in an uncontrolled manner.

ANCHORAGE REQUIREMENTS

Anchorages
All anchorages to which the Self Retracting Lanyards attach must meet the requirements of OSHA 29 CFR 1910.66 and ANSI Z359.1-2007. OSHA states:

Anchorage to which personal fall arrest equipment is attached shall be capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two, under the supervision of a qualified person.

ANSI Z359.1-2007 states that anchorages in a personal fall arrest system must have a strength capable of sustaining static loads, applied in all permitted directions by the system, of at least:

(a) two times the maximum arrest force permitted on the system when certification exists, or
(b) 5,000 pounds (22.2 kN) in the absence of certification.

The strength in (a) and (b) must be multiplied by the number of personal fall arrest systems attached to the anchorage, when more then one personal fall arrest system is attached to the anchorage.
Anchorage Connectors
Anchorage connectors are components that couple the personal fall arrest system to the anchorage. In accordance with ANSI Z359.1-2007, the anchorage connector must be capable of withstanding (without breaking) a 5,000 lb (22.2 kN) load, and able to withstand a 3,600 lb (16 kN) load without cracking, or permanent deformation visible to the unaided eye.

The strength of all anchorage connectors must be multiplied by the maximum number of personal fall arrest systems attached.

A mobile anchorage connector should be used to provide lateral mobility, and help prevent the possibility of a swing fall.

CONNECTION REQUIREMENTS

Compatibility Limitations
All connecting subsystems must only be coupled to compatible connectors. OSHA 29 CFR 1926.502 prohibits snaphooks from being engaged to certain objects unless two requirements are met: snaphook must be a locking type and must be “designed for” making such a connection. “Designed for” means that the manufacturer of the snaphook specifically designed the snaphook to be used to connect to the equipment in question. The following connections must be avoided, because they can result in rollout* when a nonlocking snaphook is used:

- Direct connection of a snaphook to horizontal lifeline.
- Two (or more) snaphooks connected to one D-ring.
- Two snaphooks connected to each other.
- A snaphook connected back on its integral lanyard.
- A snaphook connected to a webbing loop or webbing lanyard.
- Improper dimensions of the D-ring, rebar, or other connection point in relation to the snaphook dimensions that would allow the snaphook keeper to be depressed by a turning motion of the snaphook.

*Rollout: A process by which a snaphook or carabiner unintentionally disengages from another connector or object to which it is coupled. (ANSI Z359.0-2007)

Snaphooks and Carabiners
Snaphooks and carabiners used on Self Retracting Lanyards, marked with the ANSI Z359.1-07 or ANSI Z359.12-09 standard, are self-locking with a minimal tensile break strength of 5,000 lb, and a 3,600 lb gate rating.

Self Retracting Lanyards with hardware marked to the ANSI Z359.1-1999 and/or CSA Z259.12-01 standards, incorporate self-locking snaphooks and carabiners with minimal tensile break strength of 5,000 lb, a minimum gate rating of 220 lb, and a minimum side load gate rating of 350 lb.

Clearance Requirements
The following illustration is an example of how to calculate the fall clearance requirements
using a Self Retracting Lanyard connected to the dorsal D-ring of a full body harness. Add the deceleration distance identified on the label of the Self Retracting Lanyard (3½ feet per OSHA 1910 & 1926) to the slide of the D-ring (1 foot) and the additional safety clearance (2 feet), to allow for the possibility of an improperly fit harness and/or a miscalculation of distances. A total 6½ feet of fall clearance is required for this example.

⚠️ **Warning:** The addition of the 2 foot (0.6 m) 3M 3012 Personal Energy Absorber will increase the clearance requirements by 5½ feet (1.6 m). The additional distance must be taken into consideration during the clearance calculation process.

⚠️ **Caution:** If a Self Retracting Lanyard is used in conjunction with a cross-arm anchorage connector, other anchorage extension, horizontal lifeline, or extended D-ring, the additional length of the anchorage connector, extended D-ring, or sag from the lifeline must be taken into consideration during the clearance calculation process.

### Swing Falls

To minimize the possibility of a swing fall, work as directly under the anchorage connector as possible.

⚠️ **Warning:** Striking objects horizontally due to the pendulum affect of a swing fall may cause serious injury or death.

Swing falls also increase the vertical fall distance of a worker, compared to a fall directly below the anchorage connector. Swing falls may be reduced by using overhead anchorage connectors that move with the worker.
**Free Fall**

*Maximum allowable free fall for a Self Retracting Lanyard is 2 feet.*

The free fall distance with a Self Retracting Lanyard connected to the dorsal D-ring of a full body harness and an anchorage connector above the workers head, **Worker (a)**, is always zero.

To calculate the free fall distance of a Self Retracting Lanyard connected to the dorsal D-ring of a full body harness to an anchorage connector below the workers dorsal D-ring, **Worker (b)**, add the distance from the dorsal D-ring to the anchorage connector (1 foot) to the length of the fully retracted Self Retracting Lanyard from connector to connector (2 feet). The free fall for worker (b) is 3 feet.

The free fall distance using a Self Retracting Lanyard connected to the dorsal D-ring of a full body harness and an anchorage connector that is on the walking/working surface, **Worker (c)**, add the distance from D-ring on the harness to the walking/working surface (5 feet) to the length of the fully retracted Self Retracting Lanyard from connector to connector (2 feet). The free fall for worker (c) is 7 feet.

**OPERATION**

**Before Each Use**

Users of personal fall arrest systems must have a rescue plan in place, if the users cannot rescue themselves, as well as the means to carry out the rescue.

Self Retracting Lanyards must be inspected prior to each use for wear, damage, and other deterioration. Check the operation by pulling smoothly on the lanyard, then pull sharply on the lanyard to engage the locking mechanism. All snaphooks and carabiners on the product must be able to self-close and lock. All webbing must be inspected for tears, cuts, fraying, abrasion, discoloration, or other signs of wear and damage. Sewn terminations should be secure, complete, and not visibly damaged. Cable must be inspected for kinks, broken strands, corrosion, abrasion, or other signs of wear and damage. Swaged terminations should be secure with the thimble tight and not visibly damaged. Load indicator must not be deployed. Damaged and other deteriorated and defective components must be immediately removed from service, in accordance with the requirements of OSHA 29 CFR 1910.66 and 1926.502.
**Rescue Mode**
To engage the rescue mode on the 205G 3-Way Retractable, pull out the hand grip on the arm. Pull button on the bottom of the housing while pulling arm away from the unit until arm clicks in place. This will engage the rescue mode of the 205G 3-Way Retractable.

⚠️ **Warning: Never allow slack in cable while in rescue mode.**

Wind cable completely into housing before stowing arm. To stow arm and return to SRL mode, pull button on the bottom of the housing while pushing arm towards the unit. Pull hand grip on the arm out and collapse hand grip parallel to the arm. Attach strap to secure arm in place.

**CONNECTION**

**Overhead Anchorage**
Attach the housing connector of the Self Retracting Lanyard to the anchorage or anchorage connector. The opposing end is connected to the dorsal D-ring of the full body harness. Never attach an additional energy absorbing lanyard, Self Retracting Lanyard, or similar component to lengthen the lifeline.

⚠️ **Warning: Never use combinations of components or subsystems that may affect, or interfere with the safe function of each other. If you do not know if combinations of components or subsystems may affect the safety function of each other, contact Technical Services at 800-243-4630.**

**Housing to Harness**
Lighter weight Self Retracting Lanyards (15 feet or less) may attach the housing connector directly to the dorsal D-ring of the full body harness. Heavier weight Self Retracting Lanyards (greater than 15 feet) are not recommended for this application. The opposing end is connected to the anchorage or anchorage connector.

⚠️ **Warning: Never attach the unused leg of the Dual Leg Retractable back to the harness at any location other than an approved lanyard storage keeper.**

When using the Dual Leg Retractable to move between fall protection systems, attach the unused leg to the new location before disconnecting the first leg. Connection of both legs to separate anchorages or anchorage connectors while transitioning between systems, is acceptable.

**Leading Edge Applications**
The use of the 3M 3012 Personal Energy Absorber is required in leading edge applications. The 3012 Personal Energy Absorber must be placed inline with the Self Retracting Lanyard to add energy absorption properties at the body end of the system. The additional energy absorption properties will keep forces below the cable sheer strength in the event of a fall over leading edge.

For Self Retracting Lanyards with an integral external shock pack with the housing connected to the dorsal D-ring of the full body harness; connect the snap hook of the 3012 Personal Energy Absorber to the anchorage or anchorage connector. The opposing end is connected to the dorsal D-ring of the full body harness.
Absorber to the dorsal D-ring of the full body harness. Attach the housing connector of the Self Retracting Lanyard directly to the D-Ring of the 3012 Personal Energy Absorber. The snap hook of the Self Retracting Lanyard is connected to the anchorage or anchorage connector.

For Self Retracting Lanyards with an integral external shock pack with the housing connected to the anchorage or anchorage connector; attach the snap hook of the 3012 Personal Energy Absorber to the anchorage or anchorage connector. Connect the housing connector of the Self Retracting Lanyard directly to the D-Ring of the 3012 Personal Energy Absorber. The snap hook of the Self Retracting Lanyard is then connected to the dorsal D-ring of the full body harness.

Self Retracting Lanyards with an integral external shock pack, with the shock pack connected to the dorsal D-ring of the full body harness, does not require the 3012 Personal Energy Absorber when used with 3M pre-engineered flexible horizontal lifeline systems.

⚠️ Warning: The addition of the 3M 3012 Personal Energy Absorber may increase the clearance requirements by 3½ feet (1.07 m). The additional distance must be taken into consideration during the clearance calculation process.

For Self Retracting Lanyards without an integral external shock pack with the housing connected to the anchorage or anchorage connector; attach the housing connector to the anchorage or anchorage connector. Connect the snap hook of the Self Retracting Lanyard to the D-ring of the 3012 Personal Energy Absorber. The snap hook of the 3012 Personal Energy Absorber is then connected to the dorsal D-ring of the full body harness.

For Self Retracting Lanyards without an integral external shock pack with the housing connected to the dorsal D-ring of the full body harness; attach the housing connector directly to the dorsal D-ring of the full body harness. Attach the snap hook of the Self Retracting Lanyard to the D-Ring of the 3012 Personal Energy Absorber. The snap hook of the 3012 Personal Energy Absorber is connected to the anchorage or anchorage connector.

Lighter weight Self Retracting Lanyards (15 feet or less) without integral an external shock pack, with the housing connected directly to the dorsal D-ring of the full body harness, does not require the 3012 Personal Energy Absorber when used with 3M pre-engineered flexible horizontal lifeline systems.

PERFORMANCE

Dynamic
Self Retracting Lanyards when dynamically tested in accordance with the requirements of the ANSI Z359.1-2007 standard have a maximum arrest force of 900 lbf (4 kN) and a maximum elongation of 42 inches (1067 mm).

MATERIALS

Hardware
Snap hooks and carabiners on the Self Retracting Lanyards marked with the ANSI Z359.1-07 or ANSI Z359.12-09 standard, are self-locking with a minimal tensile break strength of 5,000 lb, and a 3,600 lb gate rating.

Self Retracting Lanyards with snap hooks and carabiners marked to the ANSI Z359.1-1999
standard, incorporate self-locking snaphooks and carabiners with minimal tensile break strength of 5,000 lb, a minimum gate rating of 220 lb, and a minimum side load gate rating of 350 lb.

**Line Constituent**
The REW-5 and REW-7 ReLoad™ Self Retracting Lanyards utilize a $\frac{1}{16}$ inch (1.3 mm) by $\frac{25}{32}$ inch (20 mm) polyester webbing with Vectran™ core.

The REW-12 and REW-23 ReLoads incorporate a $\frac{3}{32}$ inch (2.4 mm) by 1 inch (25 mm) polyester webbing.

The MS-Series including the 3307 has a $\frac{1}{16}$ inch (1.3 mm) by 1 inch (25 mm) Dyneema® webbing.

The REC ReLoad series use $\frac{3}{16}$ inch (4.8 mm) (7x19) galvanized or stainless steel cable.

M-Series, RLD-Series and 3-Way Units use $\frac{3}{16}$ inch (4.8 mm) (7x19) galvanized cable.

**Housing**
The REW-7 ReLoad, MS-11, and 3307 Self Retracting Lanyards have an aluminum casing.

The REW and REC ReLoad series incorporate an impact modified nylon case.

M-Series and 3-Way Units uses an aluminum alloy housing.

RLD-Series and MS-Series utilize a polymer housing.

**INSPECTION**

**Frequency**
All Self Retracting Lanyards must be inspected prior to each use, and annually by an OSHA defined “competent person” other than the user. Local, state, governmental and jurisdictional agencies may require the user to conduct more frequent or mandatory inspections.

**Criteria**

⚠️ **Warning:** If inspection reveals any defect, inadequate maintenance, or unsafe condition, immediately remove from service for authorized repairs or disposal.

⚠️ **Warning:** Any equipment that has been subjected to the forces of arresting a fall or has a deployed load indicator must be immediately removed from service for authorized repairs or disposal. See product label for specific load indicator warning.

All components of the Self Retracting Lanyard must be inspected.

Housing or casing must be free from cracks, distortion or any other damage.

Check the operation of the unit by pulling smoothly on the lanyard, then pull sharply on the lanyard to engage the locking mechanism. Unit must not slip when locked.

All markings must be legible and attached to the product.

All snaphooks and carabiners on product must be able to self-close and lock. All hardware must be free of cracks, sharp edges, deformation, corrosion, or any evidence of defect.
The lanyard must fully extract and retract smoothly without any slack being created upon retraction.

To inspect webbing, bend a portion of the webbing 6-8 inches into an upsidedown ‘U’ shape. Continue along all webbing inspecting for tears, cuts, fraying, abrasion, discoloration, burns, holes, mold, pulled or broken stitches, or other signs of wear and damage.

Sewn terminations must be secure, complete, and not visibly damaged.

Cable must be inspected for kinks, broken strands, corrosion, abrasion, or other signs of wear and damage. Swaged terminations must be secure with the thimble tight, and not visibly damaged.

CLEANING, MAINTENANCE, STORAGE

⚠️ Caution: Wear proper Personal Protective Equipment when performing Inspection, Cleaning and Maintenance procedures. Safety glasses & gloves are recommended.

Cleaning
The Self Retracting Lanyard can be wiped down with a mild detergent and clean water solution, and rinsed with a dampened clean cloth to remove detergent. The hardware can also be wiped down to remove grease, or dirt with a clean dry cloth.

Maintenance
Self Retracting Lanyards requiring maintenance must be tagged “unusable” and removed from service.

⚠️ Warning: Only 3M, or persons or entities authorized in writing by 3M, shall make repairs or alterations to the equipment.

Cleaning and maintenance may be performed by the user.

Snaphooks and carabiners may require periodic lubrication. Do not apply oil, grease, or other contaminates on the lanyard. Use a dry lubricant that has proper resistance to temperature extremes, moisture, and corrosion. Do not over-lubricate.

Storage
Self Retracting Lanyards should be stored in a cool, dry place out of direct sunlight. Do not store in areas where damage from environmental factors such as heat, light, excessive moisture, oil, chemicals and their vapors, or other degrading elements may be present. Do not store damaged equipment or equipment in need of maintenance in the same area as product approved for use.

Equipment that has been stored for an extended period must be inspected as defined in these User Instructions prior to use.

LABELING
All labeling must be legible and attached to the Self Retracting Lanyard.
Operation Label

Instructions

1. To operate gearing mechanism remove seal.
2. Loosen Veldon retaining band.
3. Pull gear trigger No. 3 out.
4. Pull handle up, turn slightly until gear wheel and trigger No. 3 snap in.

Product Label

Arm Label

Heben upwards soulever

Senken downwards descendre
MODELS AND PART NUMBERS lanyard length in feet

**Self Retracting Lanyards - Web Units - 310 lb capacity**

ReLoad - REW-5 (5), REW-5-0241A (5), REW-7 (7), REW-7-0241A (7) REW-12 (12), REW-23 (23)

MS-Series - 3307 (7), 3307-0241 (7), 3307-0241A (7), MS-11 (11), MS-11/0241 (11), MS-16 (16), MS-20 (20), MS-30 (30), MS-50 (50)

**Self Retracting Lanyards - Cable Units**

ReLoad - 400 lb capacity - REC-23 (23), REC-23-SS (23), REC-30 (30), REC-30-SS (30), REC-40 (40), REC-40-SS (40), REC-50 (50), REC-50-SS (50)

RLD-Series - 310 lb capacity - RLD-10 (10), RLD-10-0241 (10), RLD-10S (10), RLD-20 (20), RLD-20NIH (20), RLD-30 (30), RLD-30NIH (30), RLD-50 (50)

M-Series - 310 lb capacity - M-15 (15), M-30 (30), M-40 (40), M-40NIH (40), M-50 (50), M-75 (75), M-100 (100), M-130 (130)

**Self Retracting Lanyards with Rescue Capability - 310 lb capacity**

3-Way Units - 205G-50 (50), 205G-75 (75), 205G-100 (100)
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. Equipment offered by 3M is warranted against factory defects in workmanship and materials for a period of one year from date of installation or first use by the original owner.

LIMITED REMEDY: Upon notice in writing, 3M will repair or replace all defective items at 3M’s sole discretion. 3M reserves the right to require that the defective item be returned to its plant for inspection before determining the appropriate course of action. Warranty does not cover equipment damage resulting from wear, abuse, damage in transit, failure to maintain the product or other damage beyond the control of 3M. 3M shall be the sole judge of product condition and warranty options. This warranty applies only to original purchaser and is the only warranty applicable to this product. Please contact 3M technical service department at 800-243-4630 for assistance.

LIMITATION OF LIABILITY: IN NO EVENT WILL 3M BE 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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IM-0002F (04-2012) 34-8709-8544-6