Making An IMPACT

Dedicated employees and a clear, goal-oriented vision have transformed Snap-on's Murphy, NC power tool plant into a Shingo Prize winner.

By Jeff Reinke, Editorial Director, *IMPO*

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At the risk of plagiarizing Charles Dickens, those associated with Snap-on Tools [1]' acquisition of Sioux Tools [2] in 1994 could describe the years following that purchase as both the best and worst of times for both companies. On one hand, Snap-on added a well-known and highly respected industrial maintenance power tool company to its already successful collection of product offerings. However, the Sioux brand would eventually face sagging profit margins that could be directly traced to a number of negative operational factors, like $4 million in late orders. (Read the four steps Rob Hartman, director of manufacturing at the Murphy plant, deemed necessary for transforming operations. [3])

Sioux's situation is common to a number of American manufacturers. A marketplace that was already flooded with competition has been made even more daunting by offshore manufacturing initiatives from both foreign and domestic brands, which translates to lower price points across the board. To stay competitive, a number of changes would need to be made.

Many of these changes came to fruition after a move from Sioux City, IA to Murphy, NC in 2002. The area welcomed Snap-on with open arms, as it had seen a great percentage of its economic base leave when many local textile operations relocated overseas. The Murphy facility now employs 181 people, produces over 400,000

power tools each year and ships greater than 1 million products annually. In all, 35 percent of these products are Sioux branded, which are marketed, designed, and serviced exclusively in Murphy. The remaining 65 percent of products are Snap-on branded. Murphy represents one of three Snap-on power tool plants, including a location in China.

With these dynamics in place, Rob Hartman, plant manager at the Murphy location, was faced with two unique competitive challenges. First, he needed to improve operations at the facility in order to improve the Sioux delivery times and overall profitability. Secondly, he had to demonstrate the viability of manufacturing in Murphy, or risk losing those jobs to other Snap-on plants.

Taking It From The Top

“Initially, we tried to make spot improvements, but after a while we realized that approach was simply not having a great enough impact,” recalls Hartman. “So we re-evaluated everything at the macro level. We re-designed the entire plant’s layout. We looked at individual work cells, as well as storage and inventory placement and practices in order to see how we could reduce travel distances and improve overall efficiency,” he recalls.

The implementation of this Kanban system for machined parts helped to greatly improve the inventory levels and on-time delivery rates of **Snap-on's Murphy, NC** power tool plant.

“We also tried to implement a number of simple visuals throughout the plant. This can have a very basic, but rather significant impact in helping to track work flow and improve replenishment strategies in individual cells, and at our distribution point,” offers Hartman. A prime example of this can be seen by the closer placement of assembly work cells in proximity to each other. This not only eliminates the need for fork trucks in this area, but offers a quick grasp of which parts need to be replenished, how many units are ready for packaging, and where work flow issues may reside.

“We also changed the reporting structures,” states Jacob Gunia, the plant’s continuous improvement manager. “There are fewer departments and less of a siloed structure. Instead of having a quality department only focused on trying to find defects, we have quality engineers working for each value stream manager to help ensure and improve quality.”

The roots of the turnaround in Murphy can be traced to the implementation of Kaizen, and the continuous events that are held throughout the year. Hartman also has TPS consultant/Sensei Shingijutsu visit the plant annually to help evaluate, motivate, and accelerate the lean programs. All of these events are supported by weekly roundtables and other related initiatives that contribute to a culture of constant operational improvement.

“The key was getting the people involved,” states Hartman. “And due to the plant closings this area has seen, people understand how embracing these types of programs will translate to job security. We’re in the phase of transitioning from management-driven improvement to employees spearheading and sustaining these efforts.” One way in which the company is working to further this dynamic is by identifying four employees that will take on full-time positions as lean technicians for three-month spells. These individuals not only bring their unique perspectives and experiences to these positions, but return to the plant floor as even stronger advocates of the Kaizen-based methodologies for improving operational efficiencies, and, as a result, the company’s financial performance.

Rewarding Experience

Recent **Kaizen** events have identified several pieces of equipment that are no

longer needed.

The approach and employee participation have the company heading in the right direction. So much so that the plant was recently awarded the Silver Prize by the North Carolina Shingo Prize Program for Manufacturing Excellence. It was one of two facilities to receive the award, which is administered by the Industrial Extension Service (IES) of North Carolina State University. The award is given to "organizations that have positive improvement trends in business functions and show many examples of improvement projects focusing beyond daily issues." The facility will also be showcased on an upcoming episode of the Discovery Channel's "How It's Made" program, with an inside look at the production of Snap-on's MG31 impact wrench.

But while television shows and trophies are all fine and good, Hartman and Gunia are more proud of the other, more tangible accomplishments that have taken place in Murphy. The plant is somewhat unique in that it makes most of the metal components required in the assembly of its power tools. So with this much machining taking place, material handling, inventory management and part replenishment strategies become incredibly important. This made the implementation of a new Kanban and parts supermarket vitally important in helping to better control overhead costs.

Before the appropriate measures were implemented, parts were machined without particular regard to the types of orders that were being received. This resulted in an over-abundance of some parts and production of tools that weren't needed right away, which lead to inventory levels in excess of $15 million. Even worse, there was often an inadequate supply of other parts, which lead to shortages and the aforementioned abundance of late orders. Hartman and Gunia say inventory levels are down almost 40 percent since 2002, with about 4.5 turns a year. Although neither are satisfied with these levels, they do show considerable improvement.

The focus on visualization has also produced significant "advertising space," as Hartman refers to it. With the Kaizen events often addressing a specific work cell, more than two dozen pieces of machinery were found unnecessary, and as a result, they have been sold or donated. This has created more room for expanding the production capabilities of this facility, which Hartman is happy to point out to visiting Snap-on executives.

Other improvements that have been made include the following:

- Instead of purchasing boxes for shipping, Hartman invested in the equipment necessary for making boxes from rough cardboard. It saves money, and provides scrap used for product packaging.
- Investments have been made in new lighting units that save as much as $10,000 a month on its electric bills.
- The OSHA recordable incident rate at the plant dropped from 7.6 in 2004 to 1.6 in 2007. The national average in their industry is 6.5.
- Sales dollars/associate improved from $250,000 in 2004 to $325,000 in 2007.
- Lead times on made-to-order items have been reduced from eight to four weeks, with the ultimate goal being two.
- Perhaps most telling, when employees were asked: "My business unit does

an excellent job of keeping associates informed about matters affecting us," 37 percent agreed with the statement in 2004. In 2007 that grew to 87 percent.

Vision: 2010

Although a great deal of progress has been made, Hartman and Gunia know the continuous improvement journey has just begun. The plant's initial vision offered some lofty goals, which will continue to be the case as they look forward to challenging for the national Shingo Prize in 2010.

Murphy has a population of about 1,500 and rests in a scenic, yet somewhat isolated part of southern North Carolina. In rebounding from the textile mills pulling out, those employed at the Snap-on plant have seized the opportunity presented to them, and seem to be making the most of it. It's reminiscent of the Hank Williams, Jr. song in which he describes with pride how "you can't drag us down and you can't make us run" because country folk will survive. After seeing the resolve of the people in Murphy first hand, Hank could have been talking specifically about this group, and I wouldn't bet against them come 2010.

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