

3M Personal Safety Division
Fall Protection Equipment



Full Body Harness

User Instructions

User Instructions for 3M™ Full Body Harnesses

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.**
2. Failure to follow all instructions and limitations on the use of Full Body Harnesses 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. Not all fall protection components are rated for the same user weight capacity. Only use components rated for the same weight capacity.
5. Before using a personal fall arrest system, employees must be trained in accordance with the requirements of OSHA 29 CFR 1910.66 or applicable local, state, governmental and jurisdictional agency, in the safe use of the system and its components.
6. Personal fall arrest systems, including Full Body Harnesses, 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 or applicable local governmental and jurisdictional standards.
7. Do not use or install equipment without proper training from a “competent person” as defined by OSHA 29 CFR 1926.32(f) or the local, state, governmental and provincial standard.
8. Failure to have the leg straps of a Full Body Harness properly adjusted in the event of a fall arrest may result in serious personal injury or death.
9. The additional length of the D-ring extender must be taken into consideration during the clearance calculation process.
10. Never attach the unused leg of the lanyard back to the Full Body Harness at any location other than an approved lanyard storage keeper.
11. Store Full Body Harnesses in a cool, dry, clean environment, out of direct sunlight, when not in use.
12. After a fall occurs, or if any part of the load indicator warning is showing, the Full Body Harness must be removed from service and destroyed immediately.
13. If inspection reveals any defect, inadequate maintenance, or unsafe condition, remove from service and destroy.
14. Only 3M, or persons or entities authorized in writing by 3M, shall make repairs or alterations to the equipment.

CAUTION

1. If an energy absorbing lanyard is used in conjunction with a cross-arm strap anchorage connector, other anchorage extension, vertical lifeline, 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 is a secure connecting point capable of safely withstanding the impact forces applied by a fall-protection system or anchorage subsystem.

Body Support

A body support is the component of a personal fall arrest system that is worn on or around the body. Body belts are not acceptable for a personal fall arrest system. **Full body harnesses must be used for all fall arrest systems.** **Note:** The use of a body belt in a positioning device system is acceptable.

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 Full Body Harness is designed to be used as part of a personal fall arrest, controlled descent, restraint, rescue, ladder climbing, or work positioning system.

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. Universal size Full Body Harnesses and individually sized Full Body Harnesses smaller than XXL are designed for users with a maximum capacity up to 310 pounds (141 kg) including clothing, tools, etc.
2. Full Body Harnesses sized XXL and larger, Economy, Mid-Range and Premium Series Full Body Harnesses are designed for users with a maximum capacity up to 400 pounds (181 kg) including clothing, tools, etc.

3. Full Body Harnesses shall be used as part of a personal fall arrest system that limits the maximum free fall distance to 6 feet (1.8 m). If used with appropriate connecting system, Full Body Harnesses may be used with free falls exceeding 6 feet (1.8 m).
4. Full Body Harnesses shall only be used as part of a controlled descent, or rescue system that eliminates free fall unless attached to the dorsal D-ring. When attached to the dorsal D-ring the maximum free fall distance is 6 feet (1.8 m).
5. Full Body Harnesses shall only be used as part of a fixed ladder climbing system that limits the maximum free fall distance to 18 inches (0.45 m) when attached to the frontal D-ring, or as part of a Vertical Lifeline system that limits the maximum free fall distance to 6 feet (1.8 m) when attached to the dorsal D-ring.
6. Full Body Harnesses shall only be used as part of a work positioning system that limits the maximum free fall distance to 2 feet (0.6 m).
7. Only Full Body Harnesses with an integral seat strap are designed to be used in extended suspension applications.

Anchorage

All anchorage requirements depend on the application which the Full Body Harness is used. In a personal fall arrest system the anchorage 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 than one personal fall arrest system is attached to the anchorage.

Anchorage used in controlled descent and rescue systems must be capable of supporting loads of 3,100 lbf (13.8 kN) for non-certified anchorages or a 5:1 safety factor for certified anchorages per ANSI Z359.4-2007.

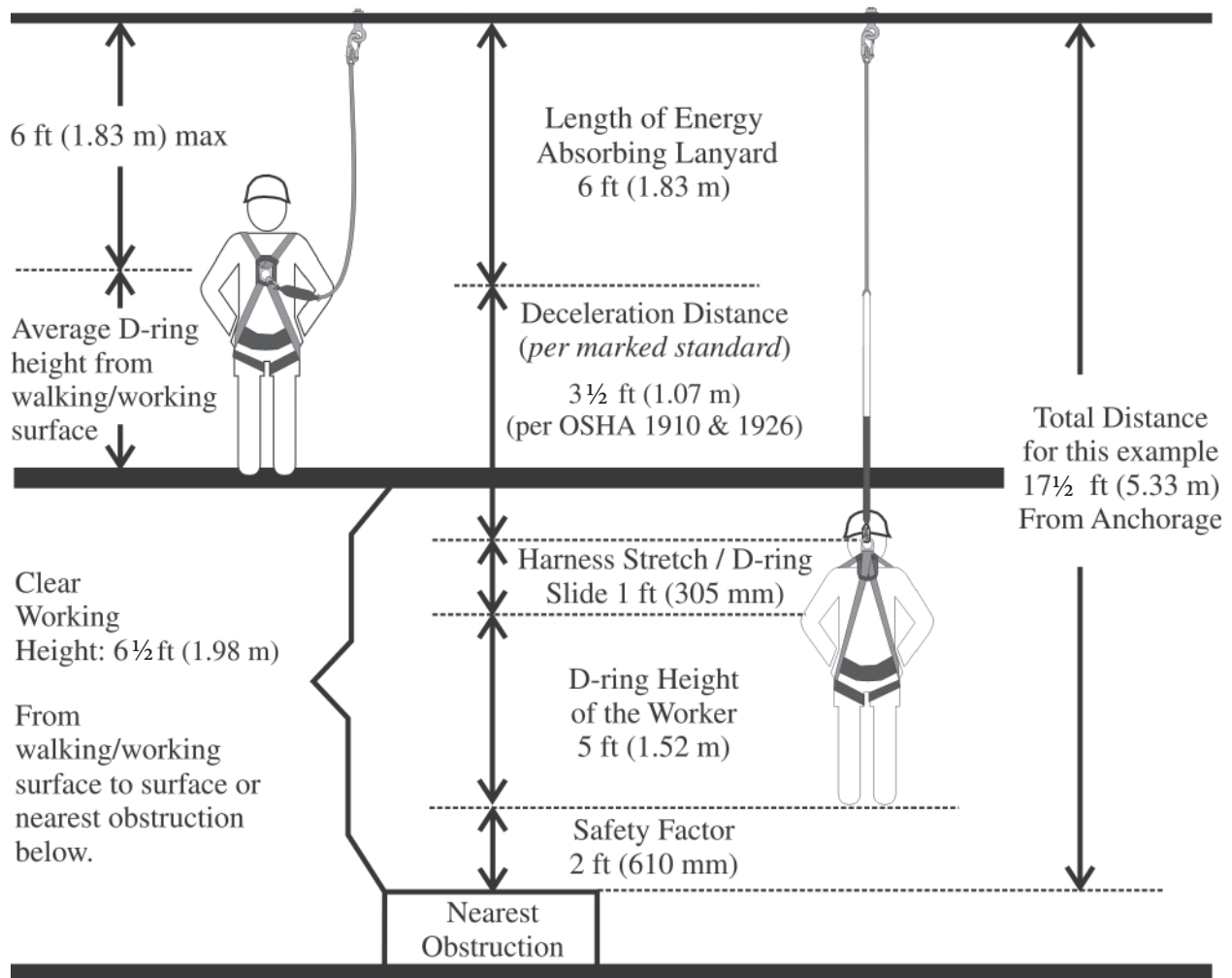
Anchorage used in restraint systems must be capable of supporting loads of 1,000 lbf (4.5 kN) for non-certified anchorages or two times the foreseeable force for certified anchorages per ANSI Z359.2-2007.

Anchorage used in work positioning systems must be capable of supporting loads of 3,000 lbf (13.3 kN) for non-certified anchorages or two times the foreseeable force for certified anchorages per ANSI Z359.2-2007.

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

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 harness stretch and slide of the D-ring, and a safety factor of 2 feet to allow for the possibility of an improperly fitted harness, a taller than average worker and/or a miscalculation of distances. The total 17½ feet is the suggested safe fall clearance requirement for this example.



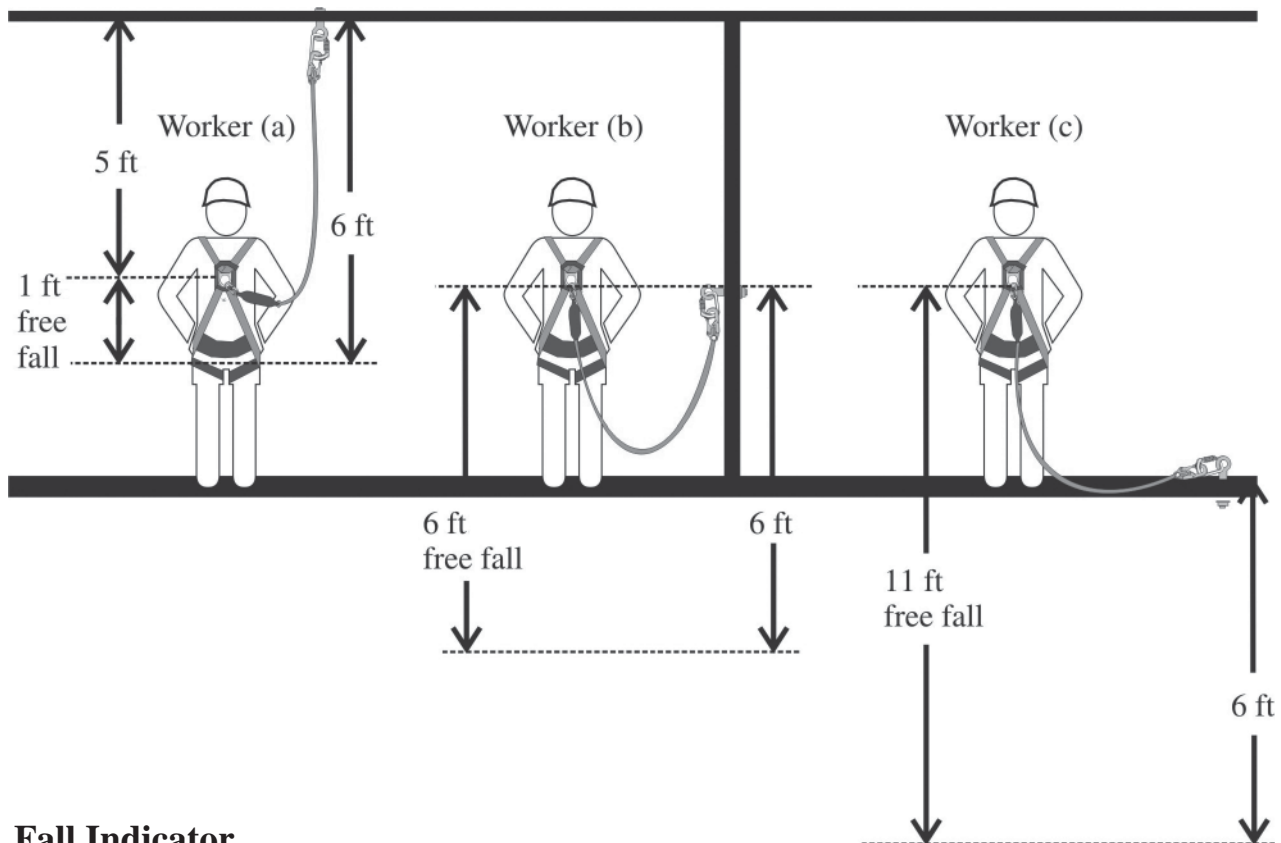
⚠ Caution: If an energy absorbing lanyard is used in conjunction with a cross-arm anchorage connector, other anchorage extension, vertical lifeline, or horizontal lifeline, the additional length of the anchorage connector, or sag from the lifeline must be taken into consideration during the clearance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

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.



Fall Indicator

Full Body Harnesses include a built-in fall arrest indicator that activates to give a permanent, readily visible warning after the full body harness has arrested a fall (or has been subjected to an equivalent force).

Swing Falls

To minimize the possibility of a swing fall, work as directly under the anchorage connector as possible. Striking objects horizontally, due to the pendulum affect, may cause serious injury. 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.






Compatibility

All 3M Full Body Harnesses 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)

Attachment Points

- Class A**  The dorsal (back) D-ring affixed to all 3M Full Body Harnesses is for fall arrest or restraint systems. The dorsal D-ring may also be used for rescue applications.
- Class D**  Seat strap D-rings are to be used for rescue and controlled descent applications. The front D-ring may also be used for rescue and controlled descent. **The Seat Strap D-rings or attachment points for controlled descent application are not for fall arrest or climbing applications.**
- Class E**  Shoulder D-rings may be used in rescue applications. Always use both shoulder D-rings simultaneously, utilizing the 3M M30-SBA Spreader Bar Assembly. **The shoulder D-rings are not for fall arrest or climbing applications.**
- Class L**  A front D-ring is used for fall arrest in vertical systems that limit the free fall distance to 18 inches. The front D-ring may be used for restraint, and ladder climbing systems.
- Class P**  Hip D-rings are used for positioning and restraint systems. Always use both hip D-ring connections when securing work positioning devices. **Hip D-rings are not for fall arrest or climbing applications.**

DONNING

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.

⚠ Warning: Not all fall protection components are rated for the same user weight capacity. Only use components rated for the same weight capacity.

A Full Body Harness must be inspected prior to each use for wear, damage, and other deterioration. 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. No load indicators shall 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.

Donning a Vest Style Full Body Harness

1. Hold the dorsal (back) D-ring of the harness and shake to allow all straps to fall into place. Make certain straps are not buckled or twisted.
2. Slip shoulder strap over one shoulder, then pull the other shoulder strap around the back and over the second shoulder, much like putting on a jacket. The dorsal D-ring will be located on your back, while the chest strap is located in the front. Straps must not be tangled as the harness hangs freely from shoulders.
3. Pull one leg strap between your legs and connect it to the opposite end on the same side. Repeat with second leg strap. Ensure that the leg straps are not twisted or crossed. Leg straps must be comfortably snug to achieve proper adjustment.

⚠ Warning: Failure to have the leg straps of a Full Body Harness properly adjusted in the event of a fall arrest may result in serious personal injury or death.

4. Fasten the chest strap across the lower chest just above the nipple line. Chest strap should be snug, with excess strap secured through the web keepers.
5. Adjust shoulder straps with the two adjusters located at the lower end of the shoulder strap. Adjust the left and right sides to the same length. The chest strap, and front D-ring if applicable, must be centered on your lower chest. Adjustment of the shoulder straps may cause the dorsal D-ring to move and may need to be repositioned up or down as needed to achieve correct position. After all straps have been tightened and harness fits snugly, secure all excess straps through the web keepers.

Donning a Crossover Style Full Body Harness

1. Hold the dorsal (back) D-ring of the harness, located just above the back strap, and shake to allow all straps to fall into place. Make certain straps are not buckled or twisted.
2. Locate the shoulder straps between the dorsal and front D-ring and slip the harness over your head. The arms are placed through the openings on each side of the shoulder straps. The dorsal D-ring will be located on your back, while the chest will cross over the lower chest in the front. Straps must not be tangled as the harness hangs freely from shoulders.
3. Fasten one shoulder strap that crosses over the lower chest to connecting end on the opposite hip. Be sure not to connect the shoulder strap to the connecting end of the leg strap. Repeat with second shoulder strap, and ensure that the straps are not twisted.
4. Pull one leg strap between your legs and connect it to the opposite end on the same side. Repeat with second leg strap. Ensure that the leg straps are not twisted or crossed. Leg straps should be comfortably snug when properly adjusted.

⚠ Warning: Failure to have the leg straps of a Full Body Harness properly adjusted in the event of a fall arrest may result in serious personal injury or death.

5. Adjust shoulder straps with the two adjusters located at the lower end of the shoulder strap. Adjust the left and right sides to the same length. Chest D-ring keeper must be centered on your lower chest. Adjustment of the shoulder straps may cause the dorsal D-ring to move, and may need to be repositioned up or down as needed to achieve correct position. After all straps have been tightened and harness fits snugly, secure all excess straps through the web keepers.

MATERIALS

Webbing

All 3M Full Body Harnesses are constructed with 1¾ inch (44 mm) polyester webbing.

The Saturn Full Body Harness has a 1¾ inch (44 mm) Nomex® and polyester webbing.

The Coated Web Full Body Harness utilizes a 1¾ inch (44 mm) polyurethane coated polyester webbing.

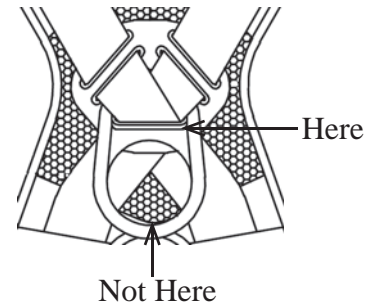
Hardware

All hardware on the Full Body Harness meets the ANSI Z359.1-2007 or ANSI Z359.12-2009 and CSA Z259.12 standard and OSHA 29 CFR 1910.66 and 1926.502 requirements.

ACCESSORIES

Suspension Trauma Strap

The 3M R-100 Suspension Trauma Strap is available for use on all 3M Full Body Harnesses. The R-100 Suspension Trauma Strap must be choked onto the D-ring slot, located above the primary connection opening of the D-ring. Do not connect the R-100 Suspension Trauma Strap to the primary D-ring opening. See R-100 Suspension Trauma Strap *User Instructions* for more information.



D-ring Extenders

Part Number 5550

The 3M 5550 D-ring Extender incorporates a snaphook and D-ring. Attach the snaphook end of the 5550 D-ring Extender to the primary dorsal D-ring of the Full Body Harness. The D-ring of the 5550 D-ring Extender becomes the dorsal attachment point of the Full Body Harness.

Part Number 5552

The 3M 5552 D-ring Extender incorporates a soft loop and two D-rings. Pass the soft loop end of the 5552 D-ring Extender through the primary dorsal D-ring of the Full Body Harness. Secure by passing the two D-rings of the 5552 D-ring Extender through the soft loop. Each D-ring of the 5552 D-ring Extender becomes a dorsal attachment point of the Full Body Harness.

⚠ Warning: The additional length of the D-ring extender must be taken into consideration during the clearance calculation process.

Lanyard Storage Keepers

Approved lanyard storage keepers are located on all 3M Full Body Harnesses where the shoulder strap meets the chest strap. Lanyard storage keepers are approved only for the connection of the unused lanyard leg to the harness.

⚠ Warning: Never attach the unused leg of the lanyard back to the Full Body Harness at any location other than an approved lanyard storage keeper.

INSPECTION

Frequency

Full Body Harnesses 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, remove from service and destroy.

⚠ Warning: After a fall occurs, or if any part of the load indicator warning is showing, the Full Body Harness must be removed from service and destroyed immediately.

All components of the Full Body Harness must be inspected.

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. Adjust all keepers, buckles, padding and D-ring to inspect webbing hidden by these components.

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

All markings must be legible and attached to the product.

All hardware must be free of cracks, sharp edges, deformation, corrosion, or any evidence of defect.

CLEANING, MAINTENANCE, STORAGE

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

Cleaning

Full Body Harnesses 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

Any Full Body Harness 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 maintenance may be performed by the user.

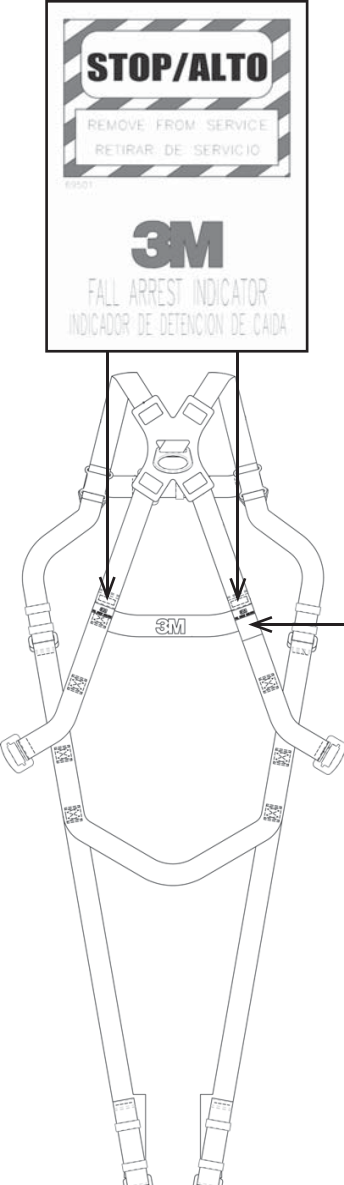
Storage

Full Body Harnesses 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 defined in these *User Instructions* prior to use.


LABELING

All labeling must be legible and attached to the Full Body Harness.



↑ FALL ARREST INDICATOR ↓

**3M™ ECONOMY
FULL BODY HARNESS**


Model/Modèle/Modelo: 1A1-U
3M ID: 70071654456
Serial #/No de Série/No. Serie: 1
Manufacture Date/Date de Fabrication/
Fecha de Fabricación: 12/2013
Class/Classe/Clase: A
Capacity/Capacité/Capacidad:
 400 lb (181 kg)
Webbing/Sangle/Tejido:
 Polyester/Polyester/Poliéster
Hardware/Composante Matérielle/
Composants Metalicos:
 Steel/Acier/Acero
Standards and Regulations/Normes et
Réglementatio/Normas y Reglamentos:
 OSHA 29 CFR 1910.66 and 1926.502;
 ANSI Z359.1-2007; CSA Z259.10-2012
Size/Grandeur/Tamano:
UNIVERSAL/UNIVERSELLE/
UNIVERSAL 

76126 RevB


**FOLLOW USER INSTRUCTIONS
INCLUDED WITH PRODUCT.**

⚠ 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.


76134 RevB




**Class
L**
Ladder
Climbing



**Class
P**
Work Positioning



**Class
D**
Suspension &
Controlled Descent



**Class
E**
Limited
Access

Inspection				
1				
2				
3				
4				
5				

User Name

Made in USA with Globally Sourced Materials






7200117A Rev B

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.**

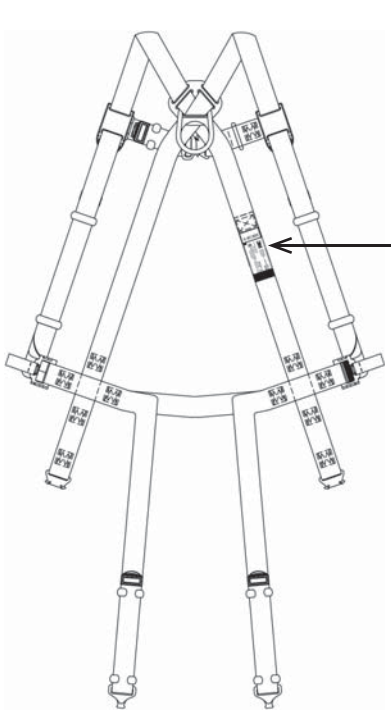
FOLLOW USER INSTRUCTIONS INCLUDED WITH PRODUCT.

Warning Label

See product label for Class identification of this harness.

 Class P	 Class A	 Class D	 Class E	 Class L
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Inspection Tag				
XX	XX+1	XX+2	XX+3	XX+4



3M		1808LXL:1
Bogart Mesh Harness		
MODEL # : 1808 L/XL	SIZE: L - XL	
SERIAL # : VA 00001	Mfg. date: 06/02/10	
! WARNING !		
Equipment must not be installed, operated or inspected by anyone who is not a competent person as deemed by OSHA.		
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.		
Maximum capacity: 310 lbs		
Meets the following guidelines: OSHA 1910/1926.602, ANSI Z359.1, CSA Z259.10 CLASS AP, ANSI/ISEA 107-2004 Class II		
US Patent N°:4,731,882; Canadian Patent N°:1,246,606		
Material: Metal: Drop forged steel, light alloy Fabric: Mesh polyester, Webbing polyester		

