

2017 President's Award



Work. Home. Community
A Chapter of the National Safety Council

Employees exposed to heavy / vibrating impact wrench to stretch pump rods one at a time.
Hydraulic system stretches all 4 rods simultaneously with no exposure to ergonomic risk factors.

Before



After



Syngenta Seeds Jefferson, IA Box Wash Robot Installation

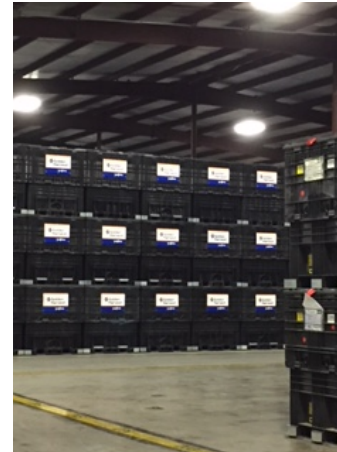
Upon completion of soybean planting, seed dealers return empty bulk boxes to warehouse from prior sales season. Syngenta Seeds at Jefferson cleans 20,000+ bulk boxes every summer in preparation of upcoming bagging season.

This process was previously done by having employees stand on an elevated platform and manually clean each bulk box using a high pressure washer wand. Performing this task posed many ergonomic concerns and slip hazards while working in an elevated heat stress environment.

With project funding and support from Syngenta Engineering, a robot was installed in May 2017 to utilize automated technology to perform the box washing task. Not only was site personnel safety improved, but plant throughput efficiency increased as well.



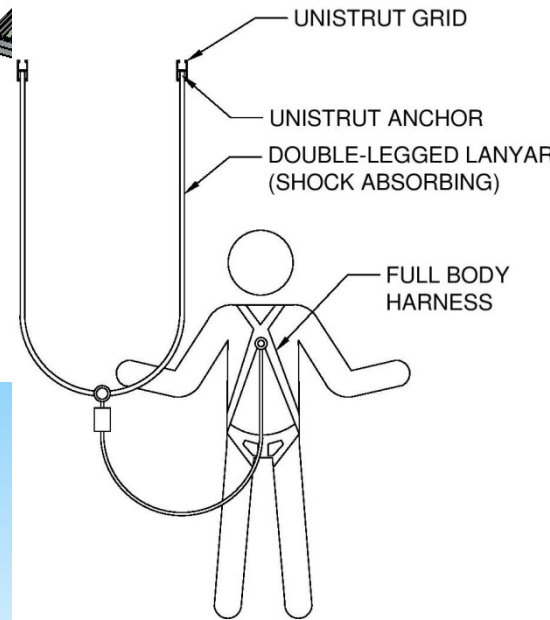
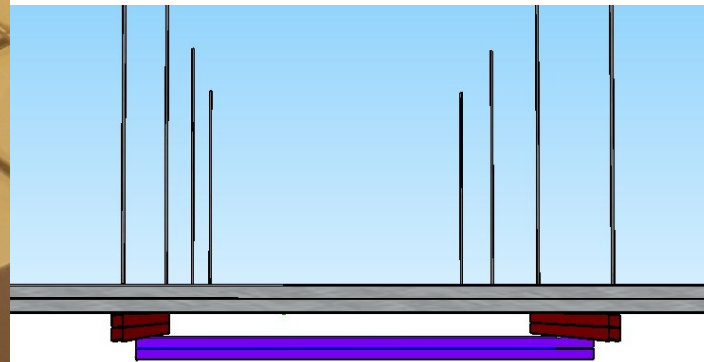
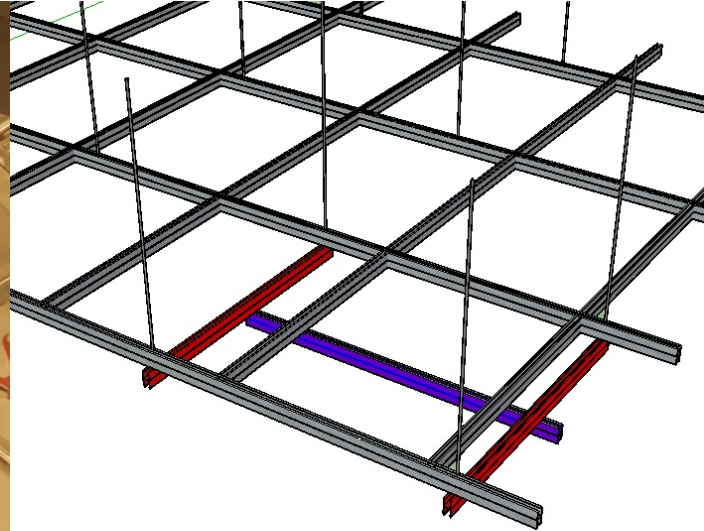
Old Method



Bulk Boxes



New Robot

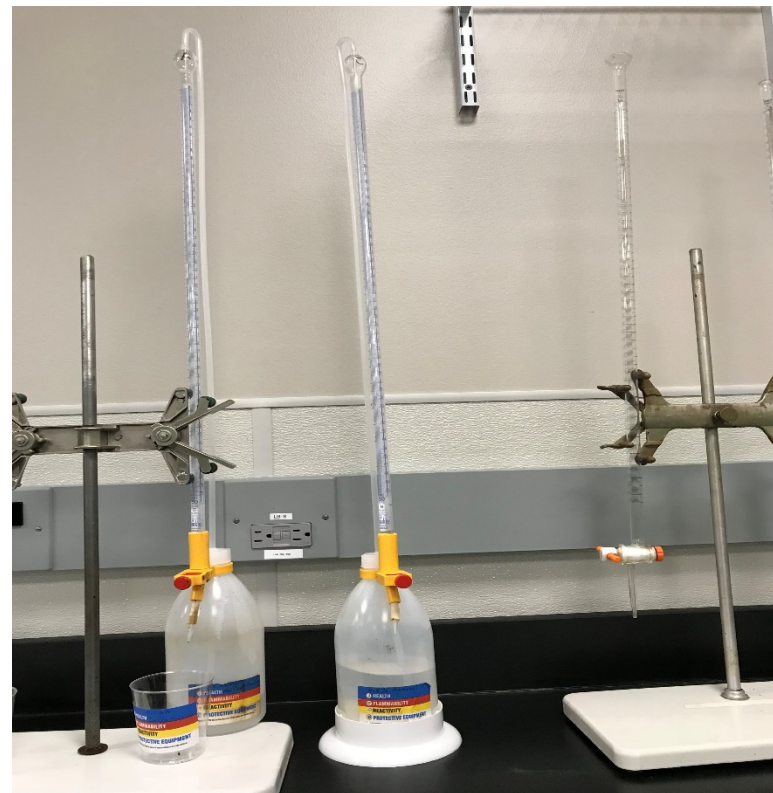
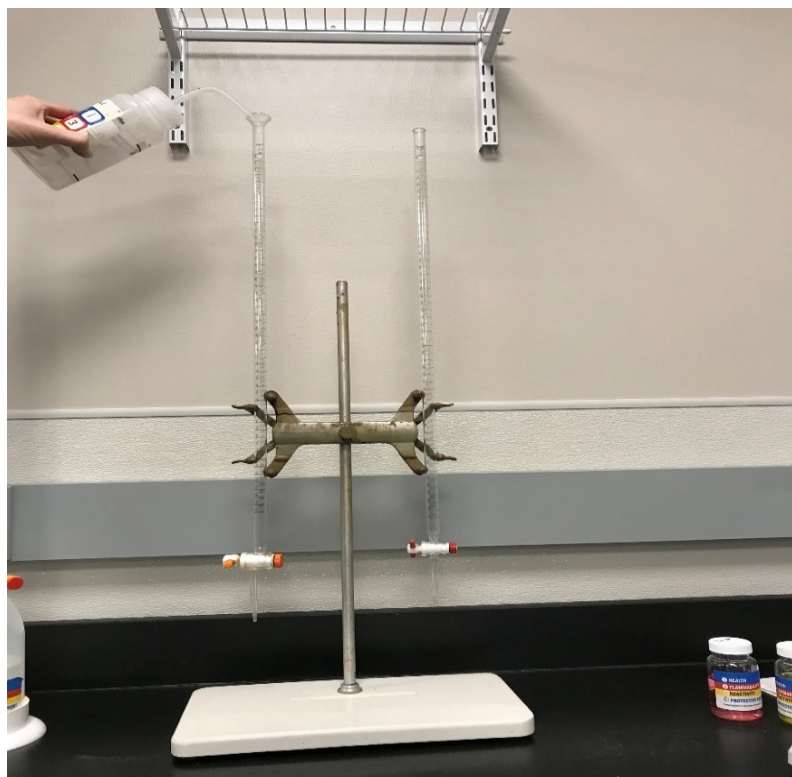


One of our projects included many rows of data servers that required work to be performed on top of them with no available tie-off anchorage points. We determined that a fall protection system must be designed in order to properly tie-off. Using the existing ceiling grid with known load-bearing capacity as well as unistrut and DBI continuous concrete insert anchors with carabiners, we were able to design a system that allowed for adequate anchorage using a double-legged lanyard and fall harness. The system used the strut to span between the existing grid and disperse the weight appropriately. This was sent for final approval and signed off by a professional engineer to ensure accuracy. After implementation, the employees were able to properly tie-off and move about the elevated work area as needed while eliminating the risk of falls.

Flint Hills Resources Dubuque Iowa

Risk

As part of a production task, we identified a potential spill/splash hazard associated with the process of filling a burette with acid. Although appropriate PPE is worn while performing this task, we didn't want to rely on the PPE as the last line of defense and challenged ourselves to explore other potential control methods.



MITIGATION

Understanding that PPE is the last line of defense, our team found a completely enclosed process that eliminates acid exposure while filling the burette. The enclosed system (shown above) also has an overfill protection system—any acid over 50ml will travel back down the plastic tube to the holding tank. In addition, the enclosed unit also has a bottom ring that prevents the container from tipping over accidentally.

Wheel Chock Improvement - Renwick



Problem (before improvement):

- Wheel chocks were hard to see, making safety confirmation difficult. Also, from an ergonomics standpoint, bending and stooping were required to place and remove the chocks.

Improvement:

- Replacing all chocks with new style. Handle and sign make these very visible, even from a distance or looking through a mirror. The handle also eliminates the need to bend or stoop.

Benefits:

- Creates a safer environment by eliminating some ergonomics concerns, and helping to make the chocks visible for both the Pioneer employees and the truck drivers.