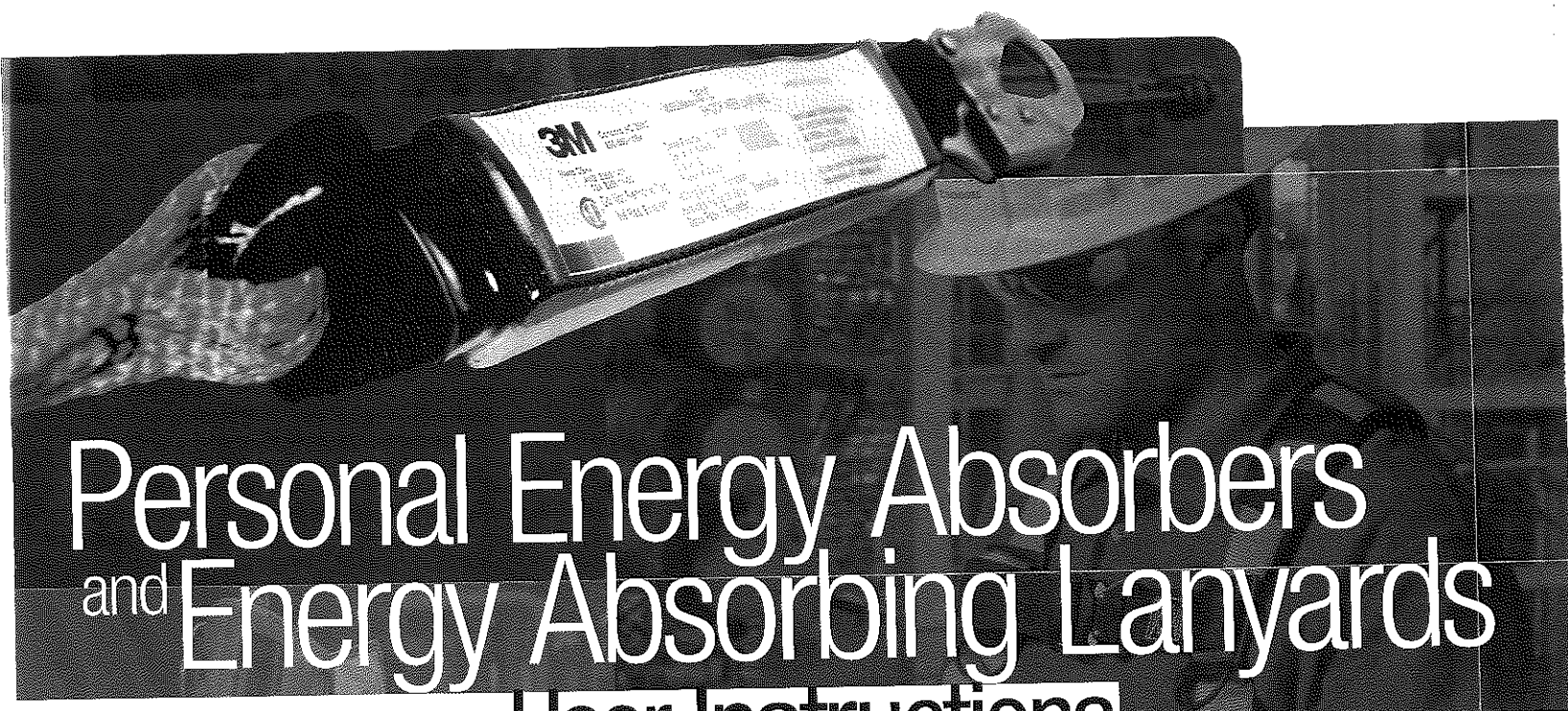
3M Occupational Health and Environmental Safety
Fall Protection Equipment



Personal Energy Absorbers and Energy Absorbing Lanyards

User Instructions

User Instructions for 3M™ Shock Pack, Low Profile and Expandable Shock-Absorbing Lanyards.

Important: Keep these User Instructions for reference.

3M

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 Personal Energy Absorbers and Energy Absorbing 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. Do not use or install equipment without proper training from a "competent person" as defined by OSHA 29 CFR 1926.32(f).
5. Personal Energy Absorbers and Energy Absorbing Lanyards are designed for a single user.
6. Energy Absorbing Lanyards must not be wrapped around structural members and connected back onto themselves, unless the lanyard has been specifically designed to do so.
7. Caution must be taken when using Personal Energy Absorbers and Energy Absorbing Lanyards near moving machinery, electrical hazards, sharp edges, or abrasive surfaces. Contact with these elements may cause equipment failure, personal injury, or death.
8. Do not expose Personal Energy Absorbers and Energy Absorbing Lanyards to chemicals or harsh solutions which may have a harmful effect. Contact 3M Technical Service with any questions.
9. Personal fall arrest systems, including Personal Energy Absorbers and Energy Absorbing 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.
10. Personal Energy Absorbers and Energy Absorbing Lanyards are designed to be used in temperatures ranging from -40°F to +130°F (-40°C to +54°C).
11. Striking objects horizontally due to the pendulum affect of a swing fall may cause serious injury or death.
12. The addition of the 2 foot (0.6 m) 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.
13. Only lanyards with captive eye carabiners and TyBak webbing are approved for tie-back directly onto the webbing.
14. Never attach the unused leg of the lanyard back to the harness at any location other than a lanyard storage keeper.
15. If inspection reveals any defect, wear, damage, deterioration, inadequate maintenance, or unsafe condition, immediately remove from service and destroy.

16. Any equipment that has been subjected to the forces of arresting a fall must be immediately removed from service and destroyed.
17. Only 3M, or persons or entities authorized in writing by 3M, shall make repairs or alterations to the equipment.
18. Alterations or misuse may result in serious personal injury or death.

⚠ CAUTION

1. If an energy absorbing 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.
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 device is the link between the body support and anchorage. Connecting devices 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

The 3M Personal Energy Absorbers and Energy Absorbing Lanyards are 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. 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.
2. The complete fall protection system must be planned (including all components, calculating fall clearance, and swing fall) before using.
3. 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.
4. Store Personal Energy Absorbers and Energy Absorbing Lanyards in a cool, dry, clean environment, out of direct sunlight, when not in use.

Use Limitations

1. Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.1 and CSA Z259.11-05 Class E4 are designed for up to 6 feet free fall applications with a maximum capacity up to 310 lb (141 kg) including clothing, tools, etc.
2. Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.13 and "6 ft Free Fall" are designed for up to 6 feet free fall applications with a maximum capacity up to 310 lb (141 kg) including clothing, tools, etc.
3. Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.13 and "12 ft Free Fall" are designed for up to 12 feet free fall applications with a capacity up to 310 lb (141 kg) including clothing, tools, etc.
4. Personal Energy Absorbers and Energy Absorbing Lanyards marked CSA Z259.11-05 Class E6 are designed for users weighing between 311-400 lb for OSHA and 90-175 kg for CSA, and designed for up to 6 feet free fall applications only.
5. Personal Energy Absorbers and Energy Absorbing Lanyards must be used with a full body harness.

ANCHORAGE REQUIREMENTS

Anchorages

All anchorages to which the Personal Energy Absorbers and Energy Absorbing Lanyards attach must meet the requirements of OSHA 29 CFR 1910.66 and ANSI Z359.1-2007. OSHA states:

Anchorages 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.

Anchorages should be located as vertically as possible above the user's head and be positioned as not to exceed the maximum allowable free fall for the system.

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.

3M Wrap-Around and TyBak style Energy Absorbing Lanyards have a minimum breaking strength of 5,000 lb (22.2kN) when used as directed in the *User Instructions*.

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)

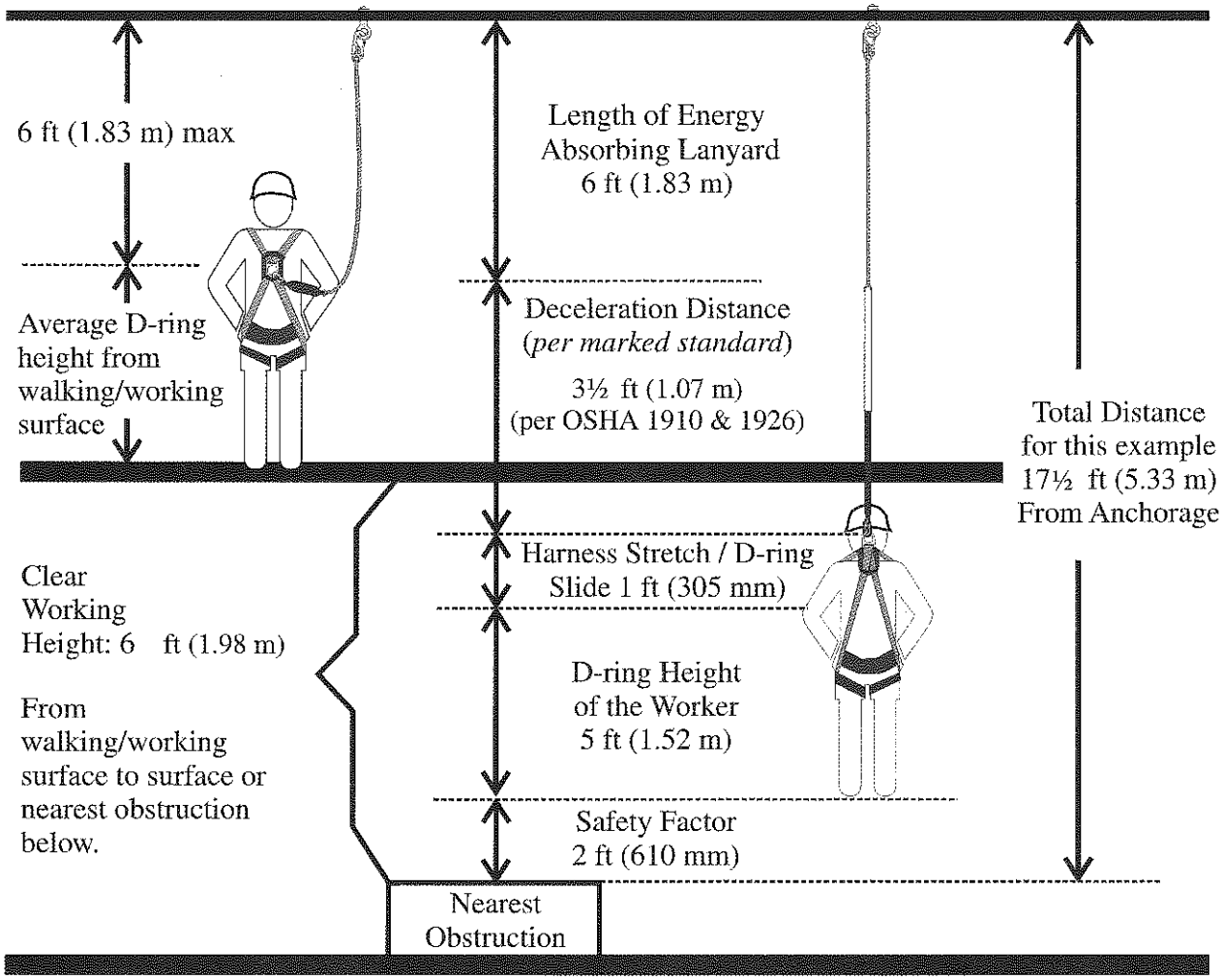
Snaphooks and Carabiners

Snaphooks and carabiners used on Personal Energy Absorbers and Energy Absorbing 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 lbs and a 3,600 lbs gate rating.

Personal Energy Absorbers and Energy Absorbing Lanyards marked with the ANSI Z359.1-1999 standard, incorporate self-locking snaphooks and carabiners with minimal tensile break strength of 5,000 lbs, a minimum gate rating of 220 lbs, and a minimum side load gate rating of 350 lbs.

Clearance Requirements

The illustration below is an example of how to calculate the fall clearance requirements using Energy Absorbing Lanyards connected to the dorsal D-ring of a full body harness. Add the length of the Energy Absorbing Lanyard (6 feet) to the marked maximum elongation of the lanyard during deceleration (3½ feet per OSHA 1910 & 1926), to the D-ring height of the worker (average 5 feet). Add 1 foot for the slide of the D-ring and a safety factor of 2 feet to allow for the possibility of an improperly fit harness, a taller than average worker and/or a miscalculation of distances. The total distance from the anchorage is 17½ feet for this example.



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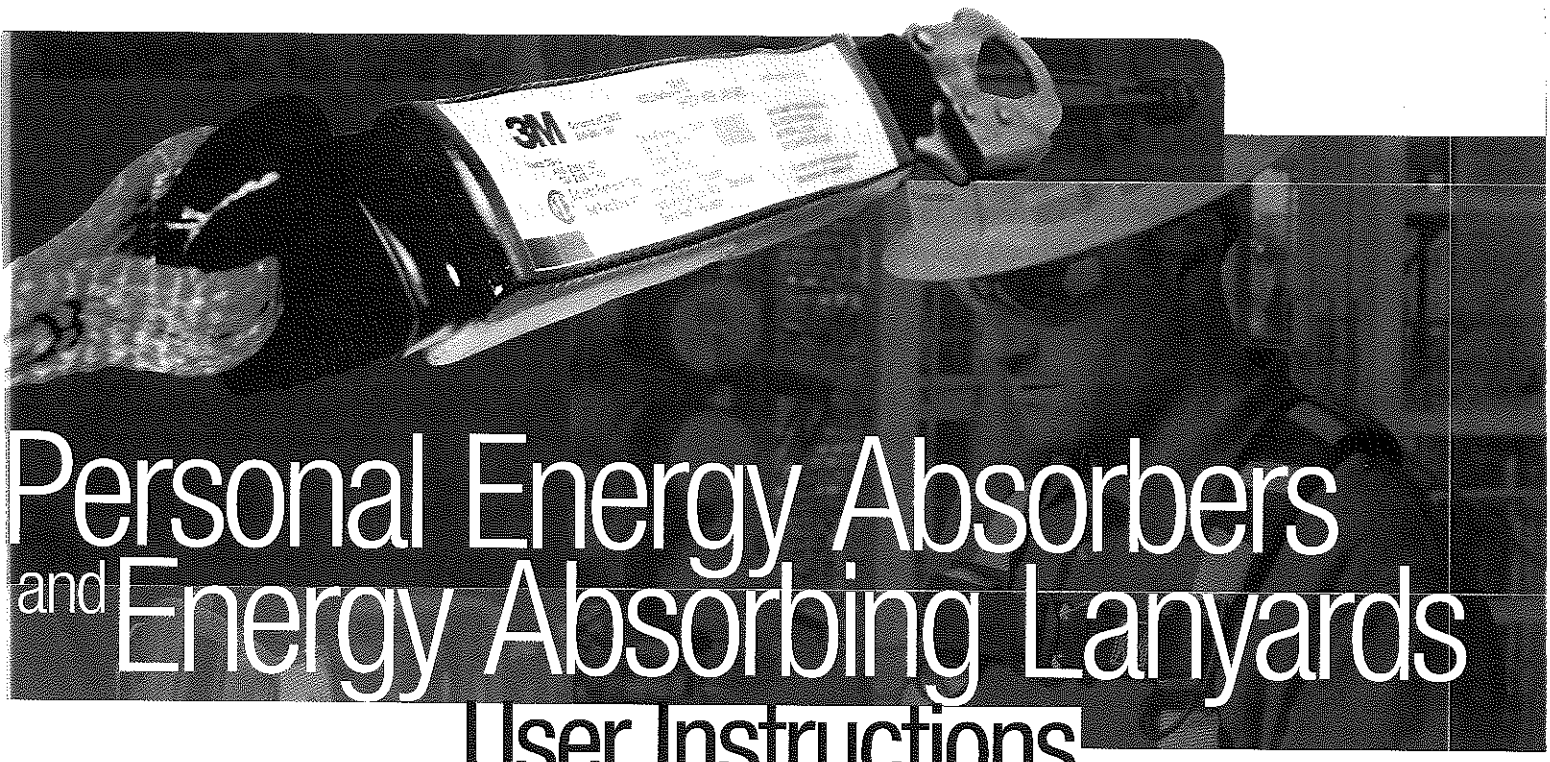

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3. Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.13 and "12 ft Free Fall" are designed for up to 12 feet free fall applications with a capacity up to 310 lb (141 kg) including clothing, tools, etc.
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The 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.

3M Wrap-Around and TyBak style Energy Absorbing Lanyards have a minimum breaking strength of 5,000 lb (22.2kN) when used as directed in the *User Instructions*.

CONNECTION REQUIREMENTS

Compatibility Limitations

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- 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)

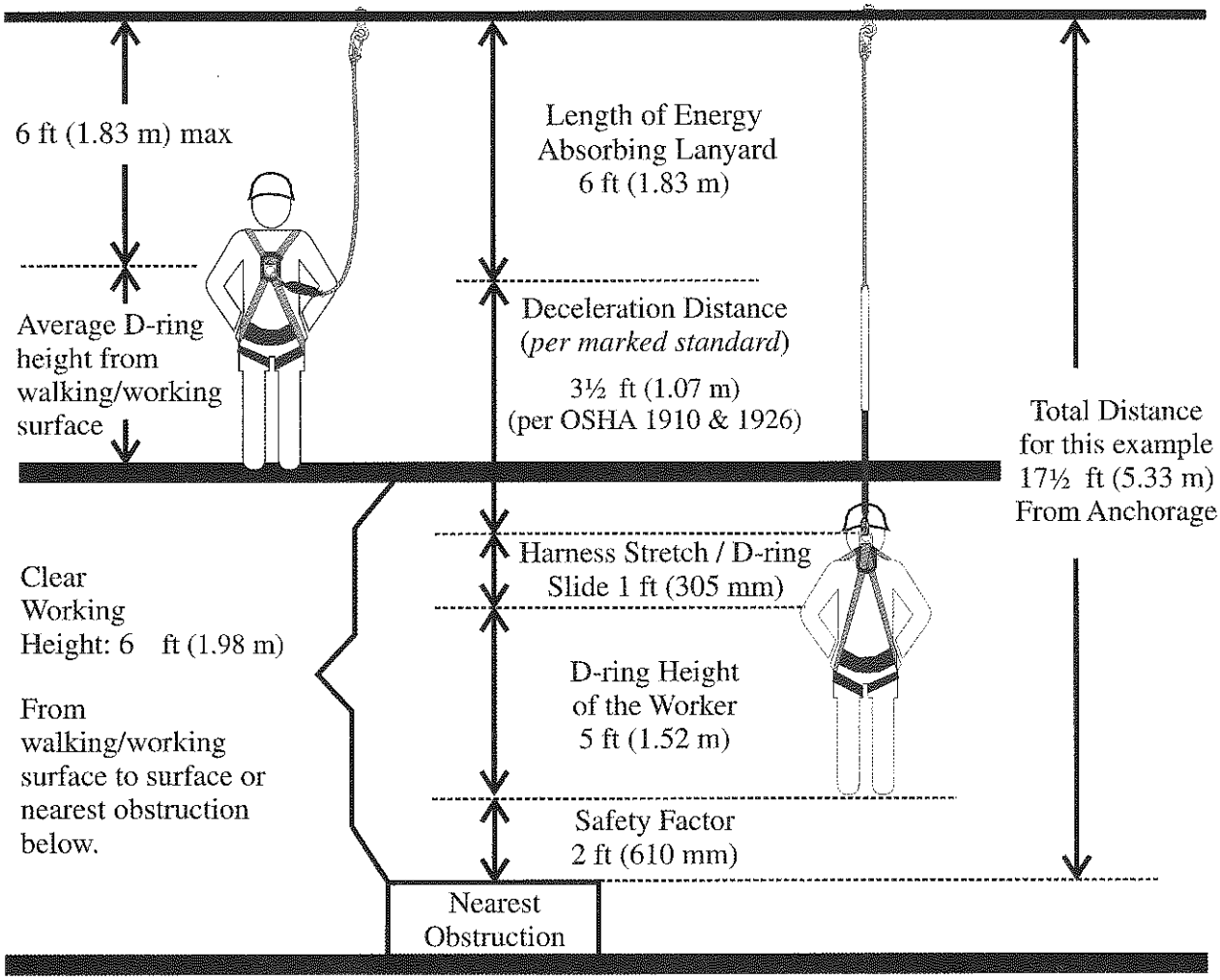
Snaphooks and Carabiners

Snaphooks and carabiners used on Personal Energy Absorbers and Energy Absorbing 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 lbs and a 3,600 lbs gate rating.

Personal Energy Absorbers and Energy Absorbing Lanyards marked with the ANSI Z359.1-1999 standard, incorporate self-locking snaphooks and carabiners with minimal tensile break strength of 5,000 lbs, a minimum gate rating of 220 lbs, and a minimum side load gate rating of 350 lbs.

Clearance Requirements

The illustration below is an example of how to calculate the fall clearance requirements using Energy Absorbing Lanyards connected to the dorsal D-ring of a full body harness. Add the length of the Energy Absorbing Lanyard (6 feet) to the marked maximum elongation of the lanyard during deceleration (3½ feet per OSHA 1910 & 1926), to the D-ring height of the worker (average 5 feet). Add 1 foot for the slide of the D-ring and a safety factor of 2 feet to allow for the possibility of an improperly fit harness, a taller than average worker and/or a miscalculation of distances. The total distance from the anchorage is 17½ feet for this example.



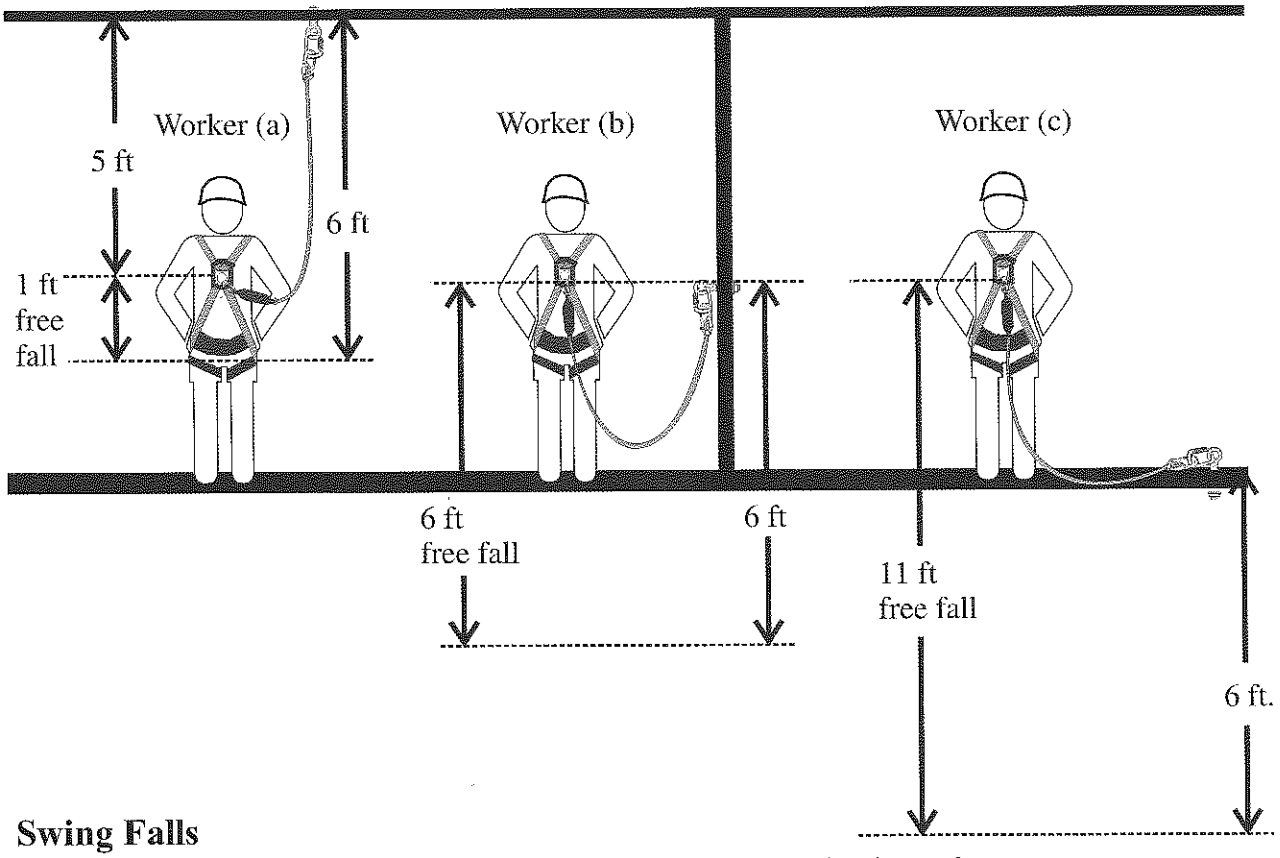
⚠ Caution: If an energy absorbing lanyard is used in conjunction with a cross-arm anchorage connector, other anchorage extension, horizontal lifeline, or extended D-ring, the additional length of the anchorage connector, extended D-ring, or sag from the lifeline must be taken into consideration during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

Free Fall

To calculate the free fall distance using an Energy Absorbing Lanyard connected to the dorsal D-ring of a full body harness and an anchorage connector that is above the workers shoulders, **Worker (a)**, subtract the distance from the D-ring on the harness to the anchorage connector (5 feet) from the length of the Energy Absorbing Lanyard (6 feet). The free fall for Worker (a) is 1 foot.

The free fall distance with an Energy Absorbing Lanyard connected to the dorsal D-ring of a full body harness to an anchorage connector that is at the workers shoulders, **Worker (b)**, is equal to the length of the lanyard. The free fall for Worker (b) is 6 feet.

To calculate the free fall distance using an Energy Absorbing Lanyard connected to the dorsal D-ring of a full body harness to an anchorage connector that is below the workers shoulders, **Worker (c)**, add the distance from D-ring on the harness to the anchorage connector (5 feet), to the length to the of the Energy Absorbing Lanyard (6 feet). The free fall for worker (c) is 11 feet.



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.

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.

Personal Energy Absorbers and Energy Absorbing Lanyards must be inspected prior to each use for wear, damage, and other deterioration. All snaphooks and carabiners on product must be able to self-close and lock. All webbing and rope must be inspected for tears, cuts, fraying, abrasion, discoloration, or other signs of wear and damage. Sewn terminations must be secure, complete, and not visibly damaged. All rope splices must be secure. 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. Load indicators must not be deployed. Damaged and other deteriorated or defective components must be immediately removed from service in accordance with the requirements of OSHA 29 CFR 1910.66 & 1926.502.

CONNECTION

Connecting Energy Absorbing Lanyards

Energy Absorbing Lanyards with a shock pack must be connected with the energy absorbing end of the lanyard connected to the dorsal D-ring of the full body harness. The opposing end of the lanyard is to be connected to the anchorage connector.

Connecting Wrap-Around Energy Absorbing Lanyards

Place the Wrap-Around Energy Absorbing Lanyard over the qualified anchor and attach the non-energy absorbing end of the lanyard to the floating D-ring. Ensure that the webbing is not twisted around the anchor and adjust so floating D-ring hangs below the anchor. **Snaphook must not contact anchor.** The energy absorbing end of the lanyard must be connected to the dorsal D-ring of the full body harness.

Connecting TyBak Wrap-Around Energy Absorbing Lanyards

Place the TyBak Wrap-Around Energy Absorbing Lanyard over the qualified anchor and connect the captive eye carabiner to the webbing of the lanyard. **Never attach the snaphook to the webbing of the lanyard.** Pull lanyard hand tight around anchor. Connect the energy absorbing end of the lanyard to the dorsal D-ring of the full body harness.

⚠ Warning: Only lanyards with captive eye carabiners and TyBak webbing are approved for tie-back directly onto the webbing.

Connecting Y-Lanyards

Y-Lanyards are designed for single person use only and must be connected with the energy absorbing end of the lanyard connected to the dorsal D-ring of the full body harness. **Do not connect the energy absorbing end of the lanyard to any anchorage connector.** Attach one leg of the Y-Lanyard to the anchorage connector and the unused lanyard leg to an approved lanyard storage keeper on the harness.

⚠ **Warning: Never attach the unused leg of the lanyard back to the harness at any location other than a lanyard storage keeper.**

When using Y-Lanyards to move between fall protection systems, attach the unused leg of the lanyard to the new location before disconnecting the first lanyard leg. Connection of both lanyard legs to separate anchorage connectors while transitioning between systems is acceptable.

Connecting Soft Loop Energy Absorbing Lanyards

Place the soft loop of the Energy Absorbing Lanyard through the dorsal D-ring of the full body harness, then pass the hook of the Energy Absorbing Lanyard through the soft loop and pull entire Energy Absorbing Lanyard through until tight on the D-ring.

Connecting Personal Energy Absorbers

Personal Energy Absorbers should be connected to the dorsal D-ring of the full body harness first, then connected to the rest of the fall arrest system.

Connecting to Fall Arresters

Personal Energy Absorbers or Energy Absorbing Lanyards less than 3 feet in length, and less than 2 feet in length for CSA, may be attached to a fall arrester. Energy Absorbing Lanyards must be connected with the energy absorbing end of the lanyard connected to the dorsal D-ring of the full body harness. Personal Energy Absorbers must be connected to the dorsal D-ring of the full body harness first, then connected to fall arrester. Fall arrestors with permanently attached personal energy absorbers should first be connected directly to the dorsal D-ring of the full body harness. Ensure the 3M 0221 Vertical Lifeline hangs freely from anchorage without twists or knots in the lifeline. With the arrow on the body of the Fall Arrester pointing up, pull the security latch handle up to release the rope chamber. Unscrew the thumbscrew knob until the chamber opens. Insert the 0221 Vertical Lifeline rope into the chamber. The arrow on the body of the Fall Arrester must point up towards the 0221 Vertical Lifeline anchor point. Position the back half of chamber around the rope and close. Screw the thumbscrew into the receiving nut until the thumbscrew is tight. Secure the chamber by grasping the small knob on the security latch and moving it into position in the notch. Compress the Fall Arrester up to position on rope.

Connecting Self Retracting Lanyards (SRL's) to Personal Energy Absorbers

When using Self Retracting Lanyards, 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 either the body end or the anchorage end of the system. Energy absorption properties at both ends of the system will keep forces below the cable shear strength in the event of a fall over a leading edge.

For Self Retracting Lanyards with an external shock pack, connect the snaphook of the 3012 Personal Energy 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 snaphook of the Self Retracting Lanyard is connected to the anchorage or anchorage connector.

⚠ **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.**

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

PERFORMANCE

6 Foot Free Fall

Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.13-09 and rated for a 6 foot free fall, have an average arrest force of 900 lbf (4 kN) or less, and a maximum deployment distance of 42 inches (1067 mm) when dynamically tested in accordance with the requirements of the ANSI Z359.13-09 standard.

12 Foot Free Fall

Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.13-09 and rated for a 12 foot free fall, have an average arrest force of 1,350 lbf (6 kN) or less and a maximum deployment distance of 60 inches (1524 mm) when dynamically tested in accordance with the requirements of the ANSI Z359.13-09 standard.

ANSI Z359.1-07

Personal Energy Absorbers and Energy Absorbing Lanyards marked ANSI Z359.1-07 have a maximum arrest force of 900 lbf (4 kN) or less, and a maximum deployment distance of 42 inches (1067 mm) when dynamically tested in accordance with the requirements of the ANSI Z359.1-07 standard.

CSA Z259.11-05 Class E6

Personal Energy Absorbers and Energy Absorbing Lanyards marked CSA Z259.11-05 Class E6 have a maximum arrest force of 1300 lbf (6 kN) or less, and a maximum elongation of 5.7 feet (1.75 m) when tested in accordance with the requirements of the CSA Z259.11-05 standard.

MATERIALS

Webbing

SafeLight models use a polyester web (exception 3450-5-2040 uses a 3 strand poly-dac rope).

SafeAbsorb models use a polyester webbing (exception 3612 series uses a ¼ inch galvanized cable with 1/16 inch vinyl coating).

SafeAbsorb Xtra models use a polyester webbing.

SafeStretch models incorporate a nylon outer jacket with polyester core.

Saturn models use a Nomex® and polyester webbing.

PowerStop models use a nylon webbing.

Apache models use a polyester webbing (exception -XP series has a nylon outer jacket with polyester core webbing, and the -TYBAK series uses a nylon webbing).

TyBak models 3812 and 3813 use a nylon webbing, and 3560 and 3561 use a polyester webbing.

Personal Energy Absorbers use a polyester webbing.

Hardware

Snaphooks and carabiners used on Personal Energy Absorbers and Energy Absorbing Lanyards marked with the ANSI Z359.1-07 and 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.

Personal Energy Absorbers and Energy Absorbing Lanyards marked with the ANSI Z359.1-1999 standard, incorporate self-locking snaphooks and carabiners with minimal tensile break strength of 5,000 lbs, a minimum gate rating of 220 lbs, and a minimum side load gate rating of 350 lbs.

INSPECTION

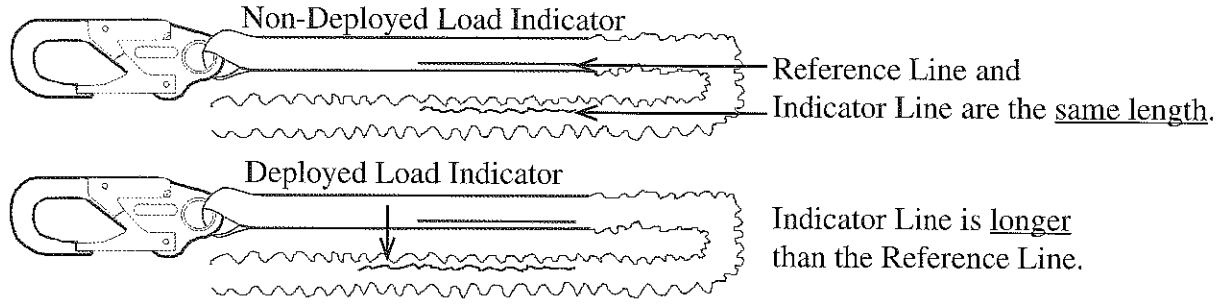
Frequency

Personal Energy Absorbers and Energy Absorbing Lanyards must be inspected prior to each use, and annually by an OSHA defined "competent person" other than the user.

Criteria

⚠ **Warning: If inspection reveals any defect, wear, damage, deterioration, inadequate maintenance, or unsafe condition, immediately remove from service and destroy.**

⚠ **Warning: Any equipment that has been subjected to the forces of arresting a fall must be immediately removed from service and destroyed.**



All components of the Personal Energy Absorbers and Energy Absorbing Lanyards must be inspected.

All markings must be legible and attached to the product.

All equipment must be free of corrosion, chemical attack, alteration, excessive heating or wear.

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.

To inspect webbing and rope bend a portion of the webbing 6 -8 inches into an upsidedown 'U' shape. Continue along all webbing and rope inspecting for tears, cuts, fraying, abrasion, discoloration, burns, holes, mold, unsplicing, pulled or broken stitches, or other signs of wear and damage. Sewn terminations should be secure, complete, and not visibly damaged. All rope splices should be secure.

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.

CLEANING, MAINTENANCE, STORAGE

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

Cleaning

Personal Energy Absorbers and Energy Absorbing Lanyards can be wiped down with a mild detergent, and rinsed with a clean cloth to remove detergent. The hardware can also be wiped down with a clean dry cloth to remove grease or dirt.

Maintenance

Personal Energy Absorbers and Energy Absorbing 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 contaminants on the lanyard. Use a dry lubricant that has proper resistance to temperature extremes, moisture, and corrosion. Do not over-lubricate.

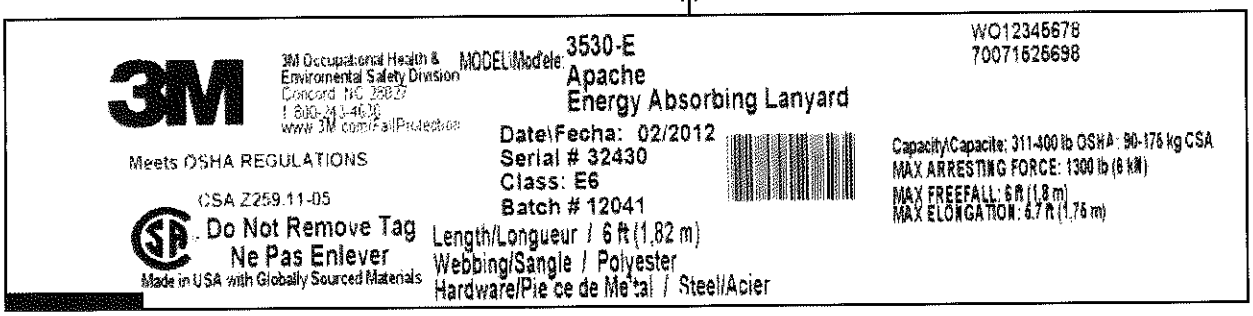
Storage

When not in use, Personal Energy Absorbers and Energy Absorbing 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 must be cleaned and dried prior to storage. Equipment that has been stored for an extended period must be inspected as described in these *User Instructions* prior to use.

LABELING

All labeling must be legible and attached to Personal Energy Absorber or Energy Absorbing Lanyard.

Product Label



Inspection Label

INSPECTION TAG				
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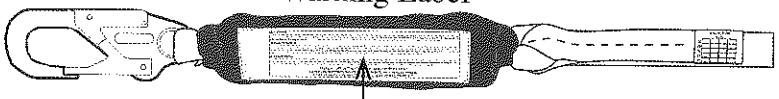
Warning Label



7200118 Rev A

⚠ WARNING
Compliant fall protection and emergency rescue systems help prevent serious injury during fall arrest. Avoid contact with sharp edges and abrasive surfaces. Only make compatible connections. Avoid physical hazards such as thermal, electrical and chemical sources. **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. In Canada, call 800-267-4414.

⚠ AVERTISSEMENT
Les systèmes conformes de délivrance de protection et de secours de chute aident à empêcher des dommages sérieux pendant l'arrestation de chute. Évitez le contact avec les bords pointus et les surfaces abrasives. Établissez seulement les rapports compatibles. Évitez les risques physiques tels que des sources thermiques, électriques et chimiques. **L'abus ou le manque de suivre des avertissements et des instructions peut avoir comme conséquence le dommage corporel ou la mort.** Pour l'usage approprié, voir le surveillant, instructions d'utilisateur, ou appelez le service technique à 800-243-4630. Au Canada, appelez 800-267-4414.

⚠ ADVERTENCIA
Los sistemas de protección contra caídas y rescate de emergencias ayudan a prevenir lesiones serias durante la detención de una caída. Evite el contacto con superficies puntiagudas y abrasivas. Solo realice conexiones compatibles. **El mal uso o el no seguir las instrucciones puede resultar en lesiones personales serias o muerte.** Para el uso adecuado, consulte a su supervisor, las instrucciones de uso, o llame a Servicio Técnico al 800-243-4630. En Canadá, llame al 800-267-4414.

FOLLOW USER INSTRUCTIONS INCLUDED WITH PRODUCT.
SUIVEZ LES INSTRUCTIONS D'UTILISATEUR INCLUSES AVEC LE PRODUIT.
SIGA LAS INSTRUCCIONES DE USO INCLUIDAS CON EL PRODUCTO.

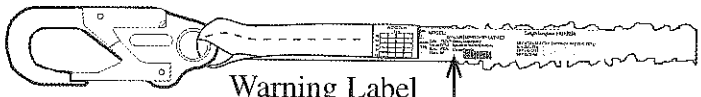
Product Label

3M

MODEL/Modèle 209712
SAFELIGHT LOPRO SHOCK LANYARD
Length/Longueur 6 ft (1.82 M)

Avoid sharp edges Inspect before use Use comp. connectors
Capacity/Capacité: 310/100-254 lbs (141/45-115kg)
Meets OSHA STANDARD
ANSI Z359.1-07
CSA Z259.11-06
Date/Fecha 12/2009 Class: E4
Serial # 04406 Batch # 09126
MAX ARRESTING FORCE: 900 lbs (4 kN)
MAX FREEFALL: 6 ft (1.8 M)
MAX ELONGATION: 3.5 ft (1.0 ft) (1.2M)
(42 in after dynamic drop / 48 in after 3600 lb static load)
(chute dynamique =42" / charge statique 16 KN)
Webbing/Sangle : Polyester
Do Not Remove Tag / Ne Pas Enlever Hardware/Pièce de Métal : Steel/Acier
Corezene : Polyester

Warning Label

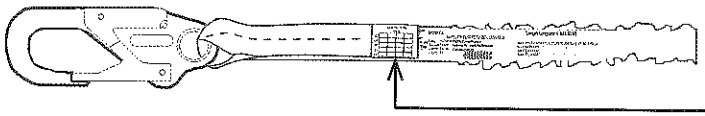


7200119 Rev A

⚠ WARNING
Compliant fall protection and emergency rescue systems help prevent serious injury during fall arrest. Avoid contact with sharp edges and abrasive surfaces. Only make compatible connections. Avoid physical hazards such as thermal, electrical and chemical sources. **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. In Canada, call 800-267-4414.

⚠ AVERTISSEMENT
Les systèmes conformes de délivrance de protection et de secours de chute aident à empêcher des dommages sérieux pendant l'arrestation de chute. Évitez le contact avec les bords pointus et les surfaces abrasives. Établissez seulement les rapports compatibles. Évitez les risques physiques tels que des sources thermiques, électriques et chimiques. **L'abus ou le manque de suivre des avertissements et des instructions peut avoir comme conséquence le dommage corporel ou la mort.** Pour l'usage approprié, voir le surveillant, instructions d'utilisateur, ou appelez le service technique à 800-243-4630. Au Canada, appelez 800-267-4414.

Inspection Label



INSPECTION TAG				
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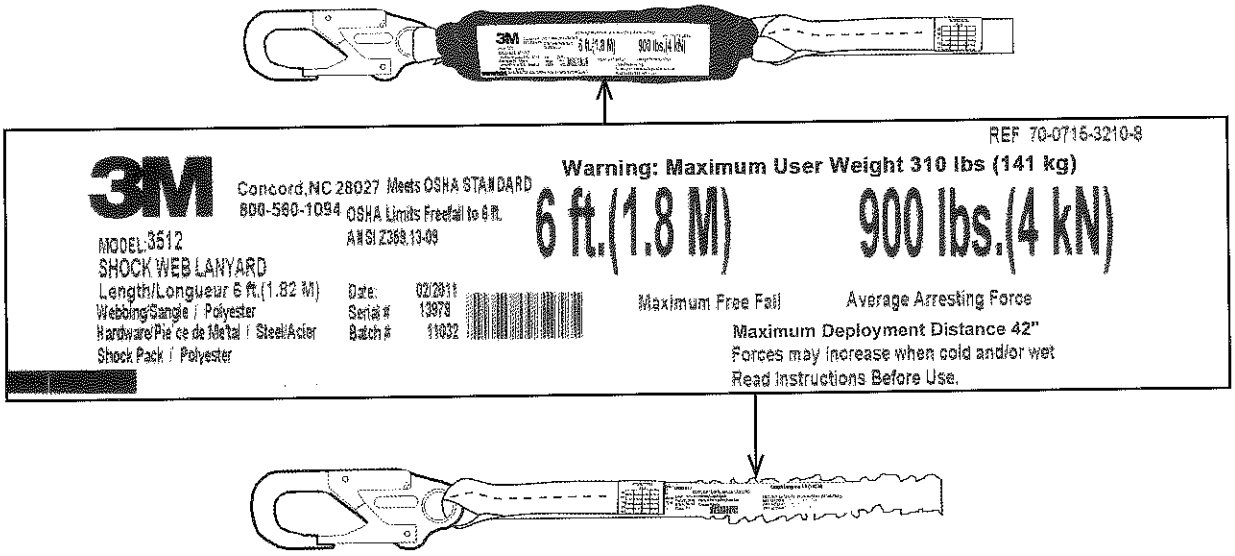
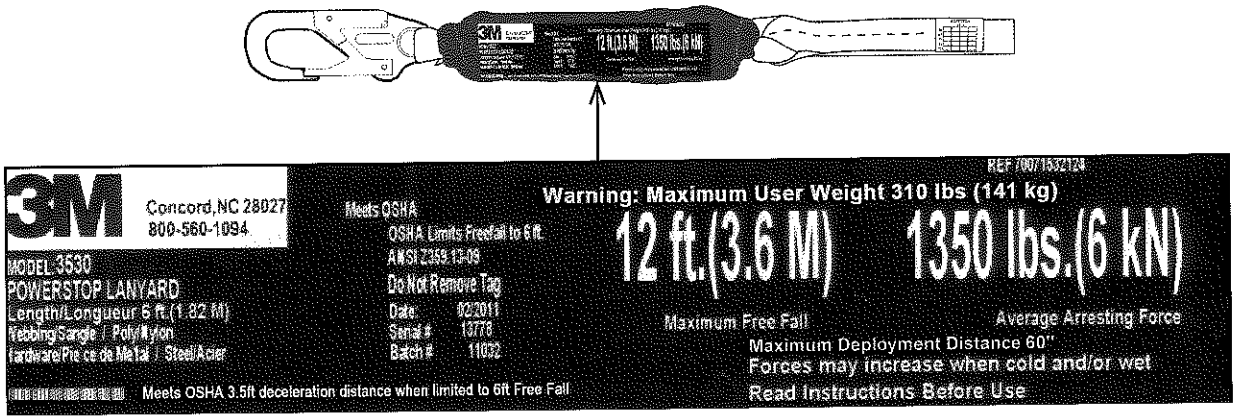
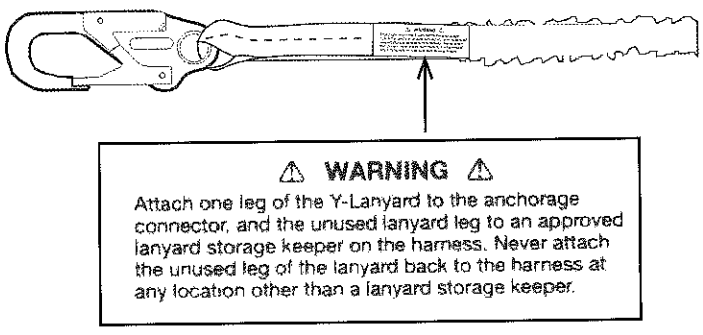
ANSI Z359.13 "6 ft Free Fall" Product Label



ANSI Z359.13 "12 ft Free Fall" Product Label



Dual Leg Warning Label



MODELS AND PART NUMBERS

Personal Energy Absorbers

3010-AC, 3011-C, 3011-C2, 3011-RGA, 3012

Energy Absorbing Lanyards

TyBak- 3812, 3813, 3560, 3561

SafeAbsorb- 3251, 3251-D, 3251-D-0241, 3510, 3510-0241CC, 3511, 3512, 3512-0241, 3550, 3550-0241, 3550-4-0241, 3570-SL, 3570-0241-SL, 3571-SL, 3571-0241-SL 3612, 3612-0241, 3612-D, 3612-D-0241

SafeLight- 208510, 208512, 124/209509, 209510, 209511, 209511-0241, 209511-D, 209511-D-0241, 209512, 209512-0241, 209550, 209550-0241, 209550-4, 209550-4-0241, 209711, 209711-0241, 209711-D, 209711-D-0241, 209712, 209712-0241, 209750, 209750-0241, 209750-4, 209750-4-0241, 3450-5-0240

SafeAbsorb Xtra- 4712-6, 4712-6/0241, 4750, 4750/0241, 4750/0241E

SafeStretch- 3570, 3570-0241, 3571, 3571-0241

Apache (311-400 lb rated)**-** 3530-E, 3530-E-0241, 3530-E-4, 3530-E-4-0241, 3530-DE, 3530-DE-0241, 3530-DE-TYBAK, 3530-DE-XP, 3530-DE-0241-XP, 3530-DE-4, 3530-DE-4-0241

PowerStop (rated for 12 ft free fall at 310 lbs)**-** 3530, 3530-D

Saturn- 3520, 3520-D, 3520-D-0241, 3531, 3531-D, 3531-4, 3531-4-0241, 3531-D-4, 3531-D-4-0241

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.

3M Occupational Health and Environmental Safety Division
3M Center Building 235-2W-70
Saint Paul, MN 55144-1000
USA
Technical Assistance:
800-243-4630 in U.S.
800-267-4414 in Canada
www.3M.com/FallProtection
www.3M.com/PPESafety

ISO 9001
FM 573368

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