FALL SAFE®

# USER INSTRUCTIONS FOR
# 88004X SERIES D-RING EXTENDER

5000 lb Rated Connector
Complies with ANSI Z359.1-1998, ANSI 10.14 and
OSHA 1926 regulations and requirements.



SureWerx®

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## USER INSTRUCTIONS - 88004X SERIES D-RING EXTENDERS

**User Instruction Manual - D-Ring Extenders**
This manual is intended to meet the Manufacturer's Instructions as required by the current ANSI Z359.1 (2007) ,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 D-ring extender 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 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 Fall Safe for information.

## DESCRIPTION

One or two-legs of 1.75" polyester webbing with a D-ring on one end, and a means for connection to the dorsal connector of a harness on the other.

## D-RING EXTENDER APPLICATION

**A. PURPOSE:**
The D-ring extender is designed to make connecting to a full body harness dorsal D-ring easier by extending this connection to where it can be more easily reached. When attached to a full body harness, the D-ring extender may be used as part of a personal fall arrest system only if it is used in combination with other suitable fall arrest components.

**Warning:** Unless otherwise indicated, users should not attach a shock absorbing lanyard or another connector to their dorsal D-ring when this device is in use. D-ring extenders are not designed for the purpose of extending the length of a shock absorbing lanyard.

1) 880040 : D-Ring Extender with snap hook -17" (43cm) length (includes 880042 : 24" [61cm] and 880045 : 18" [46cm]). This unit is designed to allow users access to their back D-ring without removing their harness. By extending the D-ring, users can connect to an overhead SRL with ease (see Figure 1).

2) 880041 : D-Ring Extender with web loop - 15" (38cm) (includes 880044 : 18" [46cm] with Dielectric D-ring). is designed to be used with any Reliance shock absorbing lanyard. It allows the user to transition between a self retracting lifeline and a shock absorbing lanyard.
**Note:** This device DOES allow users to utilize this device in conjunction with a shock absorbing lanyard at the same time. The design of this unit eliminates the need for users to attach multiple snap hooks into the same D-ring, which is considered illegal (see Figure 2).

3) 880043 : D-Ring Extender with field installable permanent connecting delta link - 22" (56cm) (includes 880046 - 18" [46cm]). This unit is designed to allow users access to their back D-ring without removing their harness. By extending the D-ring, users can connect to an overhead SRL with ease. This unit features a field installable permanent connecting delta link. It can be attached to both the snap hook of a Reliance Shock absorbing lanyard, or the slotted portion of the Reliance harness back D-ring (see Figure 3).

4) 880048 : D-Ring Extender Twin 17" (43cm) length. This unit is designed to allow users access to their back D-ring without removing their harness. By extending the D-ring, users can connect to an overhead SRL with ease. This unit specifically allows users to transition from one overhead SRL (Self Retracting Lifeline) to another overhead SRL such as in the aircraft maintenance industry. **Note:** Users **CANNOT** attach a shock absorbing lanyard or other connector to the user's dorsal D-ring while this product is in use (see Figure 4).



**Figure 1**
**880040:** D-Ring Extender with snap hook 17" (43cm)

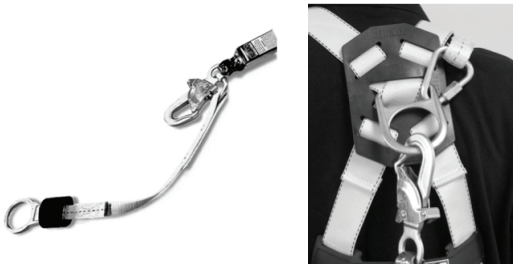


**Figure 2**
**880043:** D-Ring Extender with Delta Link 22" (56cm)



**Figure 3**
**880041:** D-Ring Extender with Web loop 15" (38cm)

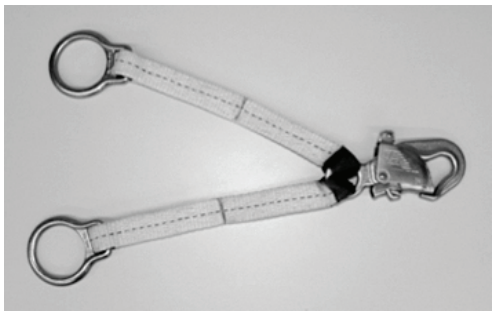


**Figure 4**
**880048:** D-Ring Extender Twin 17" (43cm)

## B. USE LIMITATIONS:

Consider the following application limitations before using this equipment:

**1) CAPACITY:**
These D-ring extenders are designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 310 lbs (140kg). Persons with muscular, skeletal, or other physical disorders should consult a physician before using. Pregnant women and minors must never use this equipment. 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.

**2) FREE FALL:**
For fall arrest applications, the length of the D-ring extension assembly must be taken into account when calculating free fall distances and fall clearance requirements. Refer to the other fall arrest system component instructions for free fall limitations.

**3) FALL CLEARANCE:**
Ensure that enough clearance exists in your fall path to prevent striking an object. The amount of clearance needed is dependent on the type of fall arrest system and how it is rigged.

**4) MAXIMUM ARRESTING FORCE:**
When used as part of a personal fall arrest system, the maximum arresting force must be limited to 1,800 lbs. or less.

**5) PHYSICAL AND ENVIRONMENTAL CONCERNS:**
Use of this equipment in areas with physical or environmental hazards may require additional precautions to reduce the possibility of 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. Contact Reliance if you have any questions about using this equipment where physical or environmental hazards exists.

## SYSTEMS REQUIREMENTS

**A. COMPATIBILITY OF COMPONENTS:**
Fall Safe equipment is designed for use with Fall Safe 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.

**B. COMPATIBILITY OF CONNECTORS:**
Connectors, such as D-rings, snap hooks, and carabiners, must be rated at 5,000 lb. (22 kN) minimum breaking strength and comply with ANSI Z359.1-2007. Fall Safe connectors meet these requirements. 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. Some harness models have web loop connection points. Do not use snap hooks to connect to web loops unless the snap hook complies with

ANSI Z359.1-2007. A self-locking carabiner may also be used 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). Connecting subsystems (self retracting lifeline, lanyard, rope grab and lifeline, cable grab, etc.) must be suitable for your application.

**EXAMPLES OF INAPPROPRIATE CONNECTIONS:**

A. To a D-ring to which another connector is attached (unless otherwise specified as being allowable)
B. In a manner that would result in a load on the gate.
C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor and seem to be fully engaged to the anchor point.(Reliance has designed the width of the head and gates of Reliance snap hooks to prevent this issue in most D-rings.)
D. To each other.
E. Directly to webbing or rope lanyard or tie-back.
F. To any object shaped such that the snap hook or carabiner will not close and lock, or that could cause roll-out should a fall occur.

## INSTALLATION PROCEDURE

**A. CONNECTING THE D-RING EXTENDER TO THE HARNESS**

**880040:** Installation to the dorsal attachment element is made by opening the snap hook attached to the device, and attaching it to the dorsal D-ring.

**880041:** This product may be attached to either the slotted opening of the dorsal D-ring that is positioned just above the harness back plaque (Figure 5) or to the dorsal D-Ring. The device is comprised of a sewn loop on one end and a D-ring on the other. To attach to the slotted D-ring opening, the sewn loop is passed through the opening, and the extender's D-ring is inserted through the loop and then pulled tight. Attachment to the dorsal D-ring is similar; pass the sewn loop through the large opening of the harness D-ring, pass the extender D-ring through the loop, and pull tight.



**Figure 5**

**880043:** Feed the 8mm Delta quick link through the round eye of the snap hook. The hook eye should be at the apex of the delta link and the web of the 880043 should be positioned at the flat base of the delta link. Apply the supplied thread locker to the threads of the delta link. Tighten the hex barrel of the Delta link as tight as possible with a 14mm wrench (not supplied). Prior to each use inspect the hex barrel for security. (Figure 6)



**Figure 6**

**880048:** Installation to the dorsal attachment element is made by opening the snap hook attached to the device, and attaching it to the dorsal D-ring. This unit specifically allows users to transition from one overhead SRL to another overhead SRL such as in the aircraft maintenance industry. **Note:** Users **CANNOT** attach a shock absorbing lanyard or other connector to the user's dorsal D-ring while this product is in use.

## INSPECTIONS

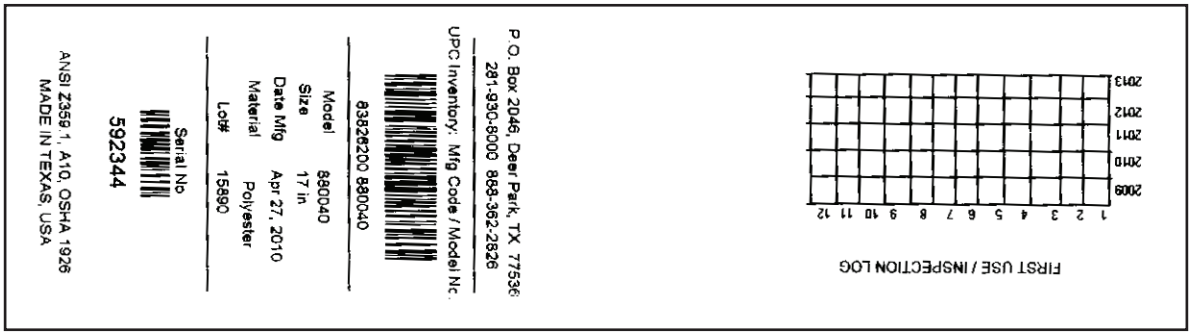
### A. INSPECTION PROCEDURE

**1)** Inspect the D-ring extension hardware (D-ring, Delta link, hooks). These items must not be damaged, broken, distorted, or have any sharp edges, burrs, cracks, worn parts, or corrosion. Ensure the Delta link screwgate is completely closed and tight.
**2)** Inspect the webbing. The material must be free of frayed, cut, or broken fibers. Check for tears, abrasions, mold, burns, or discoloration. Inspect the stitching. Check for pulled or cut stitches. The webbing must be free of knots, excessive soiling, heavy paint buildup, and rust staining. Check for chemical or heat damage, indicated by brown, discolored, or brittle areas. Check for ultraviolet damage, indicated by discoloration and the presence of splinters or slivers on the webbing surface. All of these above factors are known to reduce the webbing strength. Damaged or questionable webbing should be replaced.
**3)** Inspect the labels. All labels must be present and fully legible.
**4)** Inspect each system component or subsystem according to the associated manufacturer's instructions.
**5)** The D-ring extension must be inspected by a competent person other than the user at least annually.
**6)** Record the inspection date and results on the inspection log on Page 11 of this manual.

## TRAINING

It is the responsibility of all users of this equipment to understand these instructions, and to be trained in the correct installation, use, and maintenance of this equipment. These individuals must be aware of the consequences of improper installation or use of this equipment. This user manual is not a substitute for a comprehensive training program. Training must be provided on a periodic basis to ensure proficiency of the users.Recommended Tools and Materials for Anchor Ring Installation.

## PRODUCT LABEL




## WARRANTY

Products manufactured by Fall Safe are warranted against factory defects in workmanship and materials for a period of two years from date of purchase by the owner (end user) or for a period of one year from date first used, provided that this period shall not exceed two years from date of shipment to distributor. Upon notice of product defect or fault, Fall Safe will promptly repair or replace all defective items. Fall Safe reserves the right to elect to have any defective item returned to its manufacturing plant, authorized service center or distributor for inspection before making a repair or replacement. This warranty does not cover equipment damages or defects resulting from abuse, damage in transit, or other damage beyond the control of Fall Safe. This warranty applies only to the original purchaser and is the only one applicable to our products and services, and is in lieu of all other warranties, expressed or implied. When products offered by Fall Safe are manufactured by a third party. Original equipment manufacturer (OEM) warranty shall apply and may be outside the control of Fall Safe.

| EQUIPMENT RECORD | |
|---|---|
| PART NUMBER | |
| SERIAL NUMBER | |
| DATE MANUFACTURED | |
| PURCHASE DATE | |
| ASSIGNED TO | |

| INSPECTION RECORD | | |
|---|---|---|
| DATE | INSPECTOR | PASS/FAIL |
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## SPECIFICATIONS

### 88004X SERIES D-RING EXTENDER (HARNESS ACCESSORY)

Certified to meet ANSI Z359.1-1998, ANSI 10.14 Type 1, and OSHA regulations for the positioning (non-shock absorbing) lanyard component of a complete personal fall arrest system. Webbing, rope and cable components have a certified minimum 5000 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

**This manual applies to the following part numbers:**

880040
880041
880042
880043
880044
880045
880046
880048




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