

## **11 Crushed between scissor lift & mezzanine support beam – Inspection #1159893**

A **27 year old male** employee was fatally injured when he was crushed between the railing of a scissor lift and a mezzanine outer support beam while installing insulation on duct work. On the day of the incident, the victim was working alone installing insulation around duct work using a Dyna-Mite Work Platform scissor lift. The duct work could only be accessed through a small opening approximately eighteen inches high by thirty one inches wide under the mezzanine deck between the vertical beams, an electrical junction box, and piping. In efforts to reach the area, the victim positioned himself leaning backwards out of the scissor lift with his back resting across the lift upper guard rails. At some point while installing the insulation the victim became pinned between the scissor lift upper guard rail and the bottom of the mezzanine outer support beam. During the investigation, it was determined that the control console on the scissor lift was missing the guard that prevents the inadvertent activation of the lowering and rising of the work platform. The control console was found hanging on the opposite side of the lift from the victim's work position. The most likely scenario is that the victim contacted the unguarded control console with his foot while attempting to position himself leaning backwards out of the lift.

### **Citation(s) as Originally Issued**

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

#### **Citation 1 Item 1**

TCA 50-3-105(1)	The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees. In that the scissor lift was being used to install insulation to duct work with the following damage to the equipment: a) no guard around control switches; b) lower controls not functioning; c) an hydraulic oil leak; & d) tethered control box emergency stop switch cover. Among other methods, one feasible and acceptable abatement method to correct this hazard is to perform preventative maintenance according to the manufacturers specifications, and repair or replace damaged or faulty scissor lift components according to the manufacturers specifications.
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#### **Citation 2 Item 1**

29 CFR 1910.36(d)(1)	Employee(s) were not able to open an exit route door from the inside at all times without keys, tools, or special knowledge. In that an emergency exit door was found with a defective panic bar, and locked with a slide bolt door lock in the northeast corner of the fabrication building.
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**11 Crushed between scissor lift & mezzanine support beam – Inspection #1159893**

**Citation 2 Item 2**

29 CFR 1910.132(e)	Defective or damaged personal protective equipment shall not be used. In that an employee was exposed to an approximate ten foot seven inch fall hazard using a self-retracting lifeline with a damaged lanyard while installing insulation to duct work.
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**Citation 2 Item 3a**

29 CFR 1910.215(b)(9)	The distance between the abrasive wheel periphery(s) and the adjustable tongue or the end of the safety guard peripheral member at the top exceeded one fourth inch. In that the grinder located in the fabrication shop had the tongue guard adjusted approximately one inch from the grinding wheel.
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**Citation 2 Item 3b**

29 CFR 1910.215(d)(3)	The contact surface(s) of wheel(s), blotter(s) or flange(s) on grinding machine(s) were not flat and free of foreign matter. In that the bench grinder wheel used for sharpening of tungsten electrodes on the pedestal grinder located in the fabrication shop had not been dressed, and contained many deep grooves on the working surface.
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**Citation 2 Item 4**

29 CFR 1910.242(b)	Compressed air used for cleaning purposes was not reduced to less than 30 p.s.i. In that the air hose used for cleaning located in the southwest corner of the fabrication shop was not provided with a safety device to reduce the pressure to 30 p.s.i. or less.
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**Citation 2 Item 5a**

29 CFR 1910.253(b)(2)(iv)	Valve protection caps, where cylinders were designed to accept caps, were not always in place, hand-tight, except when cylinders were in use or connect for use. In that compressed gas cylinders sitting in the storage area on the northwest side of the fabrication shop were found without valve protection caps installed.
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**11 Crushed between scissor lift & mezzanine support beam – Inspection #1159893**

**Citation 2 Item 5b**

29 CFR 1910.253(b)(4)(iii)	Oxygen cylinders in storage were not separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet (6.1m) or by a noncombustible barrier at least 5 feet (1.5m) high having a fire-resistance rating of at least 30 minutes. In that the oxygen and acetylene compressed gas cylinders were stored next to each other in a rack on the northeast side of the fabrication shop.
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**Citation 2 Item 6**

29 CFR 1910.304(g)(5)	The path to ground from circuits, equipment, and enclosures was not permanent, continuous, and effective. In that electrical cords supplying 120 volts of electrical power were found to be missing ground prongs in the following instances. In that electrical cords supplying 120 volts of electrical power were found to be missing ground prongs in the following instances: a) the shop fan located in the insulators staging area; b) the pedestal grinder located in the fabrication shop; & c) the orange extension cord used to power the time clock in the fabrication shop.
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**Citation 2 Item 7a**

29 CFR 1910.305(b)(1)(ii)	Unused openings in boxes, cabinets, or fittings were not effectively closed. In that the missing knockout holes were not covered to prevent employees from accidentally coming into contact with the live electrical parts inside the 480 volt pull box located on the northeast wall of the fabrication shop supplying power to the welder.
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**Citation 2 Item 7b**

29 CFR 1910.305(g)(1)(iv)(A)	Flexible cords and/or cables were used as a substitute for the fixed wiring of a structure. In that the flexible cord running to the time clock and/or cables were used as a substitute for the fixed wiring of a structure. In that the flexible cord running to the time clock in the fabrication shop was used as temporary wiring in place of permanent.
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**11 Crushed between scissor lift & mezzanine support beam – Inspection #1159893**

**Citation 2 Item 7c**

29 CFR 1910.305(g)(2)(iii)	Flexible cords and cables were not connected to devices and fittings so that strain relief was provided that would prevent pull from being directly transmitted to joints or terminal screws. In that the 115 volt flexible cord being used to power the drill press in the center of the fabrication shop has the outer insulation pulled away from the male end attachment plug which was putting strain directly on the joint and terminal screws.
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**Citation 2 Item 7d**

29 CFR 1910.334(a)(2)(ii)	There was a defect or evidence of damage that could have exposed an employee o injury and the defective or damaged item was not removed from service and an employee was using it before repairs and tests necessary to render the equipment safe were made. In that the 115 volt flexible cord being used to power the drill press in the center of the fabrication shop had the outer insulation damaged on the end entering the switchbox.
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**Citation 2 Item 8**

29 CFR 1910.1200(g)(8)	The employer did not maintain copies of the required safety data sheets for each hazardous chemical in the workplace. In that the employer did not have the SDS sheet available to inform the employees of the hazards of working with Armaflex 520 adhesive.
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Photo 1 of 1 – Position of lift at the time of the incident.