Understanding the ABCs of Fall Protection

While “ABC” is usually used to refer to the basics, in the case of fall protection it also stands for the three basic components of fall protection. Additionally we add D & E.

A = Anchorage or Anchor point

Also known as the tie-off point, this is the point of attachment for the lanyard, the lifeline or the deceleration device. The anchor must support 5,000 lbs of pressure or twice the expected load. That’s a lot of pressure! 2 x 4s, pipes or chimneys will not do. There are a number of good anchor points designed by various manufacturers some are permanent (and can be used again if and when needed), others are removed once the work is finished.

Anchor points can be fixed point anchors (FPAs) or Mobile Anchorage Points. Systems such as Horizontal Lifelines (HLLs) and trolleys are examples of mobile anchor points.

B = Body Harness

The body harness is the combination of straps that distribute the fall arrest force over the chest, thighs, waist, pelvis and shoulders. Body harnesses come in a variety of styles and configurations with a corresponding range in pricing. Harnesses have buckles and adjustable straps for proper fitting. Some are sized (small, medium, large, XL, etc…) while others are universal. Whichever harness you choose, make sure that it is properly tightened and fitted to your body. While a harness that is too tight is restricting and uncomfortable to work in, a loose fitting harness can be extremely dangerous, particularly in the pelvic region (a fall in a loose harness can result in serious and even permanent damage to genital area).
The connecting D-Ring in a properly fitted harness should be located right between the shoulder blades. Make sure that the harness you are using is approved for industrial work. Recreational harness (rock climbing harnesses) are not approved.

Belts can only be used for positioning or restraint, \textbf{NEVER} for fall arrest.

\textbf{C} = Connector

The connector refers to the device used to link the body harness to the anchor point. Lanyards, Self-Retracting Lifelines (SRLs) and Shock-Absorbing Lifelines are all different types of connectors.

\textbf{D} = Deceleration device

A deceleration device is a type of connector (see above) that is designed to limit the amount of force exerted on the body. The amount of force exerted cannot exceed 1800 lbs. \textit{Self-Retracting Lifelines} work like a seatbelt in the car, by locking up as soon as the cable or webbing is rapidly pulled through as would be the case with a fall. \textit{Shock-Absorbing Lanyards} work by “tearing out” in order to reduce the amount of force.

\textbf{E} = Effective Plan for Rescue

E is often the neglected part of fall protection but one that is, nonetheless, just as important. Suspension trauma, or "orthostatic intolerance," results when blood circulating in the body is reduced or trapped in the legs. This can be extremely harmful to the brain, the heart and to other organs that might not get enough blood. Additionally, the heart is often unable to cope effectively with the sudden rush of “dirty” blood that occurs once the suspended person is rescued. Serious injury and fatality can occur after a relatively short time of being suspended. It is therefore crucial to have an effective rescue plan outlined to get a suspended person down immediately.

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