

Warren Distribution– Economy-Energy-Environment (E3) Improvements

Industry

324191, Petroleum Lubricating and Grease Manufacturing

Company City

Guntersville

Company State

Alabama

Company Name

Warren Distribution

NOTE: The Alabama E3 Program was launched in 2010 to focus lean continuous improvement tools and strategies on the three areas of Economy, Energy and the Environment. The program is comprised of 26 federal, state and local partners and is administered by the Alabama Technology Network (ATN). To date, the ATN has assisted more than 40 companies through the E3 program saving thousands of dollars in cost reductions and avoided expenses through the implementation of efficiency improvements.

Company Profile:

Warren Distribution blends and packages lubricants for automotive parts retailers, commonly known as private label sales. The Guntersville, Ala. plant runs three lines, providing quart-, gallon- and pail-size packaged containers.

Situation:

With the advent of the ATN's role in facilitating the Alabama E3 program, Warren Distribution wanted to tap into the opportunity to focus on Improving performance and throughput on its quart-size container packaging line. With a forthcoming increase in business, Warren Distribution was facing either having to add a second shift, or, improve its capacity with present equipment and staffing.

Assistance:

ATN-AU led a cross-disciplinary kaizen team of eight to conduct energy kaizen events on the quart packaging line. The team identified key improvement opportunities to be comprised of throughput obstacles caused by Overall Equipment Effectiveness (OEE). OEE is the product of availability, performance and quality. Availability is affected by breakdowns and changeovers. Performance is hindered by idling and minor stoppages and reduced speed. Because breakdowns and quality issues are not significant on this line, the team chose to focus on changeover and performance issues with an objective of being able to produce additional product while holding energy use at a constant level. Improvement events were set to accommodate production scheduling and held on the following dates: March 15, 21, 22 and April 5 and 20.

The team implemented the following countermeasures:

- **Established standard work for changeovers:** The operations team is comprised of a primary operator, packaging assistant, depalletizer assistant, blending assistant and material handler. The team created standard work for

- each operations team member and associated with the production changeover variables of oil type, bottle color, cap color and label;
- **Initiated equipment improvements to reduce slowdown:** Through direct observation the team identified opportunities for making equipment improvements to reduce slowdowns, where the operator had to run the line at sub-optimal speeds due to jams and malfunctions;
 - **Developed check sheets** to help identify problem areas and they occurred and to provide visual controls and management capability;
 - **Identified the need for a capital** improvement and attained a \$17,500 approval to upgrade the vision system.
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Results:

Kaizen activities allowed the team to set new production rate standards for various product types. Improvements attained averaged 3.7 percent. Using three weeks of production data collected prior to the kaizen and three weeks of data compiled after the kaizen, changeover time decreased by 32 percent. Throughput increased by 29 percent.

Throughput improvements allowed Warren distribution to avoid running a second shift. A 10-hour shift on the quart-packing line uses about 40KWh of energy. By avoiding having to establish a second shift, Warren Distribution saved about 6,400 kWh, or, about \$5,400 annually in energy costs.

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