RELIANCE™
fall protection

INSTRUCTIONS FOR USE

8000 Series Full Body Harnesses

Complies with the current ANSI Z359.1-2007 and
all applicable OSHA regulations and requirements.

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Contents

User Instructions
Reliance A-Series (Vest - Style) Harnesses

User Instruction Manual Full Body Harness

This manual is intended to meet the Manufacturer's Instructions as required by the current ANSI Z359.1(2007) and ANSI A10.14, and should used as part of an employee training program as required by OSHA.

***WARNING:** This product is one part of a personal fall arrest, restraint, work positioning, personnel riding, climbing, or rescue system. Without the other necessary components in such sub-systems the harness itself serves no useful purpose. The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user before using this product and retained for ready reference by the user. The user must read, understand (or have explained), and heed all instructions, labels, markings and warnings supplied with this product and with those products intended for use in association with it before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. National standards and state, provincial and federal laws require the user to be trained before using this product. This manual can be used as part of a such a user safety-training program that is appropriate for the user's occupation.*

***IMPORTANT: Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.** If you have questions on the use, care, or suitability of this equipment for your application, contact RELIANCE Industries, LLC for information.*

DESCRIPTION

Unless otherwise noted all Reliance harnesses are manufactured using certified 7000 pound rated Tattletale™ polyester webbing for superior inspectability and chemical and acidic tolerance.

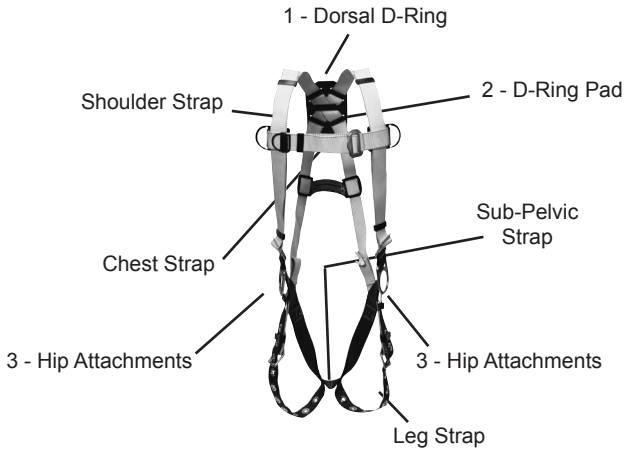

Figure 1.

The intended purpose of each element in the Harness is given in this subsection. For references see inspection diagram Figure 1.

A. ATTACHMENT ELEMENTS (D-RINGS & PADS)

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1) DORSAL ATTACHMENT (QTY 1)

Also called back D-ring, present on all Harnesses. For fall arrest, use only the back D-ring for connection to the other elements of a personal fall arrest system. The back D-ring may also be used as an attachment element for travel restriction

2) DORSAL D-RING LOCATOR (QTY 1)

May be called D-ring attachment pad. Allows manual adjustment of back D-ring. This should never be adjusted below mid-point of shoulder blades.

3) HIP ATTACHMENTS (QTY 2, IF PRESENT)

Also called hip D-rings. For restraint (work positioning and travel restriction). Never use the hip D-rings for fall arrest or for climbing protection. Always use both hip D-rings together, for work positioning

applications. When work positioning where a fall could occur a separate fall arrest system must be attached to the back D-ring.

4) FRONT ATTACHMENT (QTY 1, IF PRESENT)

Also called chest D-rings. For controlled descent, lifting and lowering (by hoisting), and for ladder climbing protection systems (provided the potential free fall distance is very short and footing can be easily gained). The chest D-ring may also be used for rescue, retrieval, and evacuation.

B. BUCKLES AND ADJUSTERS

1) TONGUE BUCKLE LEG STRAPS (QTY 2, IF PRESENT)

Used for securing thigh straps around the user's thigh. The Buckle tongue must pass through the grommet hole on the leg strap and the free end must be tucked into the plastic web keeper. The harness thigh-straps should be sized to avoid connection to the end grommet.

2) MATING BUCKLE LEG STRAPS (QTY 2, IF PRESENT)

Used for securing thigh straps around the user's thigh. The free end of strap must extend beyond the buckle and be tucked into the strap collar.

3) TORSO SIZING ADJUSTER (QTY 2 ON VEST STYLE)

Used in the harness shoulder straps to provide adjustment to the length of the straps that run the length of the user's torso, from the seat up and over the shoulders.

C. CHEST STRAP SECURING BUCKLE

1) MATING BUCKLE

Used to secure the two shoulder straps across the user's chest. The free end of the chest strap must extend beyond the buckle and be tucked into the strap collar

D. STRAP RETAINERS

1) WEB KEEPERS (RETAINERS, COLLARS) (9)

Used for retaining the free ends of straps and for positioning the shoulder strap retainer. Present on the thigh straps, shoulder strap retainer and shoulder straps of all Reliance A-Series harnesses. Strap collars reduce the possibility of; (a) buckle loosening or release due to free strap ends and, (b) strap ends being caught in moving machinery.

E. OPTIONS

The following is a partial list of commonly used options and accessories (some options may not be available on all harnesses):

- Shoulder D-rings for rescue and retrieval lifting and lowering
- Hip pad with side D-rings
- Tongue buckle body belt
- Kevlar® webbing
- High visibility webbing
- Shoulder and sub-pelvic thigh pads provides comfort while carrying heavy loads in tool bags or work positioning.
- Tool belt support straps
- Seat sling
- S/A Lanyard attached directly to D-ring or attachment element
- Lanyard Keepers (secures snap hook of lanyard out of the way)
- Work vest
- Tool holders
- D-Ring Extender
- Lanyard Keeper

HARNESS APPLICATIONS & SELECTION

A. PURPOSE:

RELIANCE full body harnesses are used as one component in a personal fall arrest system (PFAS). They may also be utilized in restraint, work positioning, or rescue systems when the appropriate attachments are present. Harnesses included in this manual meet the current ANSI A10.14, ANSI Z359.1(2007) and OSHA requirements (except where noted). These instructions, and markings borne by the harness, fulfill the instruction and marking requirements of those standards and regulations.

1) PERSONAL FALL ARREST:

The full body harness is used as a component of a personal fall arrest system. Personal fall arrest systems typically include a full body harness, a connecting subsystem (energy absorbing lanyard) and an anchorage connector. Maximum arresting force must not exceed 1,800 lbs.

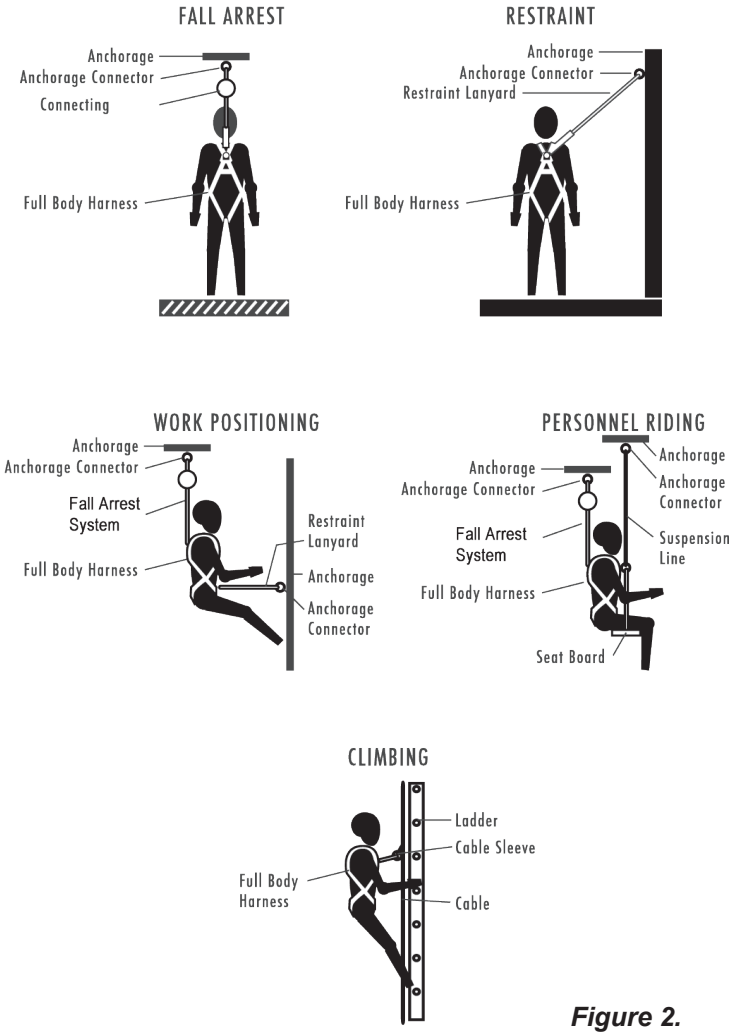

Figure 2.

2) RESTRAINT:

The full body harness is used as a component of a restraint system to prevent the user from reaching a fall hazard (restricting the user's movement so as to prevent him from reaching a location where a fall hazard exists). Restraint systems typically include a full body harness, a lanyard or restraint line, and an anchorage or anchorage connector.

3) WORK POSITIONING:

The full body harness is used as a component of a work positioning system to support the user at a work position (stabilize and partially support the user at an elevated work location and allow free use of both hands). Work positioning systems typically include a full body harness, positioning lanyard connected to an anchorage or anchorage connector, and a back-up personal fall arrest system, including a rope grab or SRL.

4) PERSONNEL RIDING:

The full body harness is used as a component of a personnel-riding system to suspend or transport the user vertically. Personnel riding systems typically include a full body harness, boatswain's chair or suspension seat, and a back-up personal fall arrest system (including rope grab or SRL). The harness should not be utilized for sustained positioning without a suspension seat.

5) CLIMBING:

The full body harness is used as a component of a climbing system to prevent the user from falling when climbing ladders or other climbing structure. Climbing systems typically include a full body harness, vertical cable or rail attached to the structure, and a locking climbing sleeve (or *grab*).

6) RESCUE:

The full body harness is used as a component of a rescue system. Rescue systems are configured depending on the type of rescue.

B. USE LIMITATIONS:

Consider the following application limitations before using this equipment:

1) CAPACITY:

These full body harnesses are designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 310 lbs. Persons with muscular, skeletal, or other physical disorders should consult a physician before using. Pregnant women and minors must never use the harness. Increasing age and diminished physical fitness may reduce a person's ability to withstand shock loads during fall arrest or prolonged suspension. Consult a physician if there is any question about a users physical ability to safely use this product to arrest a fall or remain suspended. Models are available for persons with heavier combined weights (May also affect the selection of other components of a PFAS).

2) FREE FALL:

Personal fall arrest systems used with this equipment must be rigged to limit the free fall to a minimum of six feet (ANSI Z359.1) Restraint systems must be rigged so that no vertical free fall is possible. Work positioning systems must be rigged so that free fall is limited to two feet or less. Personnel riding systems must be rigged so that no vertical free fall is possible. Climbing systems must be rigged so that free fall is limited to 18 inches or less. Rescue systems must be rigged so that no vertical free fall is possible. See subsystem manufacturer's instructions for more information.

3) FALL CLEARANCE:

There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction. The clearance required is dependent on the following factors (see Figure 3. for reference):

- Elevation of anchorage
- Connecting subsystem length
- Deceleration distance
- Free fall distance
- Worker height
- Movement of harness attachment element

See subsystem manufacturer's instructions for more information.

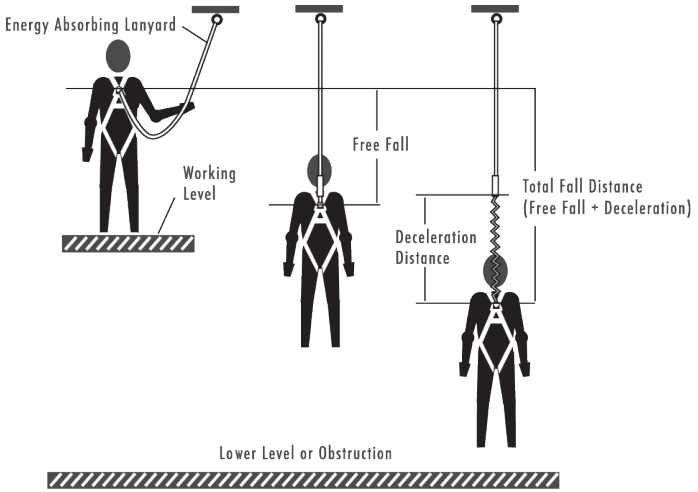

Figure 3.

4) SWING PENDULUM FALLS:

Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as close to the anchorage point as possible (see Figure 4.).

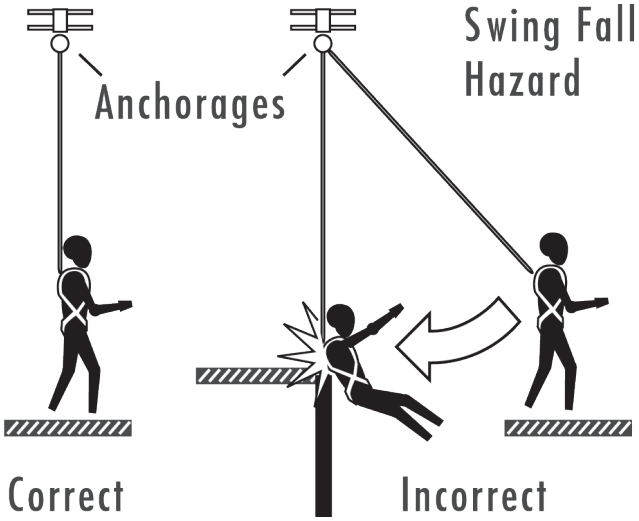

Figure 4.

Do not permit a swing fall if injury could occur. Swing falls will significantly increase the clearance required when a self-retracting lifeline or other variable length connecting subsystem is used.

5) CHEMICAL HAZARDS:

Acidic, alkaline, or other environments with harsh substances may damage the webbing and hardware elements of this harness. Nylon is more resistant to degradation by alkaline or neutral pH environments. Polyester is more resistant to attack by acids. If working in a chemically aggressive environment, consult RELIANCE to determine which harness material is better for your specific conditions. When working in the presence of chemicals, more frequent inspection of the harness is required.

6) HEAT:

Do not use harness in environments with temperatures greater than 185°F (85°C). Protect the harness when used near welding, metal cutting, or other heat producing activities. Sparks may damage the harness webbing and reduce its strength. For high temperature applications (up to 700° F.) consider use of Kevlar® webbing.

IMPORTANT: *When working with tools, materials, or in high temperature environments, ensure that associated fall protection equipment can withstand high temperatures, or provide protection for those items.*

7) CORROSION:

Do not expose harness to corrosive environments for prolonged periods. Organic substances and salt water are particularly corrosive to metal parts. When working in a corrosive environment more frequent inspection, cleaning, and drying of the harness is required. See Care of the Harness and Inspection sections cleaning and inspection details

8) ELECTRICAL HAZARDS:

Use extreme caution when working near energized electrical sources. Metal hardware on the harness and on other components connected to it will conduct electric current. Maintain a safe working distance [preferably at least 10 feet (3 m)] from electrical hazards.

9) MOVING MACHINERY:

When working near moving machinery parts (e.g. conveyors, rotating shafts, presses, etc.), make sure that the strap collars secure the ends of harness straps. Maintain a safe working distance from machinery that could entangle clothing, the harness, or other components connected to it

10) SHARP EDGES AND ABRASIVE SURFACES:

Do not expose harness straps to sharp edges or abrasive surfaces that could cut, tear or abrade and weaken the fibers. If working around sharp edges and abrasive surfaces is unavoidable use heavy padding or other protective barriers to prevent direct contact.

11) WEAR AND DETERIORATION:

Any harness which shows signs of excessive wear, deterioration or aging, must be removed from use and marked “UNUSABLE” until destroyed. **See detailed inspection procedures**.

12) IMPACT FORCES:

Any harness that has been subjected to the forces of arresting a fall must be immediately removed from service and marked as

"UNUSABLE" until destroyed. RELIANCE harnesses have integral load impact indicators sewn in to the webbing below the back D-ring to facilitate inspection for fall loading.

SYSTEMS REQUIREMENTS

A. COMPATIBILITY OF SYSTEM PARTS

1) COMPATIBILITY OF COMPONENTS AND SUBSYSTEMS:

RELIANCE Harnesses are designed to be used with RELIANCE approved components and connecting subsystems. Use of the Harness with products made by others that are not approved in writing by RELIANCE may adversely affect the functional compatibility between system parts and the safety and reliability of the complete system. Connecting subsystems must be suitable for use in the application (e.g. fall arrest or restraint). RELIANCE produces a line of connecting subsystems for most applications. Contact RELIANCE for further information. Refer to the manufacturer's instructions supplied with the component or connecting subsystem to determine suitability. For fall arrest applications using the Harness, the maximum fall arrest force must not exceed 1,800 lbf. (8 kN). Contact RELIANCE with any questions regarding compatibility of equipment used with the Harness.

2) COMPATIBILITY OF CONNECTORS

Connectors, such as D-rings, snap hooks, and carabiners, must be rated at 5,000 lbf. (22 kN) minimum breaking strength. RELIANCE connectors meet this requirement. Connecting hardware must be compatible in size, shape, and strength. Non-compatible connectors may accidentally disengage ("rollout") or false engage. Always verify that the connecting snap hook or carabiner and the D-ring on the harness or anchorage connector is compatible. Use only self-closing, self-locking snap hooks and carabiners with the harness. Some harness models have web loop connection points. Do not use snap hooks to connect to web loops. Use a self-locking carabiner to connect to a web loop. Ensure the carabiner cannot cross-gate load (load against the gate rather than along the backbone of the carabiner). Some lanyards are designed to choke onto a web loop to provide a compatible connection. Connecting subsystems (self retracting lifeline, lanyard, rope grab and lifeline, cable grab, etc.) must be suitable for your application.

3) ANCHORAGES AND ANCHORAGE CONNECTORS

Anchorages for personal fall arrest systems must have a strength capable of supporting a static load, applied in directions permitted by the system, of at least: (a) 3,600 lbf. (16 kN) when certification exists, or (b) 5,000 lbf. (22.2 kN) in the absence of certification. When more than one personal fall arrest system is attached to an anchorage, the anchorage strengths set forth in (a) and (b) must be multiplied by the number of systems attached to the anchorage. This requirement is consistent with OSHA requirements under 29 CFR 1910, Subpart F, Section 1910.66, Appendix C. Anchorages for work positioning or restraint must have strength capable of supporting a static load, applied in the directions permitted by the system of at least 3,000 lbs., or twice the potential impact load as ascertained by a qualified person, whichever is greater. See OSHA 1926.502. When more than one work positioning system is attached to a rigid anchorage, the strengths stated above must be multiplied by the number of work positioning systems attached to the anchorage.

USING THE HARNESS

A. INSPECT PRIOR TO USE:

Before the use of this harness, inspect the harness and all components of the PFAS:

1) Inspect the harness to verify that it is in serviceable condition. Examine every inch of the harness straps for severe wear, cuts, burns, frayed edges, abrasion, or other damage. Examine stitching for any pulled, loose, or torn stitches. See Inspection section for details. *Do not use harness if inspection reveals an unsafe condition. Always err on the side of safety*

B. DONNING THE HARNESS

1) Lift harness by the back D-ring. Untangle any straps that may be twisted. Allow leg-straps to hang free.
2) Don the RELIANCE A-Series Harness as you would a jacket.
3) Reach between legs and grasp black leg strap on your left side. Bring strap up between legs and connect to buckle attached to left yellow strap to provide a snug fit, adjusting the straps to prevent cutting or abrasion to sensitive areas. Repeat process on right side.

4) Adjust shoulder straps to give a snug fit. Left and right shoulder straps should be adjusted to the same length.
5) Connect chest strap by passing male buckle through slotted female mating buckle. Pass excess webbing through loop keepers, adjusting for a snug but comfortable fit. The chest strap should be positioned no lower than the center of the sternum on the chest to prevent failure of harness containment in the event of a fall.
   WARNING: *Never use a harness unless the chest strap is connected properly. A chest strap that is positioned too low or that is disconnected can cause a worker to come out of the harness in the case of a head-first fall.*
6) Readjust leg straps, chest strap, and shoulder straps as necessary for a uniformly snug fit.
7) Perform body range of motions in harness to identify whether further adjustments are necessary to provide a snug but comfortable fit. ***A too-loose fitting harness may cause undue bruising or abrasions or even fail to contain the body in the event of a fall!***

C. PLAN SCOPE OF WORK TO BE PERFORMED (JOB SAFETY TASK ANALYSIS):

Plan procedures to safely perform tasks when using any components of a PFAS. Some considerations are listed below (see APPLICATIONS, item B. USE LIMITATIONS section for additional details);

1) Anchorage Selection- In addition to strength considerations, the anchorage should be rigged to prevent a fall onto the structure when considering 2) and 4) below.
2) Swing pendulum fall,
3) Rough surfaces or unprotected sharp edges that could cut or abrade the equipment if unprotected.
4) Work-place geometry
   (a) Fall distance- Limited to 6 ft. by OSHA and ANSI Z359.1
   (b) Deceleration distance- Must not exceed 3.5 ft.
   (c) Total fall distance. The sum of the free fall distance and deceleration distance plus a 2 ft. safety margin.
5) Rescue and Evacuation
   (a) The user and employer must have a rescue plan in place, training in its use, and the means to implement it at hand. The employer must have the ability to perform a rescue quickly and safely. Do not plan

to rely on others for rescue, prolonged suspension can cause bodily injury or death.

CARE OF THE HARNESS

A. Clean harness with luke-warm water and a mild laundry detergent solution. Do not use bleach or bleach solutions. Dry hardware with a clean, dry cloth, and hang to air dry. Do not force wash or dry with heat in laundry machines. Do not attempt to disassemble the unit. A buildup of dirt, solvents, paint, etc. may prevent the harness from working properly, and in severe cases degrade the webbing to a point where it weakens and should be removed from service. More information on cleaning is available from RELIANCE. If you have questions concerning the condition of your harness, or have any doubt about putting it into service contact RELIANCE.

B. Store full body harnesses in a cool, dry, clean environment out of direct sunlight. Avoid areas where heat, oil, chemicals or their vapors may exist. Thoroughly inspect the full body harness after extended storage. Good safety practice requires separate storage of unusable product from usable product.

INSPECTIONS

A. INSPECTION FREQUENCY

1) The Harness must be inspected by the user prior to each use.
2) A competent person other than the user must inspect the harness thoroughly at least annually. ***Extreme working conditions (harsh environments that might degrade the webbing or corrode the hardware, prolonged use, etc.) may require increasing the frequency of inspections.*** Record the results of each formal inspection in the inspection and maintenance log as described below.

B. INSPECTION PROCEDURE

1) Inspect all webbing (straps) and stitching for cuts, fraying, pulled or broken threads, abrasion, excessive wear, altered or missing straps, burns, and heat and chemical degradation. Broken stitches on the load indicator folds located below the back D-ring may be an indication that the harness has been impact loaded and must be removed from service.

Observe the “Tattletale™” carrier ply webbing for surface areas with the brightly contrasting red colored yarns (or sometimes other brightly contrasting colors, depending the color of the outside web), indicating that excessive abrasion has occurred. For more details on the Tattletale™ webbing as an inspection tool, contact RELIANCE.

2) Inspect all metallic hardware (i.e. D-rings, adjuster/buckles, tongue buckles and grommets) for deformation, fractures, cracks, corrosion, deep pitting, burrs, sharp edges, cuts, deep nicks, missing or loose parts, improper function, and evidence of excessive heat, chemical, or electrical exposures. Ensure buckles work & mate freely.
3) All labels should be present and fully legible. See below figures of labels below. Record the inspection on the label area by punching a hole or marking. The back page of this booklet contains an independent inspection log that should be maintained in conjunction with the inspection label on the harness to ensure that 1) the inspections have been performed on a regularly scheduled basis and 2) the inspection log will not become lost or misplaced. RELIANCE will be happy to provide additional forms or suggest other methods of electronically documenting this process.
4) Inspect all plastic parts (i.e. back D-ring locator, chest strap guide, strap collars, label) for cut, broken, excessively worn, missing and loose parts. (Labels are to be additionally checked in accordance with Step 3 above).
5) Verify each component or subsystem of the complete PFAS are inspected according with the associated manufacturer’s instructions.
6) If inspection reveals a defective condition or improper maintenance remove unit from service immediately and destroy or label it as “UNUSABLE” until formal inspection by competent person. Defects, damage, excessive wear and/or aging are generally not repairable. Only RELIANCE or parties with written authorization from RELIANCE may make repairs to the harness.

LABELING

The illustrations on the following pages are representations of the actual labels that appear on Reliance A-Series harnesses.

The **Harness Warnings Label** contains general warnings and is intended to be an assistance to the user, but is not a substitute for user training in the use of the product and the detailed warnings, cautions and instructions that are contained in this booklet.

The **Harness Specifications Label** contains information that is specific to the particular harness. It will identify the RELIANCE part number, the size of the harness, the material of which it is constructed, the date the harness was manufactured, and the harness' unique serial number. All this information is necessary for the user to know in order to assure safe use of the harness. As an assistance to record keeping the serial number, the UPC identifier code for RELIANCE Industries LLC, and the part number are all represented both in text and in UPC 128 barcode format. The barcodes are intended to facilitate the issuance, inspection and logging procedures for those users equipped to utilize bar codes.

All the information on the Harness Specifications Label is important for the safe use of this product, so the user should ensure that the label has not been removed and that the descriptions it contains match the task and environment in which the product is intended to be used.

On the back side of the Harness Specifications Label is the harness' inspection log, which can be marked with an indelible marker or punched on the occasion of inspections. This label will be verified by a Competent Person at least annually, more often in the case of heavy use.

Harness Warnings Label
(Located on interior side of back cross-strap)

Harness Specifications Label
(Sewn into the harness' accessory belt loops)

RELIANCE™
fall protection

EQUIPMENT RECORD

PART NUMBER	
SERIAL NUMBER	
DATE MANUFACTURED	
PURCHASE DATE	
ASSIGNED TO	

INSPECTION RECORD

DATE	INSPECTOR	PASS/FAIL

SPECIFICATIONS

8000 SERIES HARNESSES

Certified to meet the current ANSI Z359.1(2007) and OSHA regulations for the harness component of a complete personal fall arrest system. Harness webbing certified minimum 7000 lb. breaking strength, all hardware certified to 5000 lb. breaking strength, 100 percent proof tested to 3600 lbs.

Individually bar coded serial number and date of manufacture are on product label.

Made in Texas, USA

NOTES:

These Instructions Apply to the Following Part Numbers :

800000	801600	803550	811500	815100
800000STAR	801650	803600	811600	815400
800002	802000	803650	812000	815500
800005	802000A	804000	812000-A	816000
800006	802005	804000CAT	812000-B	819101
800010	802006	804001	812000-C	819201
800050	802010	804005	812009	819401
800051	802011	804007	812010	819501
800052	8020110	804009	812011	819601
800053	802015	804010	812100	822000
800055	802050	804019	812100-C	825000
800056	802051	804045	812100XS	825100
800059	802052	804050	812110	825400
800100	802100	804100	812400	825500
800150	802105	804109	812400-C	825600
800150XS	802110	804150	812410	830050
800400	802150	804400	812500	841000
800409	802400	804405	812500-C	841400
800410	802400A	804450	812509	841900
800450	802405	804500	812510	842000
800451	802406	804550	812600	842400
800452	802410	804600	812610	842600
800500	802450	804605	812611	880059
800500STAR	802500	804650	813000	880559
800550	802500A	805000	813001	895000
800559	802500STAR	806000	813010	895100
800600	802505	809000	813100	895400
800600STAR	802550	809001	813110	895500
800650	802600	809600	813400	895600
800655	802611	810000	813410	898001
801000	802650	810001	813500	898002
801006	802652	810100	813510	898003
801050	803000	810400	813600	898004
801100	803050	810401	813610	
801150	803100	810500	814000	
801400	803150	810600	814005	
801450	803400	811000	814400	
801500	803450	811100	815000	
801550	803500	811400	815004	

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