

## When One Is Not Enough

*Combining Multiple Equipment Types for Improved Ergonomics*

BY JEAN FEINGOLD

**I**n the current tight labor market, facilities are seeking ways to streamline manual material handling (MMH) to increase productivity, reduce turnover and decrease injuries by adding equipment designed to improve ergonomics. To select the right equipment, it is necessary to view tasks holistically, examining the full series of movements needed to get the job done. That means it might take more than one piece of equipment to achieve the greatest ergonomic benefit.

"For example, look at a workstation and carefully examine what the worker does there," said Jim Galante, director of business development at MHI member Southworth Products Corp. and chair of MHI's EASE Council. "What is happening from the time the material gets there until it leaves?"

It is desirable to improve processes requiring repetitive motions or excessive force and those involving awkward postures like long reaches in front of or above and below the operator's ergonomic window, noted Jason Williams, engineering manager for MHI member Unified Industries, Inc. and chair of MHI's Monorail Manufacturers Association, Inc.

### Task and solution examples

Imagine a workstation surrounded by two pallets where a worker repairs various devices ranging from cellphones to window air conditioners. The items to be repaired arrive on one pallet, are moved to the workbench for processing, and end up on the other pallet after repair completion. Using an adjustable height workbench makes it possible for the same workstation to be used for repairs to devices of several shapes, weights and sizes.

To help the worker move the large, heavy A/C units from the pallet onto the workbench, a lift table could be used to raise the pallet. If the worker lacks the upper body strength to pick up the unit,

a jib crane mounted over the bench with either a small electric hoist, a balancer or a vacuum tube lifter can be used to place the unit onto the bench. Companies will decide which of these three options to buy based on price (with balancers likely being the least expensive), availability and which tool is most efficient for the task, Galante said.

To enable the worker to reach the A/C unit's back without walking around it, put it on a turntable on the workbench. This saves the worker time and reduces risks of tripping or injury from reaching across the unit.

"With small items like cellphones, the issue is repetitive motion," said Galante. "This causes cumulated trauma disorders (CTDs) from picking up the same items the same way thousands of times daily. Most worker injuries come from CTDs rather than from a single traumatic event." The answer here may be varying the task slightly so different muscles are used. Provide an adjustable height workbench so the employee can work sitting or standing. While standing, they can place one foot on a footrest which changes their hip position. Other options are using the other hand sometimes, tilting the work surface and rotating the load with a turntable.

Another example involves warehouse workers who pick orders of heavy goods like cases of soda and place them on a pallet. To make this task more ergonomic, combine a powered walkie order picker with a pallet load leveler whose height adjusts as the pallet is filled. This reduces the need for workers to bend over.

"Unified Industries recently provided an ergonomic solution for a customer who needed to move large, cumbersome water tanks between two manufacturing processes," Williams noted. "The customer had to lift, tilt and position water tanks that weighed up to 1,000 pounds safely with only one operator. The tanks had to be carried about 20 feet between processes. The solution was a power-driven patented track system with an ergonomic lift assist. The combined products offered the customer a safe and ergonomic solution to their manual material handling challenge."

### The big picture

"There may be one piece of equipment that solves every ergonomic issue in a particular situation but this is not always the case," Galante said. "The goal is to solve the whole problem, which may require multiple pieces of equipment."



This arrangement illustrates the idea of placing a workstation next to a conveyor.

## SAFER HANDLING

Companies tend to focus on doing just one thing, which will make things better but it isn't the real solution. They may feel it is too expensive to add multiple tools and instead will settle for an 80 percent solution."

"One product or piece of equipment may not solve the complex needs of the customer's process or ergonomic problem," Williams pointed out. "Combining multiple solutions can ensure that the operator is working within a proper

ergonomic window. This reduces injuries due to strain or over exertion."

The additional expense from buying more than one piece of equipment to solve a manual material handling problem can be justified with improved work results, which may include saving money on labor. "Using multiple material handling solutions means reduced injuries and less fatigue for the company's work force," Williams explained. "This will reduce work time loss due to injury and lessen workmen's compensation claims."

Providing a less physically stressful workplace recognizes the reality of today's workforce. "At companies where workers are aging, out of shape and lacking upper body strength, there is no choice other than buying assistive equipment to help them, or the work won't get done," Galante stated. "Every company today is looking for workers. Companies must work with the people they have and they very much want to keep them because they are so hard to replace. Investing in the right equipment is essential to maximizing the efficiency of workers." ●



- Foam interior diffuses impact energy protecting uprights
- Fits all makes and models of pallet racking
- Bright color aids detection for MHE drivers
- HDPE tough outer shell deflects impacts and shields uprights from damage

**Dealers Wanted!**




made in USA



**Trusted and used by...**











**WWW.RACKARMOUR.COM**

Toll Free: 1-888-683-5875  
Email: [info@rackarmour.com](mailto:info@rackarmour.com)





Meet SuperPick™

**AN AUTOMATED BIN PICKING SOLUTION FOR ORDER FULFILLMENT AND LOGISTICS**

Designed specifically for e-commerce, grocery, retail and logistics environments, SuperPick™ combines the power of patented Soft Robotics Technology with artificial intelligence to enable the automation of highly unstructured tasks like bin picking, sorting and goods to robot fulfillment.

**Learn more at [SoftRobotics.com](http://SoftRobotics.com)**

 /softroboticsinc
 @softroboticsinc
 /softroboticsinc
 Soft Robotics Inc.
 @softrobotics

