DBI SALA ®

Instructions for the following series products:

ExoFit Full Body Harnesses

(See back pages for specific model numbers.)

This manual is intended to meet the Manufacturer's Instructions as required by ANSI Z359 and should be used as part of an employee training program as required by OSHA.

EXOFIT ™

EXOFIT ™ XP

IMPORTANT: *If you have questions on the use, care, or suitability of this equipment for your application, contact DBI-SALA.*

IMPORTANT: *Before using this equipment, record the product identification information from the ID label into the inspection and maintenance log in section 10.0 of this manual.*

DESCRIPTIONS

ExoFit Vest Style Full Body Harness: See Figure 1.
ExoFit Cross-Over Style Full Body Harness: See Figure 2.

OPTIONS:

DBI-SALA ExoFit and ExoFit XP Full Body Harnesses are available with options and accessories. Following is a partial list of commonly used options and accessories (some options may not be available on all harnesses):

> • Side D-rings
>
> • Front D-rings
>
> • Hip pad with side D-rings
>
> • Tongue buckle body belt
>
> • Lanyard attached directly to D-ring or attachment element

Figure 1 - ExoFit Vest Style Full Body Harness

Shoulder Strap

Quick Connect Buckle

Chest Strap

Parachute Buckle

Quick Connect Buckle

Leg Strap

Dorsal D-ring

Product Warning and Identification Labels
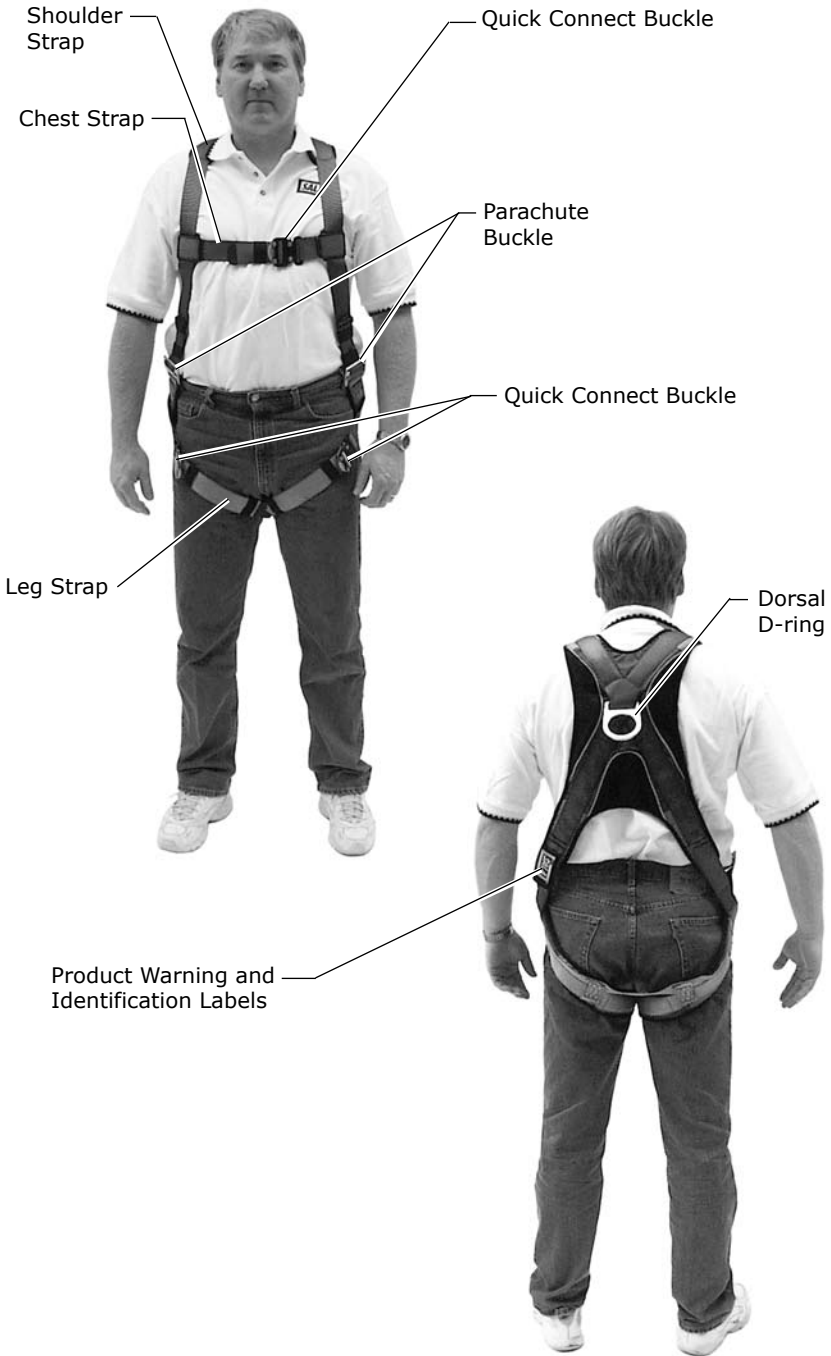
Figure 2 - ExoFit Cross-Over Style Full Body Harness

Shoulder Strap

Parachute Buckle

Front Attachment Element (D-ring Or Web Loop)

Quick Connect Buckle

Leg Strap

Dorsal D-ring

Product Warning and Identification Labels

Side D-rings
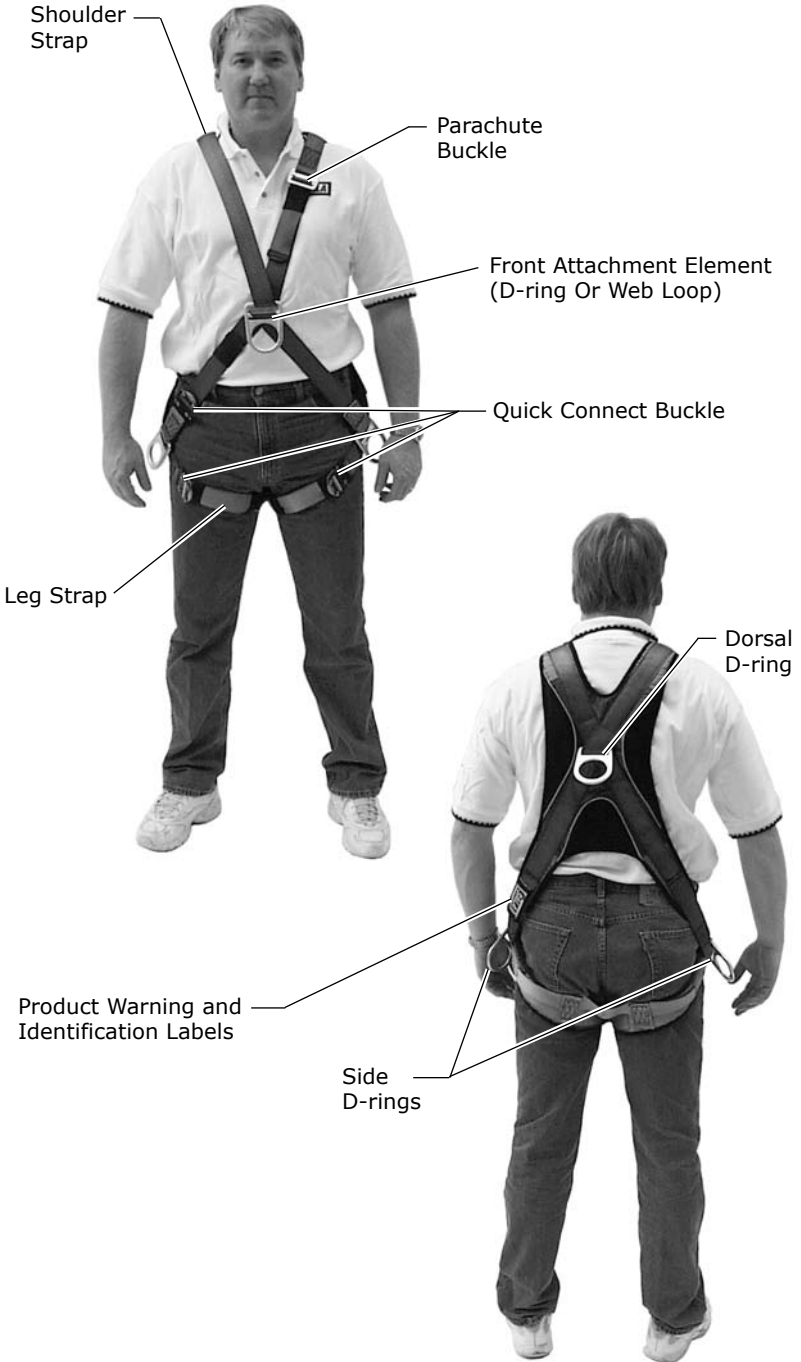
1.0   APPLICATIONS

1.1   PURPOSE: DBI-SALA ExoFit and ExoFit XP full body harnesses are to be used as components in personal fall arrest, restraint, work positioning, climbing, or rescue systems. See Figures 1 and 2 for harness styles.

Harnesses included in this manual are full body harnesses and meet ANSI Z359.1 and OSHA requirements. See Figure 3 for application illustrations.

> **WARNING:** *Working at height has inherent risks. Some risks are noted here but are not limited to the following: falling, suspension/ prolonged suspension, striking objects, and unconsciousness. In the event of a fall arrest and/or subsequent rescue (emergency) situation, some personal medical conditions may affect your safety. Medical conditions identified as risky for this type of activity include but are not limited to the following: heart disease, high blood pressure, vertigo, epilepsy, drug or alcohol dependence, psychiatric illness, impaired limb function and balance issues. We recommend that your employer/ physician determine if you are fit to handle normal and emergency use of this equipment.*

A. **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 and a connecting subsystem (energy absorbing lanyard). Maximum arresting force must not exceed 1,800 lbs (8 kN).For fall protection applications connect the fall arrest subsystem (example: lanyard, SRL, energy absorber, etc.) to the D-ring or attachment element on your back, between your shoulder blades.
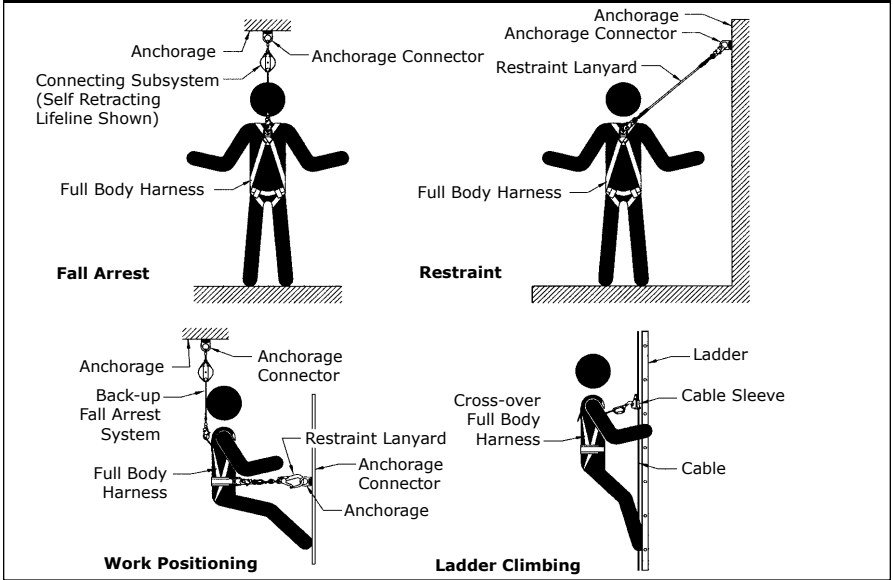
B. **WORK POSITIONING:** The full body harness is used as a component of a work positioning system to support the user at a work position. Work positioning systems typically include a full body harness, positioning lanyard, and a back-up personal fall arrest system. For work positioning applications, connect the work positioning subsystem (example: lanyard, Y-lanyard, etc.) to the lower (hip level) side or belt mounted work positioning attachment anchorage elements (D-rings). Never use these connection points for fall arrest.
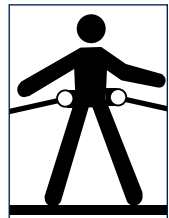
C. **LADDER CLIMBING:** The full body harness is used as a component of a climbing system to prevent the user from falling when climbing a ladder or other climbing structure. Climbing systems typically include a full body harness,

Figure 3 - Applications

Fall Arrest: Anchorage, Anchorage Connector, Connecting Subsystem (Self Retracting Lifeline Shown), Full Body Harness

Restraint: Anchorage, Anchorage Connector, Restraint Lanyard, Full Body Harness

Work Positioning: Anchorage, Anchorage Connector, Back-up Fall Arrest System, Full Body Harness, Restraint Lanyard, Anchorage Connector, Anchorage

Ladder Climbing: Ladder, Cable Sleeve, Cross-over Full Body Harness, Cable

vertical cable or rail attached to the structure, and climbing sleeve.For ladder climbing applications, harnesses equipped with a frontal D-ring in the sternal location may be used for fall arrest on fixed ladder climbing systems. These are defined in ANSI A14.3.

D. RESCUE: The full body harness is used as a component of a rescue system. Rescue systems are configured depending on the type of rescue. For limited access (confined space) applications, harnesses equipped with D-rings on the shoulders may be used for entry and egress into confined spaces where worker profile is an issue.
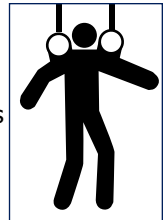
E. CONTROLLED DESCENT: For controlled descent applications, harnesses equipped with a single sternal level D-ring, one or two frontal mounted D-rings, or a pair of connectors originating below the waist (such as a seat sling) may be used for connection to a descender or evacuation system.
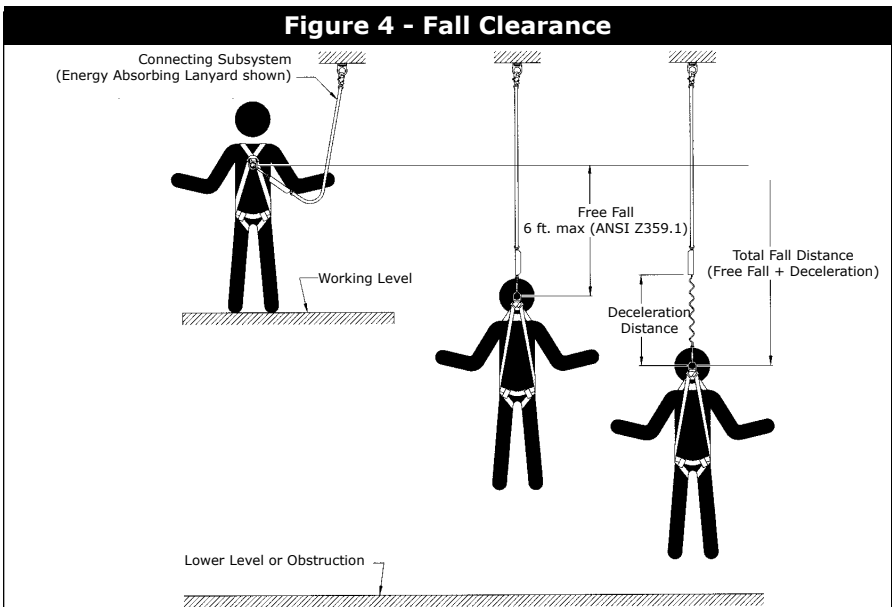

E. RESTRAINT: The full body harness is used as a component of a restraint system to prevent the user from reaching a fall hazard. Restraint systems typically include a full body harness and a lanyard or restraint line.

1.2 LIMITATIONS: Consider the following application limitations before using this equipment:

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A. **CAPACITY:** These full body harnesses are designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 420 lbs. (191 kg) Make sure all of the components in your system are rated to a capacity appropriate to your application.

B. **FREE FALL:** Personal fall arrest systems used with this equipment must be rigged to limit the free fall to 6 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 2 feet (.6 m) 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 (.5 m) or less. Rescue systems must be rigged so that no vertical free fall is possible. See subsystem manufacturer's instructions for more information.

C. **FALL CLEARANCE:** See Figure 4. 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:

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

See subsystem manufacturer's instructions for more information.

Figure 4 - Fall Clearance

Connecting Subsystem (Energy Absorbing Lanyard shown)

Free Fall 6 ft. max (ANSI Z359.1)

Total Fall Distance (Free Fall + Deceleration)

Working Level

Deceleration Distance

Lower Level or Obstruction

D. SWING FALLS: See Figure 5. 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. 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.

Figure 5 - Swing Fall

Swing Fall Hazard
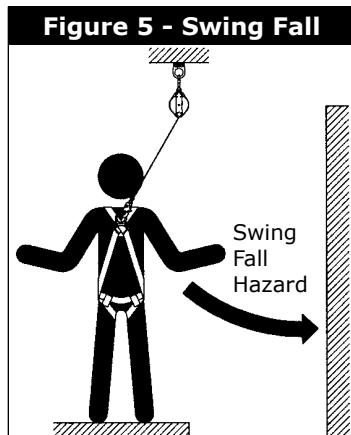
E. EXTENDED SUSPENSION: A full body harness is not intended for use in extended suspension applications. If the user is going to be suspended for an extended length of time it is recommended that some form of seat support be used. DBI-SALA recommends a seat board, suspension work seat, seat sling, or a boatswain chair. Contact DBI-SALA for more information on these items.

F. ENVIRONMENTAL HAZARDS: Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to; heat, chemicals, corrosive environments, high voltage power lines, gases, moving machinery, and sharp edges.

G. TRAINING: This equipment must be installed and used by persons trained in its correct application and use. See section 4.0.

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.

1.3 Refer to national Standards including ANSI Z359 (.0, .1, .2, .3, and .4) family of standards on fall protection, ANSI A10.32, and applicable local, state and federal (OSHA) requirements governing occupational safety for more information about work positioning systems.

2.0 SYSTEM REQUIREMENTS

2.1 COMPATIBILITY OF COMPONENTS: DBI-SALA equipment is designed for use with DBI-SALA approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may effect the safety and reliability of the complete system.

2.2   COMPATIBILITY OF CONNECTORS: Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact DBI-SALA if you have any questions about compatibility.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. See Figure 6. Connectors must be compatible in size, shape, and strength. Self locking snap hooks and carabiners are required by ANSI Z359.1 and OSHA.
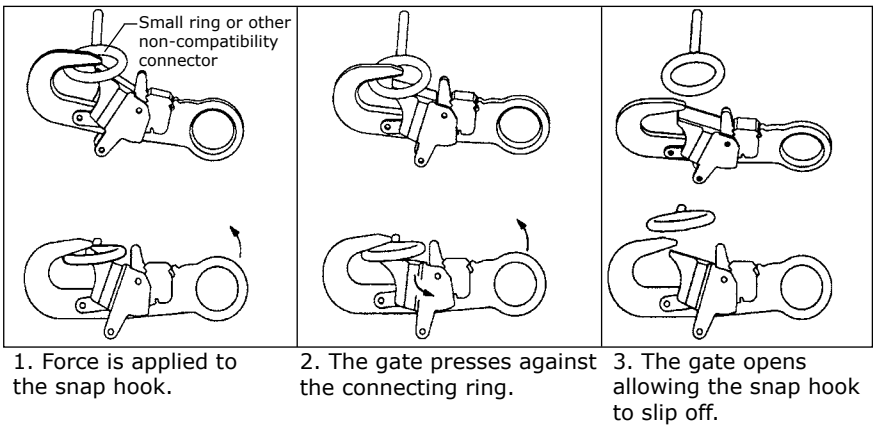
2.3   MAKING CONNECTIONS: Only self-locking snap hooks and/or carabiners shall be used with this equipment. Ensure all connectors are fully closed and locked and compatible.

DBI-SALA connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user instructions. See Figure 3 for inappropriate connections. DBI-SALA snap hooks and carabiners should not be connected:
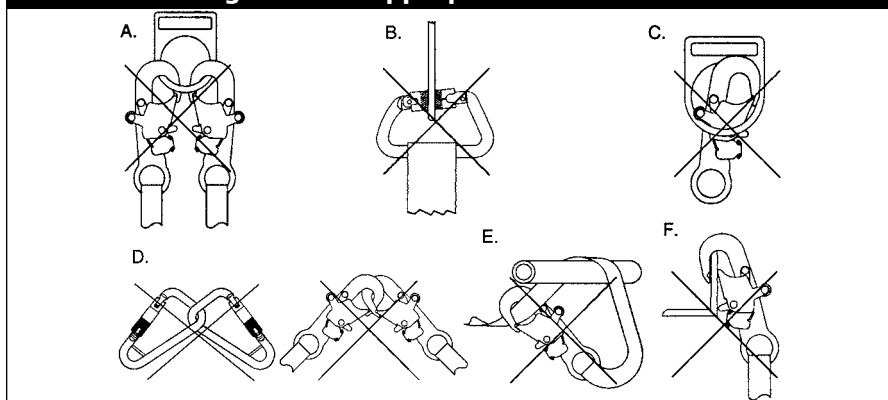
A. To a D-ring which another connector is already attached.

B. In a manner that would result in a load on the gate.

Figure 6 - Unintentional Disengagement (Roll-out)

If the connecting element that a snap hook (shown) or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point. For ANSI Z359.1-2007 compliant hooks, there are no restrictions on the size or shape of the mating connector provided the snap hook is free to align with the applied load as intended.

1. Force is applied to the snap hook.

2. The gate presses against the connecting ring.

3. The gate opens allowing the snap hook to slip off.

Small ring or other non-compatibility connector

Figure 7 - Inappropriate Connections

NOTE: Large throat snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates, unless the snap hook complies with ANSI Z359.1-2007 and is equipped with a 3,600 lb gate. Check the marking on your snap hook to verify that it is appropriate for your application.
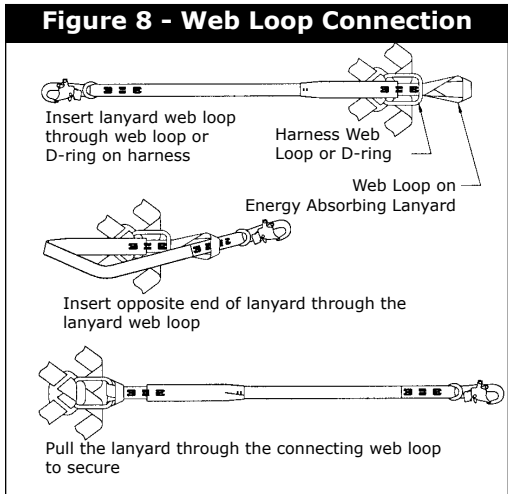
C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the D-ring, and without visual confirmation seems to be fully engaged to the anchor point.

D. To each other.

E. Directly to webbing or rope lanyard for tie-back (unless specifically provided by the manufacturer).

F. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or where roll-out could occur.

OTHER RESTRICTIONS:

- Do not make connections where the hook locking mechanism can come into contact with a structural member or other equipment and potentially release the hook.

- Do not connect a snap hook into a loop or thimble of a wire rope or attach in any way to a slack wire rope.

- The snap hook must be free to align with the applied load as intended (regardless of the size or shape of the mating connector).

- A caribiner may be used to connect to a single or pair of soft loops on a body support such as a body belt or full body harness, provided the carabiner can fully close and lock. This type of connection is not allowed for snap hooks.

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- A carabiner may be connected to a loop or ring connector that is already occupied by a choker style connector. This type of connection is not allowed for snap hooks.

2.4 **CONNECTING SUBSYSTEMS:** Connecting subsystems (self-retracting lifeline, lanyard, rope grab and lifeline, cable sleeve) must be suitable for your application. See section 1.1. See subsystem manufacturer's instructions for more information. 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. See Figure 8. Lanyards may be sewn directly to the web loop forming a permanent connection. Do not make multiple connections onto one web loop, unless choking two lanyards onto a properly sized web loop.

Figure 8 - Web Loop Connection

Insert lanyard web loop through web loop or D-ring on harness

Harness Web Loop or D-ring

Web Loop on Energy Absorbing Lanyard

Insert opposite end of lanyard through the lanyard web loop

Pull the lanyard through the connecting web loop to secure

2.5 **ANCHORAGE STRENGTH:** The anchorage strength required is dependent on the application type. The following are the requirements of ANSI 359.1 for these application types:

A. **FALL ARREST:** Anchorages selected for fall arrest systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
1. 5,000 lbs. (22.2 kN) for non-certified anchorages, or
2. Two times the maximum arresting force for certified anchorages. When more than one fall arrest system is attached to an anchorage, the strengths set forth in (1) and (2) above shall be multiplied by the number of systems attached to the anchorage.

B. **RESTRAINT:** Anchorages selected for restraint and travel restraint systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
1. 1,000 lbs. (4.5 kN) for non-certified anchorages, or
2. Two times the foreseeable force for certified anchorages. When more than one restraint and travel restraint system is attached to an anchorage, the strengths set forth in (1) and (2) above shall be multiplied by the number of systems attached to the anchorage.

C. WORKING POSITIONING: Anchorages selected for work positioning systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
1. 3,000 lbs. (13.3 kN) for non-certified anchorages, or
2. Two times the foreseeable force for certified anchorages. When more than one work positioning system is attached to an anchorage, the strengths set forth in (1) and (2) above shall be multiplied by the number of systems attached to the anchorage.

D. RESCUE: Anchorages selected for rescue systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
1. 3,000 lbs. (13.3 kN) for non-certified anchorages, or
2. Five times the foreseeable force for certified anchorages. When more than one rescue system is attached to an anchorage, the strengths set forth in (1) and (2) above shall be multiplied by the number of systems attached to the anchorage.

E. CLIMBING: The structure to which a climbing system is attached must sustain the loads required by that particular system. See instructions for climbing system for requirements.

3.0   DONNING AND USE

WARNING: *Do not alter or intentionally misuse this equipment. Consult DBI-SALA when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical and chemical hazards, and sharp edges.*

Figure 9 - Front and Back View of ExoFit Vest Style Full Body Harness

Belt Loops

Front

Back
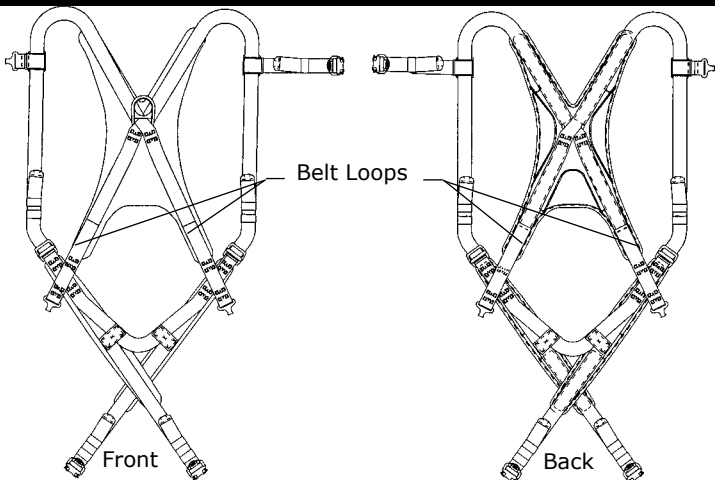
3.1 **BEFORE EACH USE** of this equipment inspect it according to section 5.0 of this manual.

3.2 **PLAN** your system before use. Consider all factors that will affect your safety during use of this equipment. The following list gives important points to consider when planning your system:

    A. **ANCHORAGE:** Select an anchorage that meets the requirements specified in sections 1.2 and 2.5.

    B. **SHARP EDGES:** Avoid working where system components may be in contact with, come in contact with, or abrade against, unprotected sharp edges.

    C. **AFTER A FALL:** Any equipment which has been subjected to the forces of arresting a fall or exhibits damage consistent with the effect of fall arrest forces as described in section 5.0, must be removed from service immediately and destroyed by the user, the rescuer, or an authorized person.

    D. **RESCUE:** The employer must have a rescue plan when using this equipment. The employer must have the ability to perform a rescue quickly and safely.

3.3 **DONNING AND FITTING THE HARNESS:**

    A. **ExoFit Vest Style Full Body Harness:** See Figure 9 for front and back views of the ExoFit Vest style full body harness. Your harness incorporates loops for a removable waist belt. The belt can be installed through the two loops in the harness located in the lower back shoulder straps. The belt will pass through the harness just below the padded area. The hip pad, if used, is secured to the belt by passing the belt through the hip pad loops.

    Don the ExoFit Vest style full body harness by following these steps (see Figures 10 and 11):

Step 1.   Locate back D-ring held in position by the D-ring pad; lift up harness and hold by this D-ring. Ensure the straps are not twisted.

Step 2.   Grasp the shoulder straps and slip the harness onto one arm. The D-ring will be located on your back side. Ensure that the straps are not tangled and hang freely. Slip your free arm into the harness and position the shoulder straps on top of your shoulder. Ensure that the straps are not tangled and hang freely. The chest strap, with quick connect buckle, will be positioned on the front side when worn properly.

Step 3.   Reach between your legs and grasp the gray leg strap on your left side. Bring the strap up between your legs and connect it by inserting the tab of the buckle into

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Figure 10 - Donning ExoFit Vest Style Full Body Harness

Step 1

Step 2

Step 3

Step 4

Step 5

Figure 11 - ExoFit Quick Connect Buckle Connections

Chest Strap: Attach chest strap by inserting the tab of the buckle into the receptor of the quick connect buckle until a click is heard

Leg Straps: Attach leg strap by inserting the tab of the buckle into the receptor of the quick connect buckle until a click is heard

receptor of quick connect buckle on the left side as shown in Figure 10. You will hear a click when the tab engages properly. Connect the right leg strap using the same procedure. Pull the free end of the strap away from the buckle to make a snug fit on each leg strap. To loosen the leg strap, grasp the yellow plastic portion of the buckle and pull away from your leg to allow the strap to pull through the buckle. A plastic end keeper on the end of the strap will stop it from pulling completely out of the buckle. To release the buckle, press the silver-colored tabs on the buckle towards each other with one hand, while pulling on the tab portion of the buckle with the other hand.

Step 4.   Attach the chest strap by inserting the tab of the buckle into the receptor of the quick connect buckle. You will hear a click when the tab engages properly. The chest strap should be 6 in. (15 cm) down from the top of your shoulders. Pass excess strap through the loop keepers. The strap may be tightened to a snug fit by pulling the free strap end to the left (away from the buckle). To loosen the chest strap, grasp the yellow plastic portion of the buckle and pull away from the body to allow the strap to pull through the buckle. A plastic end keeper on the end of the strap will stop it from pulling completely out of the buckle. To release the buckle, press the silver-colored tabs on the buckle toward each other with one hand, while pulling on the tab portion of the buckle with the other hand.

Figure 12 - ExoFit Cross-Over Style

Belt Loops

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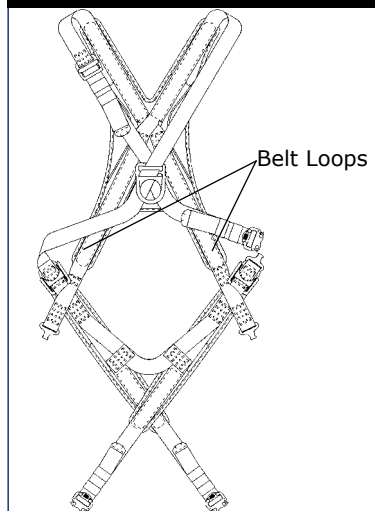
Figure 13 - Donning ExoFit Cross-Over Style Full Body Harness

Step 1

Step 2

Step 3

Step 4

Step 5

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Step 5.   Adjust shoulder straps to a snug fit by pulling excess strap through the parachute buckles on each side of the harness. Left and right sides of shoulder straps should be adjusted to the same length and the chest strap should be centered on your lower chest, 6 in. (15 cm) down from shoulder. The front D-ring on the vest style harness is moved up or down by adjusting the shoulder straps and leg straps. Center the back D-ring between your shoulder blades. Note: On ExoFit XP models, the back (dorsal) D-ring can be repositioned up or down as needed for a correct fit. Adjust leg straps to a snug fit. At least 3 in. (8 cm) of webbing must extend past the buckle on the leg straps. Adjust the waist belt (if present).

B. EXOFIT CROSS-OVER STYLE FULL BODY HARNESS: Your harness incorporates loops for a removable waist belt. The belt can be installed through the two loops in the harness located in the lower back shoulder straps, see Figure 12. The belt will pass through the harness just below the padded area. The hip pad, if used, is secured to the belt by passing the belt through the hip pad loops. Don the ExoFit Cross-Over style full body harness by following these steps (see Figures 13 and 14):

Step 1.   Locate the back D-ring held in position by the D-ring pad; lift up the harness and hold by this D-ring. Ensure the straps are not twisted.

Step 2.   Grasp the shoulder straps between the back and front D-ring and slip the harness over your head from the left side. Position the shoulder straps on top of your shoulders. Ensure that the straps are not tangled and hang freely. The D-ring will be positioned on your back when worn properly.

Step 3.   Grasp the tab of the buckle located at your right hip and insert it into the receptor of the quick connect buckle, see Figure 13. You will hear a click when the tab engages properly.

Figure 14 - ExoFit Quick Connect Buckle Connections
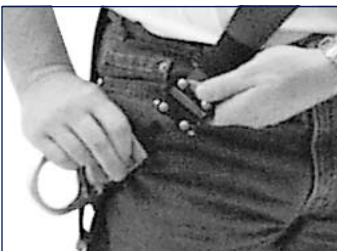
Hip Strap: Attach chest strap by inserting the tab of the buckle into the receptor of the quick connect buckle until a click is heard

Leg Straps: Attach leg strap by inserting the tab of the buckle into the receptor of the quick connect buckle until a click is heard

Step 4.   Reach between your legs and grasp the gray leg strap on your left side. Bring the strap up between your legs and insert the tab of the buckle into the receptor of the buckle on the left side as shown in Figure 13. You will hear a click when the tab engages properly. Connect the right leg strap using the same procedure. Pull the free end of the strap away from the buckle to make a snug fit on each leg strap. To loosen the leg strap, grasp the yellow plastic portion of the buckle and pull away from your leg to allow the strap to pull through the buckle. A plastic end keeper on the end of the strap will stop it from pulling completely out of the buckle. To release the buckle, press the silver-colored tabs on the buckle towards each other with one hand, while pulling on the tab portion of the buckle with the other hand.

Step 5.   Adjust shoulder strap to a snug fit by pulling excess strap through the parachute buckle. Left and right sides of the shoulder straps should be adjusted to the same length and the front D-ring should be centered on your lower chest. The back D-ring should be centered between your shoulder blades. Note: On ExoFit XP models, the back (dorsal) D-ring can be repositioned up or down as needed for a correct fit. Adjust the leg straps to a snug fit. At least 3 in. (8 cm) of webbing must extend past the buckle on the leg straps. Adjust the waist belt (if present).

3.4   USE OF FALL ARREST D-RING OR ATTACHMENT ELEMENT: For fall protection applications connect to the D-ring or attachment element on your back, between your shoulder blades. Side D-rings, if present, are for positioning or restraint applications only. Front D-ring, if present, is for ladder climbing or positioning. For rescue, back or front D-rings may be used. D-rings on seat sling are for work positioning or personnel riding.

3.5   MAKING CONNECTIONS: When using a hook to connect to an anchorage or when coupling components of the system together, ensure roll-out cannot occur. Roll-out occurs when interference between the hook and mating connector causes the hook gate to unintentionally open and release. Self-locking snap hooks and carabiners should be used to reduce the possibility of roll-out. Do not use hooks or connectors that will not completely close over the attachment object. See subsystem manufacturer's instructions for more information on making connections.

3.6   CONNECTING SYSTEM COMPONENTS: After properly fitting the full body harness, the user may then connect to other system components. Follow the guidelines in section 3.4 on selecting the correct attachment element.

4.0   TRAINING

4.1   It is the responsibility of the purchaser and the user of this equipment to assure that they understand these instructions and

are trained in the correct care and use of this equipment. They must also be aware of the operating characteristics, application limits, and the consequences of improper use of this equipment.

IMPORTANT: *Training must be conducted without exposing the user to a fall hazard. Training should be repeated on a periodic basis.*

5.0   INSPECTION

5.1 The i-Safe™ RFID tag on this harness can be used in conjunction with the i-Safe handheld reading device and the web based portal to simplify inspection and inventory control and provide records for your fall protection equipment. See Figure 15.

5.2 **FREQUENCY:** Before each use inspect the full body harness according to sections 5.3 and 5.4. The harness must be inspected by a competent person, other than the user, at least annually. Record the results of each formal inspection in the inspection and maintenance log in section 10.0, or use the i-Safe™ inspection web portal to maintain your inspection records. If you are a first-time user, contact a Customer Service representative in the US at 800-328-6146 or in Canada at 800-387-7484 or if you have already registered, go to: www.capitalsafety.com/isafe.html. Follow

Figure 15 - i-Safe™ RFID tag

i-Safe RFID Tag

Wrap around cover
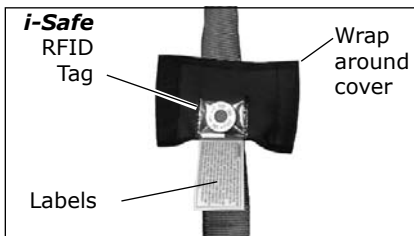
Labels

Detail of Label Packet with *i-Safe* RFID Tag

instructions provided with your i-Safe handheld reader or on the web portal to transfer your data to your web log.

IMPORTANT: *If the full body harness has been subjected to fall arrest or impact forces it must be immediately removed from service and destroyed.*

IMPORTANT: *Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of inspections.*
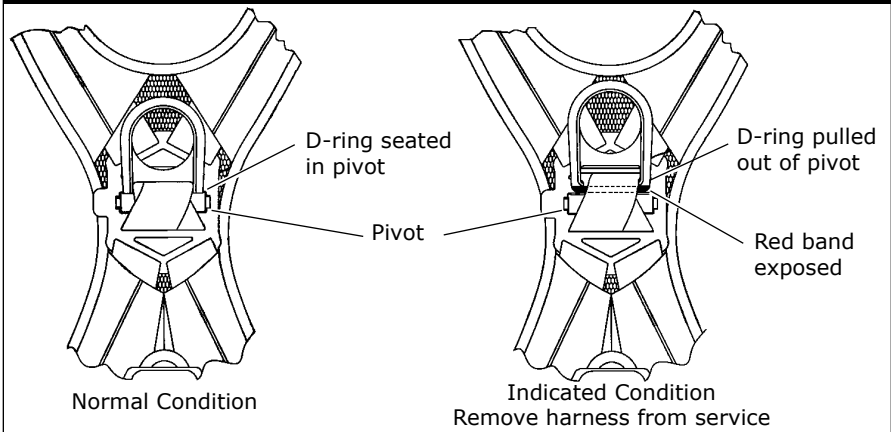

5.3 INSPECTION STEPS:

Step 1. Inspect harness hardware (buckles, D-rings, back pad, loop keepers); these items must not be damaged, broken, distorted, and must be free of sharp edges, burrs, cracks, worn parts, or corrosion. PVC coated hardware must be free of cuts, rips, tears, holes, etc. in the coating to ensure non-conductivity. Ensure that the release tabs of the buckle work freely and that a click is heard when the buckle engages. Inspect parachute buckle spring.

Step 2. Inspect webbing; material must be free of frayed, cut, or broken fibers. Check for tears, abrasions, mold, burns, or discoloration. Inspect stitching; check for pulled or cut stitches. Broken stitches may be an indication that the harness has been impact loaded and must be removed from service. When performing the annual formal inspection on the XP models of the ExoFit harness, remove the back pad and leg strap pads to facilitate inspection of the webbing.

Step 3. Inspect the labels: All labels should be present and fully legible. See section 9.0.

Step 4. Inspect each system component or subsystem according to manufacturer's instructions.

Step 5. Record the inspection date and results in the inspection and maintenance log in section 10.0.

Step 6. On the XP models of the ExoFit, inspect the impact indicator. See Figure 16. If the dorsal D-ring of the harness has experienced an impact, a red-colored area at the base of the D-ring will become visible and indicate that an impact has occurred. The impact indicator cannot be reset and the harness must be removed from service and destroyed.

5.4 If inspection reveals a defective condition, remove the unit from service immediately and destroy it.

NOTE: *Only DBI-SALA or parties authorized in writing may make repairs to this equipment.*

Figure 16 - Impact Indicator

D-ring seated in pivot

D-ring pulled out of pivot

Pivot

Red band exposed

Normal Condition

Indicated Condition
Remove harness from service

## *6.0   MAINTENANCE, SERVICING, STORAGE*

6.1   WASHING INSTRUCTIONS:

A.   FULL BODY HARNESS:

Step 1.   Spot clean the ExoFit full body harness with water and a mild soap solution. The harness may be laundered by using a bleach-free detergent. Water temperature for wash and rinse must not exceed 160° F (70° C).

Step 2.   To launder the ExoFit XP, remove the pads. See Figure 17. To remove the pads, undo the snaps and zippers. The pads will fall away from the harness straps.

Step 3.   Place the harness in the supplied laundry bag. The bag is designed to prevent entanglement of harnesses and to protect the washing machine from damage. Use of the laundry bag to wash the pads is optional. Note: Use a bleach-free detergent when washing both the harness and the pads.

Figure 17 - Removing ExoFit XP Pads

To remove the pads, undo the snaps and zippers. The pads will fall away from the harness straps

Only one leg pad is shown for clarity
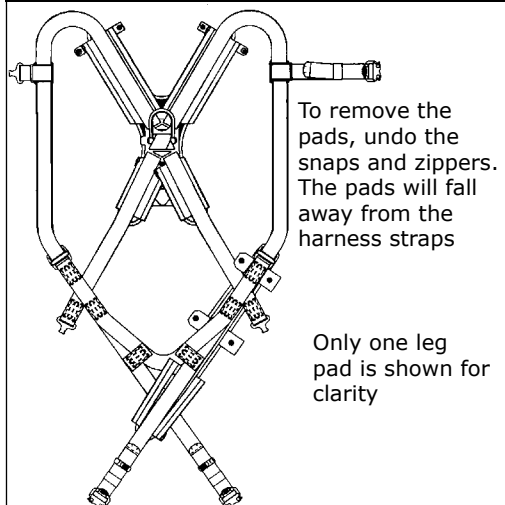
Step 4. Harness and pads may be air dried or tumble dried on low heat (not greater than 200° F (90° C).

Step 5. Replace the pads before using the harness. See Figure 18. To replace the ExoFit XP Pads, lay out the harness as shown and place the pads under the straps. Then wrap the zippered flaps over the straps and close the snaps and zippers. Note: The lower snap closure on the leg strap pad must connect between the layers of the seat strap.

Figure 18 - Replacing ExoFit XP Pads

To replace the pads, lay out the harness as shown and place the pads under the straps then wrap the zippered flaps over the straps and close the snaps and zippers.
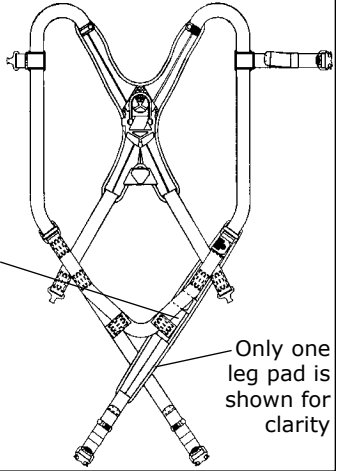
Note: The lower snap closure on the leg strap pad must connect between the layers of the leg strap and the seat strap.

Only one leg pad is shown for clarity

Step 6. The retrieval harness pads have openings for the shoulder D-rings. See Figure 19. When replacing the pads, make sure the D-rings are located on the shoulder straps so that they protrude through the openings and are available for connecting retrieval systems.

B. ARC FLASH FULL BODY HARNESS:

Step 1. Spot clean the ExoFit full body harness. Lay the webbing on a flat surface and clean each side using a mild bleach-free detergent with a sponge or light brush, so as not to damage or bulk up the filaments. Rinse throroughly.

IMPORTANT: *ASTM F887-2004 rated harnesses should use a mild bleach-free detergent rather than soap; as soap may leave a residue which could affect flame resistance.*
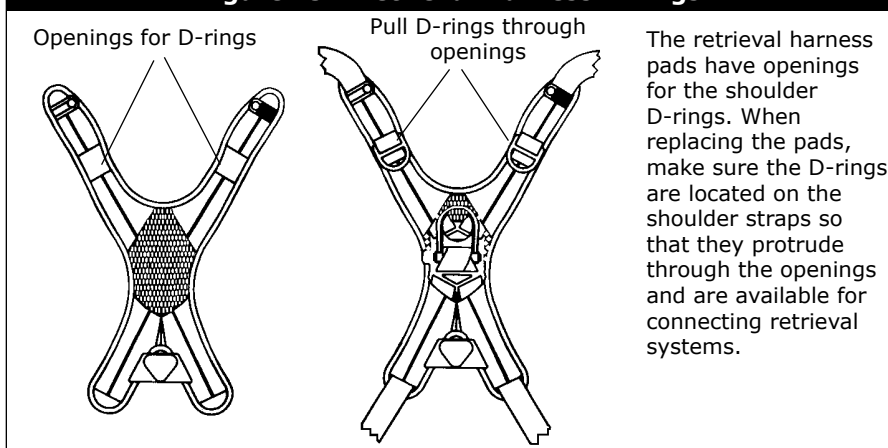
Step 2. To thoroughly clean the ExoFit XP, remove the pads. See Figure 17. Undo the snaps and zippers. The pads will fall away from the harness straps.

Step 3. Harness and pads should be thoroughly air dried before using. Do not dry in a mechanical dryer.

IMPORTANT: *A wet harness will have reduced strength.*

Step 4. See step 5 above.

Step 5. See step 6 above.

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Openings for D-rings

Pull D-rings through openings

The retrieval harness pads have openings for the shoulder D-rings. When replacing the pads, make sure the D-rings are located on the shoulder straps so that they protrude through the openings and are available for connecting retrieval systems.

IMPORTANT: *An excessive buildup of dirt, paint, etc. may prevent the full body harness from working properly, and in severe cases degrade the webbing to a point where it weakens and should be removed from service.*

• Use extra rinse cycle to be sure all residual wash chemicals are removed.

• Air dry or tumble dry using permanent press cycle and low heat. Drying temp should not exceed 200°F (93°C). These fabrics dry quickly, for lowest shrinkage, do not over dry.

More information on cleaning is available from Capital Safety. If you have questions concerning the condition of your harness, or have any doubt about putting it into service contact Capital Safety.

6.2 Additional maintenance and servicing procedures must be completed by a factory authorized service center. Authorization must be in writing. Do not attempt to disassemble the unit.

6.3 Store the full body harnesses in a cool, dry, clean environment out of direct sunlight. Avoid areas where chemical vapors may exist. Thoroughly inspect the full body harness after extended storage.

7.0 SPECIFICATIONS

7.1 PERFORMANCE

- **Maximum Free Fall Distance:** No greater than 6 ft (1.8 m), per federal law and ANSI Z359.1.
- **Maximum Arresting Force:** 1,800 lbs. (13 kN)
- **Maximum Capacity:** 420 lbs. (191 kg)
- **Approximate Weight:**
  Harness only: 3 lbs. (1.4 kg)
  Harness with Side D-rings: Add 1/2 lb. (.23 kg)
  Harness with Front D-ring: Add 1/4 lb. (.11 kg)
  Harness with Back Pad or Belt: Add 1 lb. (.45 kg)

- **XP model pad materials:** nylon and polyester.
ExoFit Patent No.: USD454,986S. Other patents pending.
All harnesses meet ANSI Z359.1 and OSHA requirements.

7.1   MATERIALS
STANDARDS: All harnesses marked with ASTM F887-2004 meet all testing requirements of the standard.

Webbing Materials: 7000 Lbs. (31 kN) Tensile strength Nylon
7000 Lbs. Tensile strength Nomex* covered Kevlar*
Pad and Label Cover Materials:
- All outer fabric is Nomex and Kevlar blend fabric
- Fire resistant hook and loop fasteners

Optional Accessories:
- Hip Pad with side D-rings
- Nomex covered Kevlar webbing
- Non-sparking/ Non-conductive PVC coated hardware
- Arc-rated hip, leg, and back pads
- Polyurethane coated, arc-rated dorsal web loop

* Nomex and Kevlar belong to DuPont

8.0   TERMINOLOGY

AUTHORIZED PERSON: A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard (otherwise referred to as "user" for the purpose of these instructions).

RESCUER: Person or persons other than the rescue subject acting to perform an assisted rescue by operation of a rescue system.

CERTIFIED ANCHORAGE: An anchorage for fall arrest, positioning, restraint, or rescue systems that a qualified person certifies to be capable of supporting the potential fall forces that could be encountered during a fall or that meet the criteria for a certified anchorage prescribed in this standard.

QUALIFIED PERSON: A person with a recognized degree or professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating and specifying fall protection and rescue systems to the extent required by this standard.

COMPETENT PERSON: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

9.0   LABELING

9.1   Labels are enclosed in an attached fabric wrap located on the back right shoulder strap as the harness is being worn. If a waist belt is to be worn with the harness, be careful not to enclose the belt loop when closing the wrap.

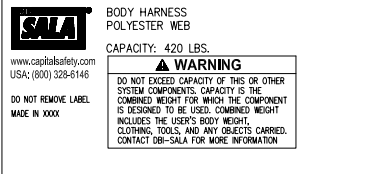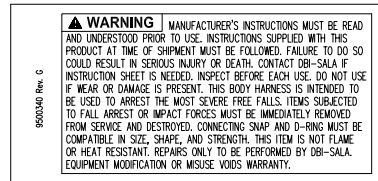These labels must be securely attached to the harness and fully legible:
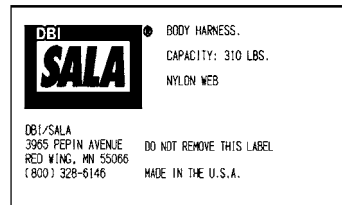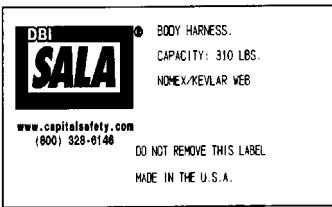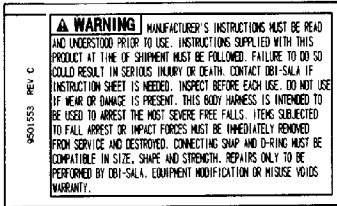
Warning Label
Used on Nomex/Kevlar
ASTM F887-2004 Compliant Harnesses

Warning Label
Used on Nylon ASTM F887-2004
Compliant Harnesses

Size Label

RFID Serial Number Label

Warning Label

9.1   LABELING CONTINUED

Cover/Instruction Label
Vest Style

Cover/Instruction Label
Cross-Over Style

Web Loop Harness Label

Inspection Label

10.0 INSPECTION AND MAINTENANCE LOG

SERIAL NUMBER: _____

MODEL NUMBER: _____

DATE PURCHASED: _____

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			
Approved By:			

This instruction applies to the following models:

1100160	1100733	1101493	1102147	1108533	1108752
1100161	1100734	1101560	1102148	1108535	1108753
1100162	1100735	1101561	1102149	1108536	1108754
1100163	1100736	1101562	1102182	1108537	1108755
1100240	1100737	1101563	1102183	1108538	1108900
1100241	1100738	1101564	1102184	1108550	1108901
1100300	1100739	1101590	1102185	1108551	1108902
1100301	1100740	1101591	1103910	1108552	1108975
1100302	1100741	1101592	1103911	1108553	1108976
1100303	1100742	1101593	1103912	1108575	1108977
1100304	1100743	1101615	1103913	1108576	1108978
1100305	1100790	1101616	1107300	1108577	1108979
1100306	1100791	1101617	1107301	1108581	1108980
1100307	1100792	1101618	1107302	1108582	1109225
1100308	1100793	1101619	1107975	1108583	1109226
1100375	1100825	1101620	1107976	1108587	1109227
1100376	1100826	1101710	1107977	1108588	1109228
1100377	1100827	1101711	1107981	1108600	1109229
1100378	1100828	1101712	1107982	1108601	1109230
1100445	1100829	1101720	1107983	1108602	1109350
1100446	1100940	1101735	1107985	1108606	1109351
1100451	1100941	1101736	1107986	1108607	1109352
1100452	1100942	1101737	1107987	1108608	1109353
1100453	1100943	1101740	1107988	1108612	1109354
1100454	1100970	1101741	1107989	1108613	1109355
1100455	1100971	1101763	1107990	1108614	1109356
1100456	1100972	1101764	1107991	1108615	1109357
1100457	1100973	1101765	1107992	1108616	1109358
1100525	1100990	1101766	1107993	1108626	1109359
1100526	1100991	1101767	1107994	1108627	1109375
1100527	1100992	1101768	1107995	1108631	1109376
1100528	1100993	1101769	1107996	1108632	1109377
1100530	1100995	1101770	1107997	1108633	1109378
1100531	1100996	1101771	1107998	1108650	1109525
1100532	1101093	1101772	1107999	1108651	1109526
1100533	1101094	1101773	1108500	1108652	1109700
1100534	1101095	1101774	1108501	1108656	1109701
1100580	1101096	1101883	1108502	1108657	1109702
1100581	1101097	1101884	1108503	1108658	1109703
1100582	1101098	1101885	1108504	1108662	1109725
1100583	1101190	1101886	1108505	1108663	1109726
1100590	1101191	1101887	1108506	1108664	1109727
1100591	1101192	1101933	1108507	1108675	1109728
1100592	1101193	1101934	1108508	1108676	1109729
1100593	1101365	1101935	1108509	1108677	1109750
1100640	1101366	1101936	1108512	1108681	1109751
1100641	1101367	1101940	1108513	1108682	1109752
1100642	1101368	1101941	1108514	1108683	1109753
1100685	1101369	1101942	1108515	1108700	1109754
1100686	1101411	1101943	1108516	1108701	1109755
1100687	1101412	1101990	1108517	1108702	1109756
1100688	1101413	1101991	1108518	1108704	1109757
1100689	1101414	1101992	1108519	1108706	1109758
1100690	1101449	1101993	1108521	1108707	1109775
1100691	1101485	1101994	1108522	1108708	1109776
1100692	1101486	1102012	1108523	1108725	1109777
1100693	1101487	1102013	1108524	1108726	1109778
1100694	1101488	1102014	1108525	1108727	1109779
1100695	1101489	1102015	1108526	1108728	1109800
1100730	1101490	1102144	1108527	1108729	1109801
1100731	1101491	1102145	1108531	1108750	1109802
1100732	1101492	1102146	1108532	1108751	1109803

1109804	1110160	1110403	1110910	1111253	1108602H
1109805	1110161	1110425	1110911	1111254	1108675H
1109806	1110162	1110426	1110912	1111255	1108676H
1109807	1110163	1110427	1110913	1111300	1108677H
1109808	1110175	1110428	1110914	1111301	1108682H
1109809	1110176	1110475	1110920	1111302	1108700H
1109810	1110177	1110476	1110921	1111303	1108701H
1109811	1110178	1110477	1110922	1111350	1108702H
1109812	1110179	1110478	1110923	1111351	1108706H
1109813	1110180	1110479	1110924	1111352	1108707H
1109814	1110200	1110500	1110960	1111353	1108708H
1109815	1110201	1110501	1110961	1111375	1109755H
1109816	1110202	1110502	1110962	1111376	1109756H
1109825	1110203	1110503	1110963	1111377	1109757H
1109826	1110225	1110504	1110964	1111378	1109758H
1109827	1110226	1110525	1110965	1111379	1110101H
1109828	1110227	1110526	1110970	1111400	1110105C
1109900	1110228	1110527	1110971	1111401	1110106C
1109901	1110229	1110528	1110980	1111402	1110107C
1109902	1110230	1110550	1110981	1111403	1110108C
1109903	1110231	1110560	1110982	1111425	1110109C
1109925	1110232	1110561	1110983	1111426	1110151H
1109926	1110233	1110562	1110984	1111427	1110152H
1109927	1110234	1110563	1111075	1111428	1110153H
1109928	1110235	1110840	1111076	1111475	1110175H
1109929	1110250	1110841	1111077	1111476	1110176H
1110000	1110251	1110842	1111078	1111477	1110177H
1110001	1110252	1110843	1111079	1111478	1110178H
1110075	1110253	1110844	1111085	1111479	1110226H
1110076	1110254	1110845	1111086	1111525	1110227H
1110077	1110275	1110846	1111087	1111526	1110228H
1110078	1110276	1110847	1111088	1111527	1110229C
1110079	1110277	1110848	1111089	1111528	1110235C
1110100	1110278	1110849	1111090	1111550	1110354C
1110101	1110300	1110860	1111091	1111551	1110475H
1110102	1110301	1110861	1111092	1111552	1110476H
1110103	1110302	1110862	1111093	1111553	1110477H
1110104	1110303	1110870	1111094	1100690C	1110500C
1110105	1110304	1110871	1111095	1100691C	1110501C
1110106	1110305	1110872	1111096	1100692C	1110502C
1110107	1110306	1110873	1111097	1100693C	1110503C
1110108	1110307	1110880	1111150	1100694C	1110504C
1110109	1110308	1110881	1111151	1100730H	1111301H
1110110	1110309	1110882	1111152	1100731H	1111302H
1110111	1110325	1110883	1111153	1100732H	
1110112	1110326	1110884	1111154	1100733H	
1110125	1110327	1110885	1111155	1100734H	
1110126	1110328	1110886	1111156	1100735H	
1110127	1110350	1110887	1111157	1100736H	
1110128	1110351	1110888	1111158	1100737H	
1110129	1110352	1110889	1111225	1100738H	
1110150	1110353	1110890	1111226	1100739H	
1110151	1110355	1110891	1111227	1107976H	
1110152	1110375	1110892	1111228	1107977H	
1110153	1110376	1110893	1111229	1107981H	
1110154	1110377	1110894	1111230	1108500H	
1110155	1110378	1110900	1111231	1108501H	
1110156	1110379	1110901	1111232	1108502H	
1110157	1110400	1110902	1111250	1108507H	
1110158	1110401	1110903	1111251	1108600H	
1110159	1110402	1110904	1111252	1108601H	

Additional model numbers may appear on the next printing.

WARRANTY

Equipment offered by DBI-SALA are warranted against factory defects in workmanship and materials for a period of two years from date of installation or use by the owner, provided that this period shall not exceed two years from the date of shipment. Upon notice in writing, DBI-SALA will promptly repair or replace all defective items. DBI-SALA reserves the right to elect to have any defective item returned to its plant for inspection before making a repair or replacement. This warranty does not cover equipment damages resulting from abuse, damage in transit, or other damage beyond the control of DBI-SALA. This warranty applies only to the original purchaser and is the only one applicable to our products, and is in lieu of all other warranties, expressed or implied.

DBI SALA ®

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This manual is available for download at www.capitalsafety.com

ISO 9001 REGISTERED
ANSI·RAB QMS ACCREDITED
Certificate No. FM 39709

Form: 5902159
Rev: H