OBJECTS AT HEIGHTS:
LOVE STINKS BUT GRAVITY HURTS
AN ERGODYNE WHITE PAPER

With the exception of Chuck Norris, hurricanes and halitosis, there's little more dangerous than a plummeting object. Unfortunately, most tools don't come with wings, so when you have a butter-finger type of day (and we've all had 'em), the tools and equipment you rely on can quickly turn into plummeting little (or big) bombs of destruction.

Aerial safety goes beyond your standard fall protection. In the past, objects at heights hazard-planning has been an afterthought – or not even a thought. Today, regulators and professionals acknowledge the serious, life-threatening risks of falling objects and are instilling rules to ensure proper precautions are followed in the workplace.

REALITY CHECK

According to the Bureaus of Labor Statistics, in 2012, there were 241 fatalities from being struck by a falling object or equipment in the United States which accounted for 5% of all work place fatalities. Dropped objects are a serious concern that can put a workforce at risk and result in lost productivity. Whether in the worker's hand or idle on the work surface, a dangerous dropped object situation can happen without notice. The result can range from inconvenience/loss of productivity to life-altering injury or death.

Other negative results of dropped objects include the cost of damaged equipment whether it is the dropped object itself or an object it impacts below. Calculate this: a worker drops a $1,200 laser alignment device 60 meters onto the hood of a brand new company F-150. Houston, you've got an expensive and unnecessary problem on your hands.

But even if no damage or injury occurs from a dropped tool, a worker can lose hours of productivity by retrieving a mission critical tool, wasting time and money for the company.

OBJECTS AT HEIGHTS RISKS

Objects at heights safety involves the following key risks:

1) *Untethered, unorganized objects at an aerial jobsite.*

When tools and gear are kept in unorganized, uncovered or un-closeable containers or, conversely, not kept in containers at all, there is a much higher likelihood of these objects falling at heights. Pulling a wrench from the bottom of a pile; a jolt of a scissor lift that projects a bag of bolts; or an accidental kick of a loose tool off the ledge are all examples of the unpredictability of this situation.

There is also a need for special attention to cords, ropes and hoses that may line and/or cross walkways. All of these situations create a heightened risk of worker trips and falls caused by loose items and movement from scurrying around to locate them.

2) *Improper transport of objects to and from an aerial jobsite.*

Another serious concern is the transportation of equipment to and from the elevated jobsite. When climbing, a worker must maintain three points of contact to the ladder or structure.* Carrying a bag of tools up in one hand makes it difficult for a worker to abide by this important safety precaution. Not to mention, having to awkwardly carry equipment up to a location or overloading equipment onto a belt or harness. Buckets are a common solution; however, without a top, all it takes it one gust of wind to turn that bucket on its head – literally.

WHAT DO YOU THE US STANDARDS SAY?

Though regulations and other developing workplace standards can sometimes be unclear, there are numerous mentions of tools and equipment in aerial safety. In reference to worksite organization, OSHA states in their General Industry Standard:

1. "Tools, materials and debris not related to the work in progress shall not be allowed to accumulate on platforms."

In reference to falling objects, OSHA states in their Construction Standard:

2. "All materials, equipment and tools, which are not in use while aloft, shall be secured against accidental displacement."

OSHA also continues in the Scaffolding Standard Section to discuss more about prevention of falling objects. They sum everything up in the OSHA Construction E-Tool: "workers secure tools and materials to prevent them from falling on people below."

ACROSS THE POND

The United Kingdom's Health and Safety Executive (HSE) refers more specifically to falling objects in their Work at Height Regulations 2005 (Regulations 10 & 11: 39 - 42):

1. "Where it is necessary to prevent injury, you must do all that is reasonably practicable to prevent anything from falling."
2. "You must ensure that nothing is:
    a. Thrown or tipped from height if it is likely to injure anyone;
    b. Stored in such a way that its movement is likely to injure anyone."
    c.

Additionally, an organization rooted in the UK known as DROPS (The Dropped Objects Prevention Scheme) is gaining global traction and becoming a source for best practices across the oil & gas industry. Their mission is stated as "preventing dropped objects, with the ultimate goal of delivering a second nature dropped objects prevention strategy across our industry."

Their work starts with educating companies and workers on the costs of a dropped object – from monetary, to productivity, to death – and then providing recommended best practices and solutions to reduce/eliminate risk. While they specifically address the oil & gas industry, the education and solutions provided by DROPS are beneficial and can be applied at any aerial jobsite.

OBJECTS AT HEIGHTS SOLUTIONS

Each jobsite and application presents a unique set of challenges and needs. Regardless of shape or size; power or manual; bucket or bag; your gear needs to be where the job is at – whether that's on our beloved terra firma or 90 flights closer to the spirit in the sky. And there are numerous options to get your gear where it needs to be and keep it there – safely.

The first step is to identify the specific challenges for the job at hand and formulate a plan. The next step is to identify solutions to help workers stay safe and be more productive. Critical solutions include:

1) Safely organizing and tethering all objects at an aerial jobsite.

Using organizers to keep cords, hoses and ropes tied up prevents them from becoming trip hazards. Efforts made to tie tools off on a lanyard or tethering device will pay for themselves in eliminating damage to equipment, reducing lost productivity and most critically preventing injury or death.

Many of these tools may not have clean connection points built into their anatomy. In the event the tools you require do not come with built in connection points, workers should be trained to create retrofit connection points onto their tools. These retrofit connection points should not affect the integrity of the tool by requiring you to drill a hole into it for instance. They should be easy to apply, maintain or increase grip and remove without a mess. Inspection steps and replacement frequencies should be established when retrofit connections are used.

2) Safe and proper storage and transport of objects to and from an aerial jobsite.

Best practice is always to cover or close a container when in transit or when not accessing contents to prevent dropped objects. To minimize risk for items falling out, your choice should always be a container or pouch *with* a cover or closure.

Another important decision is whether to carry or hoist the container. If carrying, be sure the container allows the worker to maintain three points of contact. If this proves difficult, look for a container with versatile handles or belt/body attachment methods to free hands up for

what matters most (keeping the worker on the structure!). If the weight of the gear is too heavy for a worker to carry on his or her own, the decision should be to hoist the equipment.

Finally, make sure to look for a weight rating on the product. A proper safety solution should have a stated weight rating and a safety factor built into the product for added confidence.

CONCLUSION

Think *inside* the bucket – and keep it organized up there!

Aerial Height Safety goes beyond your standard fall protection. Once a legitimate plan is in place to ensure workers are safely tied off, the next step is to ensure the equipment going up alongside the worker is just as secure. Identifying and preparing solutions for these challenges is mission critical to completing a full circle safety at heights plan.

For more information on heat stress and heat stress solutions, visit www.ergodyne.com or call 800.225.8238.

WORKS CITED

1. BLS: NATIONAL CENSUS OF FATAL OCCUPATIONAL INJURIES, http://www.bls.gov/iif/oshcfoi1.htm