According to the Occupational Safety and Health Administration (OSHA), fall protection violations once again topped the list for 2015 with 7,402 total violations. The good news is that the numbers are down from previous years; there were 7,516 violations recorded in 2014. Furthermore, there are more than 50,000 “Struck by Falling Object” OSHA Recordables every year in the United States, according to the Bureau of Labor Statistics; that’s one injury caused by a dropped object every 10 minutes.

The key to continuing to lower these numbers in 2016 and beyond is worker training and support. We need to make sure every worker understands the basics of wearing and maintaining his or her fall protection equipment — and that includes you.

Using Fall Safety Gear
Even as the owner, to make the most of your company’s safety gear, you should first familiarize yourself with your company’s fall protection program, and then be sure you understand how to use the equipment safely, within the context of that plan and jobsite.

For example, if part of your job is to apply the coatings, you should examine whether your equipment matches the jobsite particulars and whether the gear provides a safe amount of fall clearance to ensure you aren’t at risk of hitting anything below. You should also ensure that you have a safe and secure anchor point and connection for both yourself and your equipment.

In addition, you should make sure that you know not only how to use the gear but also how to set it up properly. For example, a tool that isn’t attached correctly to a D-ring can lead to preventable accidents and can even end in a tragedy.

From a managerial standpoint, simply providing your workers with a plan, the tools, and the right equipment is not enough, especially when it comes to fall protection. Unlike hard hats, safety glasses, and gloves, which may be intuitive to use, fall protection gear is more specialized, and most workers do not know how to use it properly.

It goes without saying that the effectiveness of fall protection gear, no matter how durable or reliable, will be compromised when your workers don’t use it correctly. That’s why you should always enlist a specialist to show your workers not only what tools to use but how to use them properly.

On-site training courses are also a great solution, as they allow your workers to apply the training — and
Fall Protection Gear for People

When protecting your workers at all heights, the ABCDs of fall protection can act as a checklist to ensure they are all using the right equipment.

- **Anchorage:** The anchorage is the secure point of attachment for the fall-arrest system. The appropriate type of anchorage connector varies by the industry, the job performed, the type of installation, and the available structure. The anchorage structure to which the connector is attached must be capable of supporting a load of 5,000 pounds (2,268.0 kg) per person, or it shall be designed, installed, and used as part of a complete system that maintains a safety factor of at least two under the supervision of a qualified person.

- **Body Support:** A full-body harness provides secure body support while working at heights. Harnesses distribute fall forces over the upper thighs, pelvis, chest, and shoulders. They also provide a connection point on the worker for the personal fall arrest system.

  A well-designed harness should provide enough comfort to wear throughout the work day, and it should be adjustable across the chest and shoulders and around the legs. For optimal wearability, select a harness with built-in ergonomics, increased padding, and lightweight materials. Harnesses that provide comfort and adjustability allow the worker to work for longer periods of time at heights, and thus they increase productivity.

  Finally, select a harness that is intuitive and easy to use. You don’t want workers struggling in and out of clumsy harnesses, as that decreases productivity and safety.

- **Connectors:** A connector is a device that links the user’s full-body harness to an anchorage. When used as part of a fall-restraint system, the length of the connector must be carefully selected so the worker is restrained or prevented from reaching a fall hazard.

  Shock-absorbing lanyards are designed to take the strain out of a fall. They are flexible lines with a connector at each end, which are used to fasten the anchorage to the body support of a fall-protection system. For fall arrest, lanyards should be connected to the back D-ring, located between the shoulder blades and, ideally, anchored above the worker to minimize fall distance.

  Self-retracting lifelines afford workers safe movement within the work area and include mechanisms that allow the device to extend and retract as the worker moves around. If the worker falls, the device will sense the sudden acceleration and arrest the fall.

- **Descent/Rescue:** Essential parts of the fall-protection program are descent and rescue devices, which are used to retrieve a fallen worker. Such devices include tripods, davit arms, winches, and comprehensive rescue systems. Choosing the right descent and rescue equipment depends on the job site, the task being performed, and the available materials, change lightbulbs, store boxes, and other tasks.

Aerial lifts are frequently used instead of scaffolding, which lacks mobility, calls for excessive setup time, and exposes workers to traumatic injury, especially during the assembly and disassembly stages. Aerial lifts are mobile, can be deployed to various job sites, can elevate to substantial heights, and involve minimal setup time. Consequently, their use is increasing for various industrial jobs, such as painting, tile and drywall installation, and maintenance.

**WHERE AND WHY ARE AERIAL LIFTS USED?**

Aerial lifts are popular at various job sites, including:
- Construction
- Warehousing
- General building maintenance
- Other industries that are required to elevate workers to move materials, change light bulbs, store boxes, and other tasks.

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**RISKS ASSOCIATED WITH AERIAL LIFTS**

Aerial lifts can expose workers to risks, such as fall-related hazards, because they are mobile, are used as elevating equipment, and are considered to be a restricted work space. In addition, there are various hazards that workers are exposed to because the platform can be used in a variety of conditions, some of them not approved. In recent years, a number of workers who operate aerial lifts have been injured or killed by falls and other exposures while using this equipment. Proper safeguarding can reduce or eliminate injuries.

**STANDARDS**

The recommended safe work practices for aerial lifts have been derived from the American National Standards Institute (ANSI) Standards and Occupational Safety and Health Administration (OSHA) requirements:
- 1910.67(a)(1) “Aerial device.” Any vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.
- ANSI/SIA A92. Elevating and Vehicle Lift Devices Package

For more information, contact: www.cdc.gov/niosh
workforce.

It is important to note that fall-protection equipment goes beyond personal fall arrest systems. Other equipment needed at the construction site may include ladders, scaffolds, nets, and guardrails, depending on the work environment. Always provide workers with the equipment they need to get the job done safely.

Fall Protection Gear for Tools
When using fall protection equipment for tools, there are six simple rules to follow:

1. Make sure the lanyards, attachment points, and wristbands allow you to use the tool with little to no interference.
2. To help maintain your tool’s functionality, you should not need to modify the tool to effectively attach it. Products like D-rings, self-vulcanizing tape, tool cinch attachments, and quick spins and rings complement the design and functionality of the tool without altering it.
3. Never attach individual tools weighing more than five pounds (2.3 kg) to a person working at height. If a heavy object gets loose — swinging a beater hammer, for instance — the weight and force could dislocate a wrist or shoulder — or at the very worst, pull a worker over a ledge or scaffolding.
4. Tools over five pounds (2.3 kg) should be secured to a fixed structure or an approved anchor point, from which it is safe to tether.
5. Pay attention to the load rating. For example, if a tether that is load-rated for five pounds (2.3 kg) is connected to an attachment point rated for two pounds (0.9 kg), the load rating or the lesser of the two components should be followed.
6. Be brand loyal. All fall protection for tools from one company should be built and designed to work together for maximum effectiveness.

What to Look for During Inspections
Properly functioning fall protection equipment is vital for every person who works at heights. Always inspect hardware, webbing, stitching, and labels, and record the results of each inspected component and the date it was inspected in an inspection log.

Below is a quick visual checklist that can be applied to all fall protection equipment:

- Make sure the webbing and stitching does not have any frays, cuts, or broken fibers. It is also important to check for any tears, abrasions, burns, or discolorations on the webbing, and to ensure it is free of knots and chemical or heat damage.
- Check all stitching for pulls, cuts, or broken stitches, which could indicate the device has been impacted and must be removed from service.
- Inspect all rope splices and ensure they are tight, utilizing at least five full tucks. If wire or synthetic rope is part of the system, check for concentrated wear, including frayed strands, kinks, broken yarns, and burns.
- Check any energy-absorbing lanyards for evidence of elongation. Also, the energy absorber cover must be secure with no tears or damage.
- Check that all hardware is free of damage, distortion, sharp edges, burns, and cracks, and that there are no worn parts or corrosion.
- Inspect all snap hooks, carabiners, and anchorage points carefully to ensure the gates and locks operate smoothly and without difficulty. Also, gates must fully close and engage the nose of the hook.
- Make sure self-retracting lifelines pull out and retract fully without hesitation and without creating a slack line condition. Also, be sure the device locks up when the lifeline is pulled sharply. The lockup should be positive with no slippage.
- Make sure all labels and markings are present and fully legible. This ensures the product meets the applicable standards and confirms that it was inspected by a competent person.

Key Takeaways
In conclusion, there are five key takeaways to remember:

1. A successful fall protection program
must be built on the foundation of safe equipment. As such, all personal fall arrest equipment must be properly maintained and serviced to ensure maximum worker safety.

2. Always begin with a thorough visual inspection of fall protection equipment before each and every use. Check for any defective equipment, and be sure to document the results in an inspection log such as this one: http://api.capitalsafety.com/api/assets/download/1/9176767.

3. Immediately replace any component that looks damaged.

4. Stay up to date on all training courses. Your company’s competent person should be able to advise you throughout the process, and he or she should also conduct regular inspections to check for wear on the equipment at least once per year.

5. If you are diligent in inspecting and updating your fall protection and dropped object prevention tools, keeping them clean, and storing them properly, they should perform properly in the event you or your tools fall from heights.

Safety isn’t something that can be bought. It’s a culture that starts at the top and must be ingrained in safe work practices by employees every day. If senior management demonstrates an earnest commitment to safety, so will their employees.

Too often companies only invest in safety after a tragic event occurs. Although most companies now recognize the hazards of working at heights, the next step is for them to realize that fall protection and dropped object prevention must be addressed before — not after — an incident to help improve the personal safety of workers while working at heights. CP

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