The little line that could

Small munitions team produces **big results** for warfighters.

By Kevin L. Smith

Boeing munitions mechanics in St. Charles, Mo., are proving that you don't need large numbers to get the job done.

On a single mixed-product assembly line, only 18 workers are needed to produce nearly 1,000 bombs per month for U.S. and international customers—about 700 Joint Direct Attack Munitions (JDAM) and 240 Small Diameter Bombs (SDB).

"Teamwork is at the heart of what we do," said Kevin Dorsey, JDAM/SDB production manager. "By working together and establishing the single assembly line, we were able to successfully cut down on cost and time, which was our main goal. We will continue to look for innovative ways to make the work we do more effective and efficient."

The High Performance Work Organization (HPWO) team has taken a unique approach to increase productivity and sustainability on the assembly line. Each mechanic is trained to perform all jobs on the line, from JDAM and SDB assembly to shipping and receiving of parts. Each day, the mechanics rotate positions to optimize efficiency, maximize cross-training, reduce injuries due to repetitive operations, keep employees engaged and make it easier to adjust assignments for unplanned absences.

"We are a small group and we have the chance to do a variety of tasks. We are able to learn the whole system rather than focusing on a single operation," said Terry Griffin, munitions mechanic.

The team, which boasts a Stage Four maturity level, the highest level an HPWO team can attain within Boeing, also stresses the importance of lean manufacturing.

"The emphasis on Lean manufacturing reduces waste in the process," said Floyd Cline, production manager of the Weapons Programs manufacturing facility.

In addition to stressing lean manufacturing practices, the team has changed the way the line works by utilizing a "rebalancing" process to maximize efficiency. The line has been rebalanced three times since 2002, and the results have been substantial.

The most recent rebalance was initiated in February by an employee Production Preparation Process, or 3P, team and identified options for running the munitions assemblies of JDAM and SDB down the same production line. In just a week, the team determined the best way to run the line, including the frequency of running mixed munitions.

"Since SDB has been added to the line, it has created a synergy with JDAM and has resulted in a reduction in cost for SDB," said Dan Meyer, Operations director and site manager for Weapons Programs. The previous rebalances took place as a result of rate reductions to maximize efficiency, meet demand, decrease input and increase output to meet customer needs.

The team worked on rebalancing the line to the new takt time (the maximum time allowed to produce a product in order to meet demand), while ensuring that the work content for each station was equal and below the takt time. They also were able to develop good descriptions of all the support positions needed to ensure that production goals continue to be met for JDAM.

Dan Jaspering, director of Direct Attack Programs, noted that it is ultimately the warfighters who benefit from the hard work of the JDAM/SDB team. "Supporting the troops is our top priority and focus. We are committed day in and day out to providing the weapons and systems they need to complete their missions. We never forget that their lives depend on us." ■

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PHOTO: Terry Griffin performs final assembly of a Joint Direct Attack Munitions tail kit, one of many tasks each munitions mechanic is trained to perform.
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