Full Body Harness Fit: The Basics

An NRCA webinar in partnership with CPWR

Wednesday, April 28th, 2021

1:00pm EST

Tom Shanahan, moderator, NRCA

Rich Trewyn, presenter, NRCA

Harry Dietz, presenter, NRCA

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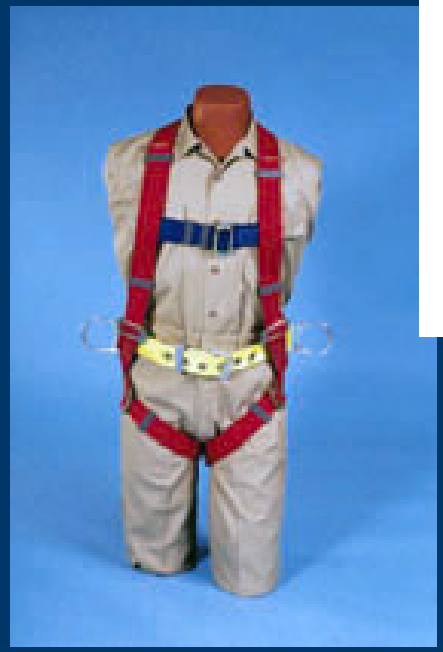
Components of a Personal Fall Arrest System (PFAS)

PFAS is defined by OSHA in Subpart M of the construction regulations as a "system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a ~~**body belt or**~~ body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these."

Today…we are going to focus on the body harness component



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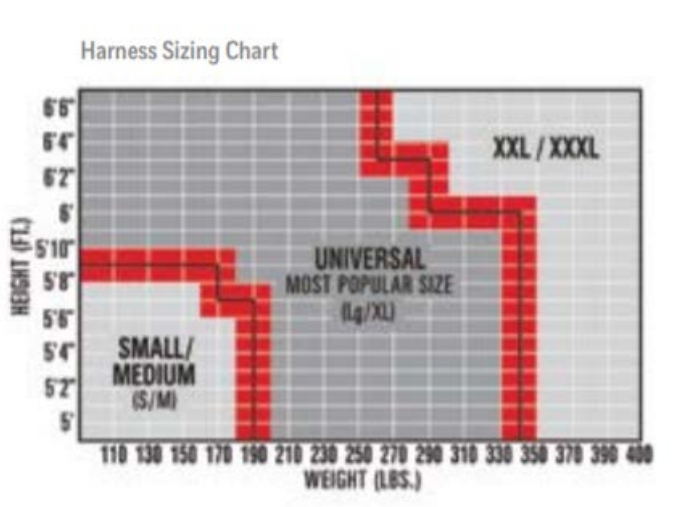
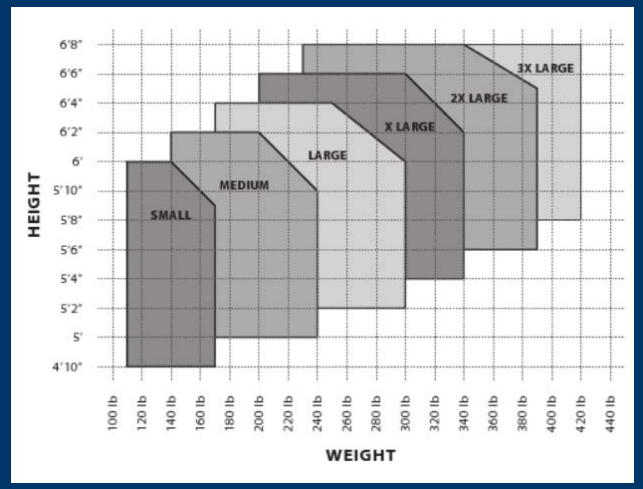
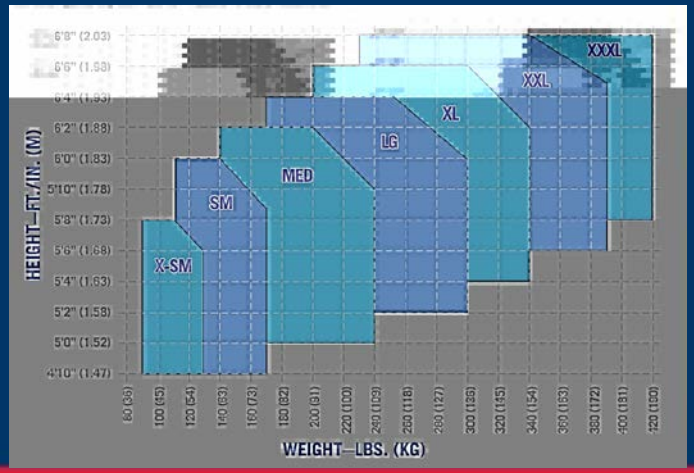
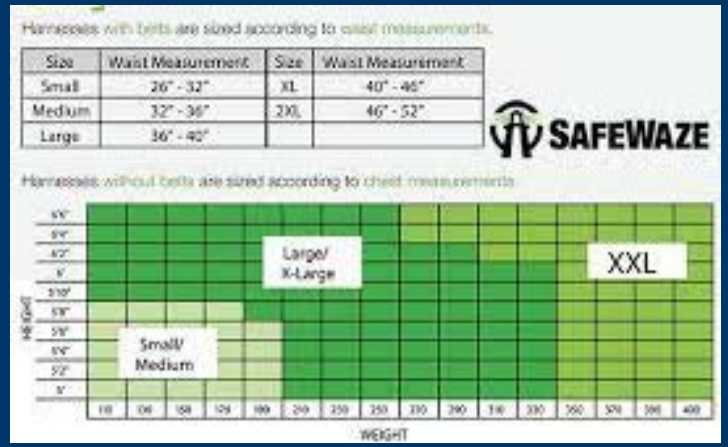
Step One: Sizing up a harness









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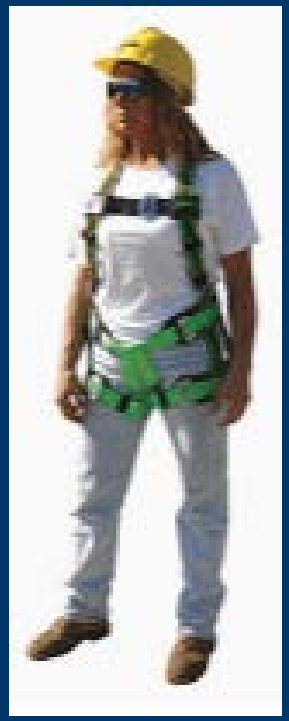
Gender-focused design in harnesses

Some manufacturers market harnesses specifically designed for women workers

MSA V-fit

French Creek



Ms. Miller E570

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Step Two: Inspecting the harness

29 CFR §1926.502(d)(21):

Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

Inspecting the harness

Manufacturers' instructions, timing examples:

- User inspects before each use; competent person inspects at least annually
- Competent person other than the user inspects at least annually
- Competent person to inspect at intervals of no more than 6 months
- Nature and severity of workplace conditions may advance the CP's 6-month inspection in judgment of the user's organization
- Life of harness based on passing inspection…if it passes it can remain in service

Manufacturers' instructions label examples:

- Check labels, serial number and dates
- Check for legibility of labels

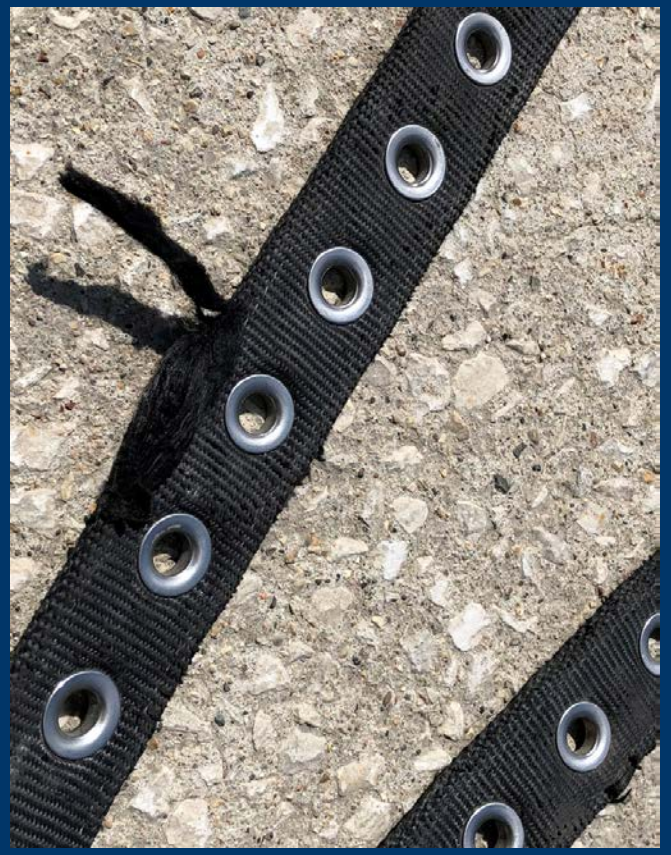
Inspecting the harness continued

Other inspection requirements from manufacturers:

- Maximum capacity of 310 pounds
- Immediately remove from service if subjected to arrest forces.
- Even if fall arrest indicator does not deploy after a fall arrest event, it must be removed from service and destroyed.
- Inspect for excessive wear, cuts, abrasions, undue stretching, chemical exposure, burns or excessive heat, welding spatter, mold or mildew, broken stitches, alterations and additions, rust, oxidation, corrosion, deformation, discoloration or abraded appearance.
- Check hardware for corrosion or deformation
- Broken stitches may indicate impact loading. Impact loading requires removing from service.
- Inspect quick connects to be sure both pawls are engaged and operate smoothly
- Check metallic parts as above but also pitting, nicks or improper function

Inspecting the harness continued

One manufacturer uses webbing made with red fibers that, when visible, indicate wear, making inspecting for damaged webbing easier to spot.



Other inspection issues

Fall impact indicators

Inspection video

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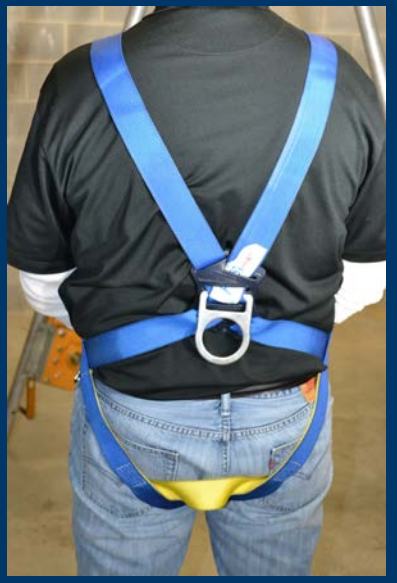
Proper fit for your harness

Harness manufacturers' instructions state things like:

- Harness must be "close-fitting"
- Fit should be snug but allow full range of motion
- One video suggests a two-finger test for snugness
- Fit should be comfortably snug
- Chest strap should not be close to the user's neck
- Chest strap should be centered in chest, 6 inches down from shoulders
- Back D-ring between shoulder blades

Two finger test

Chest strap high?



D ring too low

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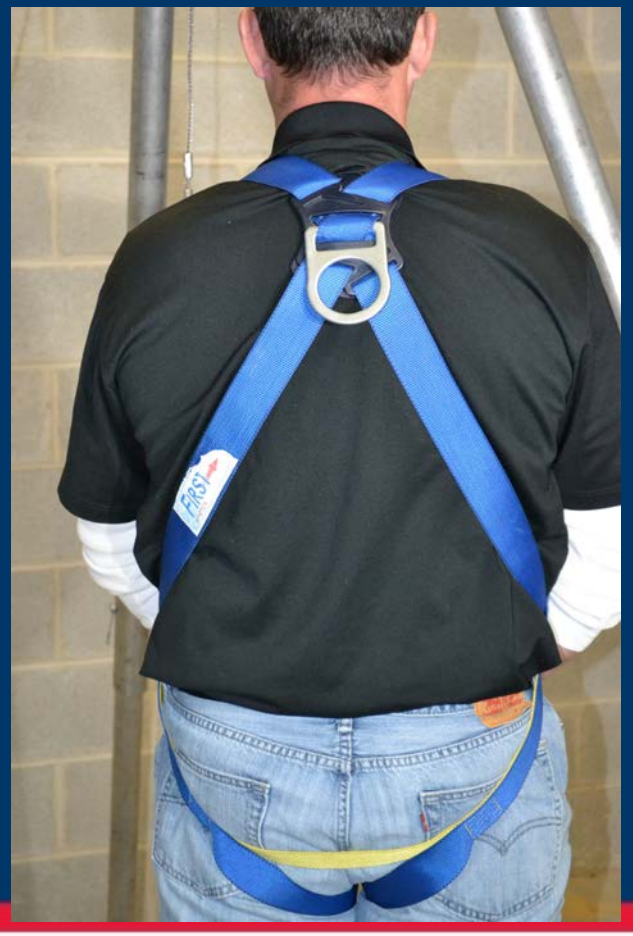
Proper fit for your harness continued

Should look something like this



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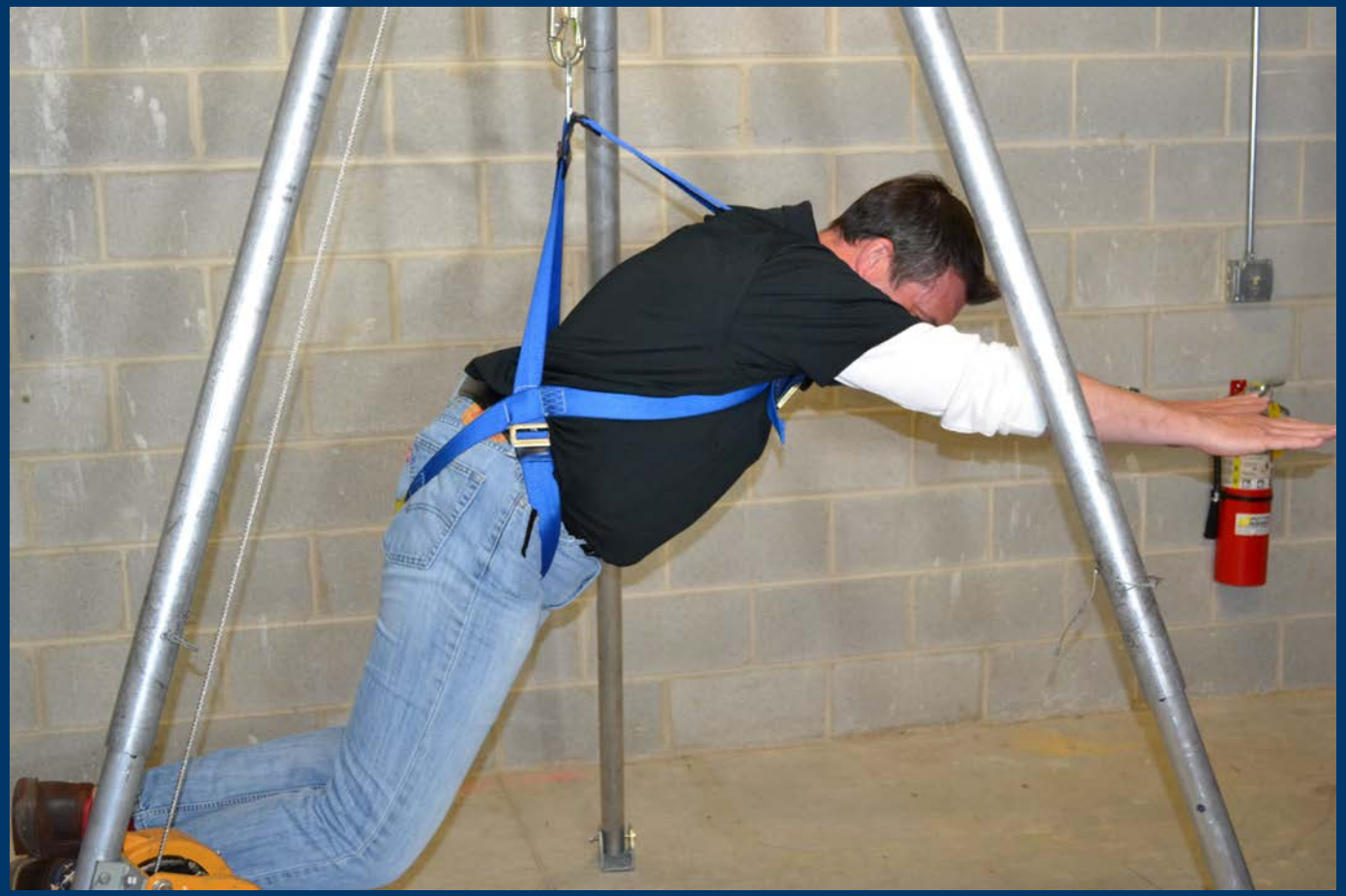
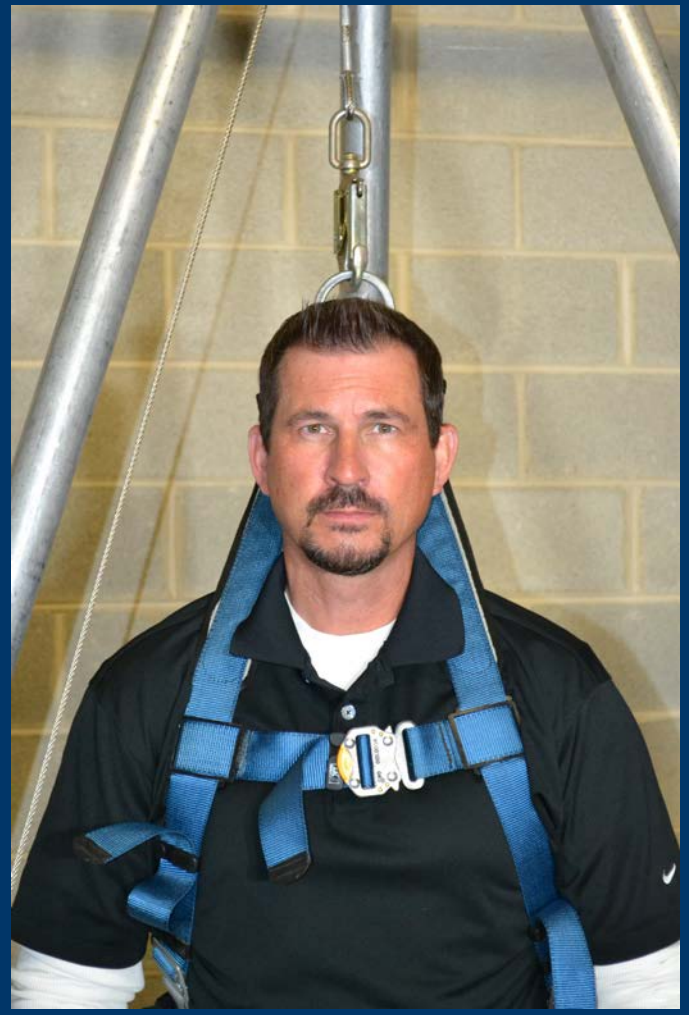
Significance of proper fit

- Chest strap and D ring placement
- Straps too loose
- Self-rescue impact



Significance of proper fit

Ideally



D ring position when suspended

Proper fit

Self rescue

- Placement of trauma straps on harness
- Accessories (tool pouches etc.) cannot impair fit or self rescue equipment

QUESTIONS???

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