

ADOSH ADVOCATE



Improving Workplace Safety and Health

<http://www.ica.state.az.us>

Darin Perkins, Director

Summer 2003

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Aerial Lifts & Fall Protection

Aerial lift safety is covered under 29 CFR 1926.453 as well as American National Standards (ANSI) A92.2-1969 - Vehicle Mounted Elevating and Rotating Work Platforms. Equipment covered under these standards include the following vehicle types: Extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers and a combination of such devices. This equipment can be made of metal, wood, fiberglass, and reinforced plastic and are classified as aerial lifts whether or not they can rotate about a substantial vertical axis.

What is the biggest problem ADOSH is finding with respect to aerial lifts? It is the lack of adequate fall protection for employees working from such equipment. Many times we observe employees working from lifts without utilizing a fall restraint or fall arrest system. 1926.453(b)(2)(v) specifically states that a "body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift." The standard also notes that as of January 1, 1998 body belts are no longer accepted as part of a personal fall arrest system. They continue to be acceptable for a fall restraint system.

This is where some employers are making a mistake. There is a difference between a fall restraint system and a fall arrest system. A fall restraint system is designed to prevent the employee from falling. For example, a restraint system may use a lanyard of such length

that it is not possible for an employee to fall out of the lift. On the other hand, a fall arrest system may allow the employee to fall, but prevents or reduces the risk of injury by limiting the fall distance and impact on the employee. This is accomplished in a variety of ways such as limiting the length of the lanyard or the use of a shock-absorbing lanyard.

ADOSH compliance personnel can easily spot fall protection violations in aerial lifts given the fact that the employees are often elevated above ground in plain view and the lack of fall protection is instantly visible. Because ADOSH has an emphasis program on fall related hazards a compliance officer is obligated to stop and address the situation.

It is in the best interest of the employer and the employee to become very familiar with the requirements of 1926.453 in order to adequately protect employees as well as avoid potential citations and penalties. Training is a key factor in protecting employees. It is common for ADOSH to issue a citation for lack of training, in addition to a lack of fall protection. All too often we hear employers and employees say that they were not familiar with the requirements. Unfortunately, this is often heard after an injury or death. Please make every effort to become knowledgeable in the safety requirements for aerial lifts and ensure that you implement these requirements at your worksites.

Mark Norton



ADOSH Education and Training Calendar

Registration for each course begins no earlier than 30 days prior to the date of the course. Location address and time of course will be determined at the time of registration. All ADOSH classes are free of charge and are subject to change or cancellation without notice.

Date	Course	Location	Trainer	Phone
July 8	Scaffold Safety	Peoria	Joe Gates	602-542-1641
July 8	Machine Guarding	Tucson	Glynn Condit	520-320-4229
July 9	OSHA in the Medical Office	Yuma	Fernando Mendieta	602-542-1640
July 10	Back Injury Prevention	Tucson	Glynn Condit	520-320-4229
July 10	Excavation Safety Awareness	Flagstaff	Joe Gates	602-542-1641
July 15	Excavation Safety Awareness	Avondale	Joe Gates	602-542-1641
July 15	OSHA Recordkeeping	Tucson	Glynn Condit	520-320-4229
July 17	Welding and Flame Cutting	Prescott	Joe Gates	602-542-1641
July 17	Excavation Safety Awareness	Tucson	Glynn Condit	520-320-4229
July 22	Fall Protection	Prescott	Joe Gates	602-542-1641
July 22	Forklift Train-the-Trainer	Tucson	Glynn Condit	520-320-4229
July 23	Confined Space Entry	Phoenix	Fernando Mendieta	602-542-1640
July 23, 24	Various classes (call for schedule)	Keams Canyon	Joe Gates	602-542-1641
July 29	Lockout/Tagout	Tucson	Glynn Condit	520-320-4229
July 29, 30	Various classes (call for schedule)	Chambers	Joe Gates	602-542-1641
July 30	Confined Space Entry	Tucson	Fernando Mendieta	602-542-1640
July 31	Respiratory Protection	Tucson	Fernando Mendieta	602-542-1640
August 5	Fall Protection	Tucson	Glynn Condit	520-320-4229
August 8	Construction Safety Management	Tucson	Glynn Condit	520-320-4229
August 12	Scaffold Safety Awareness	Tucson	Glynn Condit	520-320-4229
August 12	Forklift Train-the-Trainer	Phoenix	Joe Gates	602-542-1641
August 12	Back Injury Prevention	Peoria	Fernando Mendieta	602-542-1640
August 14	OSHA Recordkeeping	Flagstaff	Joe Gates	602-542-1641
August 18	Forklift Train-the-Trainer	Tucson	Glynn Condit	520-320-4229
August 21	Respiratory Protection	Avondale	Fernando Mendieta	602-542-1640
August 22	Hand and Power Tool Safety	Tucson	Glynn Condit	520-320-4229
August 26	Back Injury Prevention	Tucson	Glynn Condit	520-320-4229
August 26	Lockout Tagout	Phoenix	Joe Gates	602-542-1641
August 28	Excavation Safety Awareness	Tucson	Glynn Condit	520-320-4229
August 28	Bloodborne Pathogens	Prescott	Fernando Mendieta	602-542-1640
August 28	Excavation Safety Awareness	Yuma	Joe Gates	602-542-1641
September 3	OSHA Recordkeeping	Tucson	Glynn Condit	520-320-4229
September 4	OSHA in the Medical Office	Tucson	Fernando Mendieta	602-542-1640
September 9	Electrical Safety	Tucson	Glynn Condit	520-320-4229
September 9	Hazard Communication	Peoria	Fernando Mendieta	602-542-1640
September 11	Safety Management	Phoenix	Joe Gates	602-542-1641
September 12	Hazard Communication	Tucson	Glynn Condit	520-320-4229
September 17	Crane Safety - Construction	Tucson	Glynn Condit	520-320-4229
September 18	Electrical Safety	Prescott	Joe Gates	602-542-1641
September 23	Welding & Cutting Safety	Tucson	Glynn Condit	520-320-4229
September 24	OSHA in the Medical Office	Phoenix	Fernando Mendieta	602-542-1640
September 25	Fall Protection	Yuma	Joe Gates	602-542-1641
September 26	Forklift Train-the-Trainer	Yuma	Joe Gates	602-542-1641
September 26	Back Injury Prevention	Tucson	Glynn Condit	520-320-4229
September 30	Rigging Safety	Tucson	Glynn Condit	520-320-4229

Trainers may also be contacted by e-mail at joe.gates@osha.gov, fernando.mendieta@osha.gov, glynn.condit@osha.gov

Buyer Beware!

Various regulatory agencies, including ADOSH, have statutes or rules requiring that employers post certain information in the workplace in areas visible to employees. ADOSH has a safety and health information poster that is required to be posted in all places of employment. At times, we are contacted by individuals informing us of companies who are trying to market these posters, often for exorbitant fees or under threat of government penalty.

While private companies are free to market such posters (usually laminated and in an "all-in-one" format) employers should use caution when approached by companies who use threatening language to market these products. The various posters required by the regulatory agencies, including the ADOSH poster, can be obtained free of charge by contacting the appropriate agency. Additionally, while we cannot speak for other regulatory agencies, ADOSH would not levy a monetary penalty against an employer for failing to post the ADOSH poster, except for repeat violators, or in situations where an employer exhibits indifference to the safety and health of his employees, or the posting requirements.

Variance on Scaffold Base Plates

Last year, Desert Masonry Company submitted a request for permanent variance from the requirements of 29 CFR 1926.451(c)(2). That standard states as follows: "Supported scaffold poles, legs, posts, frames and uprights shall bear on base plates and mud sills or other adequate firm foundation." Desert Masonry requested a variance from these requirements, under certain conditions of use. Those conditions were that the scaffold would be properly erected upon a concrete slab or foundation and that when so erected, the company would utilize a 6" x 6" piece of $\frac{1}{2}$ " plywood underneath each scaffold leg, in lieu of a base plate. At its meeting on February 27, 2003, the Commission approved Desert Masonry's request and granted a permanent variance to them, as well as all other similarly situated employers.

Effective immediately, all Arizona employers who properly erect scaffolding on top of a level, concrete slab or foundation may utilize a 6" x 6" piece of $\frac{1}{2}$ " plywood underneath each scaffold leg, in lieu of a base plate. Because the concrete provides a firm foundation, no mud sills are required.

This variance is very limited in scope and applies only under the conditions of use noted. Scaffolds erected upon any other surface (other than a concrete slab or foundation) will require the use of base plates at all times. Additionally, mud sills or other firm foundation (i.e., scaffold planks) may also be required, depending upon the type of surface upon which the base plates rest.

Did You Know?

In confined spaces where gases may be present, there are gases that are lighter than air and gases that are heavier than air. When conducting air monitoring for toxic gases, check all areas within the confined space, including the bottom, top and at regular intervals in between. There could be pockets of gas at any location, including off to the sides at the bottom and top outer edges. It is very important to use a probe capable of reaching all points of the space.

Fatal Mistakes

Excavations along the side of a hill must be designed with the deeper side of the excavation as the governing depth of the design to be used. In other words, a trench that is in type C soil, and is 8 deep on the downhill side, but 10 deep on the uphill side, must be protected from cave in according to the dimension of the deeper side. If the design calls for a trench box, the box must be designed for a 10 deep excavation.

If sloping is selected as the method of protection, care must be taken not to let geography influence the trench design! The slopes must still be 1 1/2 :1 to satisfy the standard for type C soil, or 1:1 for type B soil. Lets use type C soil as an example. To meet the requirements for type C soil, an excavation next to or on the side of a hill with the uphill side deeper than the downhill side, must still have the required 34-degree slope (1 1/2:1), measured from the inner edge of

the trench floor. Geography may dictate that the entire hill would have to be removed to allow a safe excavation, according to the standard. If this is the case, do not let economics dictate that the slope stops where the volume of dirt to be removed becomes too much to handle, and resort to a "quick fix" to avoid sloping properly to protect employees.

Such was the case in a recent tragic death. Rather than excavate to the required 34 degree slope, and rather than design a trench shield system, or have a soils engineer design an alternative acceptable protective system, the contractor designed a "quick fix" way of trenching for this application, in the process creating a 35 foot high vertical wall of excavated dirt, which was adjacent to the excavation and close enough so that the tracked excavator was contacting the wall as it swiveled to move dirt from the trench. This 35-foot wall

of dirt created an imminent danger for employees working in and around the excavation at the base. The proof was the death of a laborer who was struck by some 200 yards of dirt that dropped off the excavated wall, striking the laborer, and burying him to a depth of about 10 .

Simply stated this tragedy could have been avoided. After the accident, the vertical wall of dirt was removed. The resultant hill slope was reduced from near vertical, to a slope of about 34 degrees. Pipe was installed at the base of the hill without further incident. These protective measures should have been taken from the outset, not after a fatal accident had occurred. Factors such as fill dirt, hillsides, spoils piles, and adjacent equipment must be considered when designing protective systems for excavations. It may cost more to do so, but it will not be as costly as it will if someone dies.

Arizona's Newest VPP Site

ADOSH recently welcomed BF Goodrich as Arizona's newest VPP STAR site. The Voluntary Protection Program is a program that recognizes employers who have an outstanding commitment to employee safety and health, when compared with other employers in their industry.

The BF Goodrich facility, located in

Peoria, works with Turbine Fuel Technologies. Prior to approving BF Goodrich as a STAR participant, consultants from the Arizona Division of Occupational Safety and Health conducted a thorough survey of the workplace to verify that employee safety and health represent a top priority for both management and employees. This priority was evident during ADOSH's visit. BF Goodrich, together with the other ten

VPP STAR locations in Arizona, is an excellent example of the type of strides that can be made in terms of employee safety and health when both management and employees work together.

ADOSH presented BF Goodrich with a VPP STAR certificate and flag during celebration ceremonies on Friday, March 7, 2003.

Fatalities Investigated by ADOSH January 1, 2003 through March 31, 2003

- An employee was riding the top of an elevator to assess/make repairs at the top of the elevator shaft and was crushed between the ceiling and the ladder on which he was standing.
- An employee was crushed between the arm of a backhoe and an outrigger.
- An employee was crushed by thousands of pounds of bottled liquor when a storage rack collapsed.
- An employee was crushed by a rack of baked goods that he was unloading when the dock plate between the truck and loading dock collapsed.

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