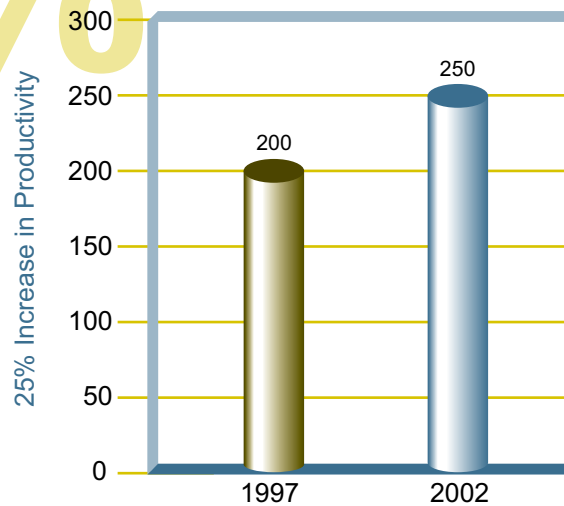


Ligon Brothers

Small-Scale Manufacturer Makes Large-Scale Improvements

Ligon Brothers, a family owned and operated manufacturer based in Southeastern Michigan, has a variety of capabilities including plastic extrusions and laminations, plastic and metal assemblies, and a full-service metal and stamping operation. Ligon Brothers is a QS9000/ISO 9001 quality certified company with a single location and 160 employees. It supplies a broad range of products to the automotive and non-automotive industries.

25% 25% Productivity Increase



Humantech assisted Ligon Brothers Manufacturing Company in applying high-impact, low-cost ergonomic improvements to the redesign of a transfer press work cell, increasing productivity by 25% while reducing recordable incidents 100%.

Ligon Brothers

The Challenge

As a small-scale manufacturer, Ligon Brothers was facing increased competition and unacceptable injury rates. In 1997, there were 47 recordable incidents, signaling a need for change. In particular, the K-137 transfer press work cell, with five long-time operators, had been reporting less than optimal production and 10 recordable incidents, including a serious and costly back injury.

The K-137 cell manufactured stamped metal support assemblies with five distinct operations including press operation, nut welding, leg welding, unloading, and box building. These five operations required each operator to repetitively extend, bend, and twist the back while reaching, loading, and unloading the stamped parts.

Other high-impact, low-cost improvements included installing light-beam-activated switches at the leg welding station, reducing non-neutral wrist postures and operator fatigue, and repositioning the nut welder staging table closer to the press belt conveyor, decreasing the operators' reach.

The most challenging and logistically difficult recommendation was to eliminate the box builder position by switching to recyclable, collapsible, plastic dunnages. Although this change required coordination with clients, the result eliminated all of the ergonomic risk associated with that operation and reduced the number of person-hours needed in the work cell.

The Solution

Ligon Brothers sought assistance to analyze the current K-137 work cell and redesign the work process. Humantech conducted risk assessments and interviewed the operators to identify areas where ergonomic risk could either be eliminated or at least greatly reduced.

The recommendations were then ranked and categorized according to impact and ease of implementation to highlight those that were high-impact and low-cost. In all, 12 recommendations were identified, with the majority of them falling into the high-impact, low-cost category.

One of the highest-impact improvements proved to be the installation of conveyors between the presses and welding stations, eliminating double handling of parts and alleviating the bends and twists required to remove the parts from storage bins.

The Results

Ligon Brothers implemented seven of Humantech's work cell redesign recommendations by the end of 1998. The K-137 transfer press work cell has increased its production from 200 parts per hour to 250 parts per hour while maintaining staffing levels. Equally as impressive is the reduction in recordable incidents from 10 in 1997 to three in 1999. At the end of 2002, the K-137 cell was operating with no recordable incidents, a 100% reduction.

The K-137 work cell ergonomic improvements have spurred Ligon Brothers to invest in other Humantech programs such as ergonomics training for all of its operators, a train-the-trainer program, and further investigations into redesigning all of its operations into efficient work cells. These programs have reduced plant-wide recordable incidents from 47 in 1997 to only 13 in 2002.

About Humantech

For 30 years, global companies have relied on Humantech for workplace improvements. By combining the science of ergonomics and our unique 30-Inch View®—where people, work, and environment intersect—we deliver practical solutions that impact safety, quality, and productivity. At Humantech, we believe people make productivity happen. The 30-Inch View is a registered service mark of Humantech, Inc., 2008.