Tools & Workstations For Efficient Assembly

Rachel Leisemann Immel, Associate Editor, IMPO

This article first appeared in IMPO's June 2012 [1] issue.

From prototyping to pick slip, handicraft to high tech, industrial assembly equipment needs to support a variety of operators in a variety of jobs. The gains in productivity that can be garnered from ergonomic, efficient, and practical assembly tools and workstations should be important considerations for any manufacturer looking to invest in industrial assembly tools, and these are already integral factors for those designing them. “Manufacturers want tools that enhance productivity, improve accuracy, and are easy to use for operators,” says Jackson Wang, product manager for Cleco with the Apex Tool Group.

Exceeding Expectations

Every industrial assembly application carries with it its own set of challenges and every employee has work to do — and needs efficient, comfortable, and practical tools to do it. “Customer research and in-field observations are key components to designing tools that meet the unique needs of industrial end users,” explains Wang. “Field research enables Apex Tool Group to enhance its tools with each new product introduction.” Apex Tool Group actively and regularly solicits feedback and input from its customers for its design and manufacture of products “that not only meet but exceed expectations,” he adds.

Citing the new Cleco® 19 Series Screwdrivers, Wang says this tool addresses the needs of all operators — this particular tool can be used by both right and left handed operators, and its interchangeable soft-touch handle is designed to accommodate a wide range of hand sizes. Adaptable tools provide manufacturers an opportunity to reduce operating costs, and also provide improved ergonomics that can help to reduce operator fatigue. This new tool is also designed with advanced materials to lower tool weight and features an adjustable lever near the trigger for one-hand operation, all to provide a durable tool that is ideal for every user.

“Fatigue is a major issue,” stresses Erica K. Rice, vice president of marketing with Production Basics, an ergonomic workstations and accessories company. “When operators and employees are comfortable, they are able to perform tasks more efficiently and quickly.” In addition to having the right tools, the ultimate workstation — including the right work surface height, equipment positioning, tool and supply access, and proper lighting — can help a manufacturer avoid operator fatigue and injury. Reducing — and ideally eliminating — injuries from the commonly repetitive tasks found in industrial assembly environments can cut down on lost productivity time, and also lower workers’ compensation clams and insurance premiums, directly impacting the bottom line.

One Size Doesn't Fit All

"A 'one size fits all' workstation opportunity is very rare," Rice says, "so having a variety of sizes, work bench models, accessories, and modular components is crucial for workstation manufacturers." One option that manufacturers are exploring is the variety of different work surface materials available today. In addition to traditional laminate benches, maple block, chemically resistant surfaces, stainless steel — and a variety of edging styles — are becoming increasingly popular. Environments that are very corrosive or have a high level of moisture might require an epoxy resin workbench while a rubber elastomer surface provides electrical resistance. "Production Basics works diligently to keep up with new directions in manufacturing," Rice adds, "and adjust the product line in connection with those trends."

In addition to a variety of work surfaces, there are also options for industrial manufacturers to consider when optimizing material flow in their assembly systems. "Considering the entire work area and process is just as important to productivity as a single workstation, managers should consider activities that are performed throughout the day, such as taking in product, finishing, or retrieving supplies," Rice emphasizes. Careful consideration of the sizes, shapes, and accessory configurations of other workstations in the area, and how they function together, can help lead a manufacturer to see where productivity can be optimized.

"Carts and racking are smart choices for manufacturers who handle and transport product often," says Rice. Carts can help an operator avoid carrying excessive weight that can cause injury, and also help with reducing trips to the next stop in the plant, saving time. Flow racking allows an operator to store a variety of supplies in a small area, keeping them handy for the user and providing easy control over inventory. Lifting and bending are common movements that can waste time and unnecessarily strain workers — increasing the chances of operator fatigue or injury.

With any job, choosing the appropriate tools are crucial to worker productivity, safety, and efficiency. "Every manufacturing customer is different — their products, facility shapes and layouts, processes, culture," says Rice, "and successful workstation manufacturers have adapted to meet their customers' requirements."

Source URL (retrieved on *09/23/2014 - 10:26pm*):
http://www.impomag.com/articles/2012/06/tools-workstations-efficient-assembly?qt-most_popular=0

Links:
[1] http://www.impomag.com/digital-editions/2012/06/june-2012-jobs-report-2012