



## Booms and Beds – Safety Devices that Prevent Incidents



*Source: Great Bend Tribune*

Many advances have occurred over the years that have made linework safer and more efficient. Bucket trucks, digger derricks, and cranes are perfect examples of technology that changed the game for us all. This equipment reduces the labor involved in getting to the top of a pole or structure and makes handling heavy materials a breeze. This equipment makes our work safer by reducing exposure to falls, strains/sprains, and overexertion in bad weather. This doesn't mean safety concerns don't still exist. We essentially shift the hazard from one exposure to another, hopefully reducing the overall risk in the process. In the safety world, we call this a substitution. We should spend a moment talking about substitution and what that means to a worker in the field. The Hierarchy of Safety Controls tells us that the first order of business is to eliminate as many hazards as we can. If we cannot eliminate the hazards, then we must control them. Hazards can be controlled in many ways, ranging from advanced engineering controls down to the last resort, PPE. Using modern equipment is engineered with safety in mind, using the equipment is a substitution for other higher risk methods, and our procedures provide guidance on how to use the equipment properly. Early designs did not have the safety features we enjoy today. There are many sensors and warning devices found on today's equipment that prevent unsafe operation and give visible or audible warning to operators.

I recently attended a safety meeting where modern equipment safety devices were being discussed. For one employer, a rash of incidents related to unstowed aerial lift booms and dump truck beds resulted in property damage, injury, and in some cases fatalities. The

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question in the room was - "What can be done to prevent these types of incidents from occurring?" Many safety devices found in today's aerial equipment are related to stability. In other words, is the vehicle level, are the outriggers deployed properly, is the boom out of the boom rest, is the parking brake set, etc.? Many manufacturers have designed their equipment with sophisticated interlock systems that will not allow the boom to be raised until the outriggers are extended, and some have visual and audible alarms to alert the operator when the boom is out of the boom rest. Aerial devices that use a counterbalance system may not have outriggers at all. In these cases, an outrigger/boom interlock system is not the answer. These devices are great when they are working properly. Unfortunately, they can become misaligned, stuck, or stop working altogether. This happens more often than we would like to admit, and the line worker is tempted to bypass these devices to keep the job moving. Routine inspections and preventative maintenance can go a long way in preventing this.

To complicate things, some aerial devices need to be moved when the boom is out of the rest. Communications companies may string wire while the boom is aloft, tree companies may dump wood chips while the boom is aloft, and dump trucks will dump their loads with the bed raised while moving. In these cases, the equipment design must account for how it will be used without sacrificing safety. It is the duty of the manufacturer to engineer and design the equipment with an understanding of how it will be used in the field and provide direction for how to perform tasks safely using their equipment.

This is one of those issues where a one size fits all solution isn't available. Contractors should evaluate their fleet of vehicles and consider how the design will prevent incidents from occurring. Four main considerations should be: 1) What interlocks or warning devices are present to keep my workers from driving off with the boom/bed in the air? 2) If my work requires the truck to be moved with the boom out of the rest, what procedures ensure clearances and stability are maintained? 3) What interlocks or warning devices are present to make sure the equipment is set up properly and stable? 4) How does my fleet inspection and maintenance program account for these devices?

I would be interested to hear from you about incidents that may have occurred in your area and any solutions you may have found to prevent recurrence. Please share your thoughts and ideas with me on this subject.

Thanks,

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