

Disruption-Free Production

Brings a Sense of Urgency to the Pressroom

by Brad F. Kuvin, Editor

Electrolux Home Products doubles press

A large investment and plenty of sweat equity has enabled the pressroom at the Electrolux Home Products plant in Springfield, TN, to dramatically increase its capacity in a few short years. The 56,000-sq.-ft. pressroom stamps out twice as many parts for kitchen ranges per day as it did in 1995. How did it manage to do this without adding new equipment? Credit goes directly to a program implemented in 1998 called Disruption Free Production (DFP), focused on personnel and training issues, equipment setup and timely maintenance aimed at optimizing press uptime.

First and foremost, Electrolux invested heavily to update presses with new drives and controls, to allow them to run faster and more accurately. Secondly, eight new servo-controlled roll feeders, supplied by Dallas Industries Inc., Troy, MI, were installed to increase feed accuracy and improve control reliability. And two new servo-transfer systems, supplied by HMS Products, also in Troy, MI, were installed on two critical presses to replace obsolete controls and increase accuracy.

production by meticulously tracking and

minimizing downtime events, streamlining

maintenance procedures and implementing

quick-die-change techniques.



To make sure that the improved presses run at their highest possible uptimes, engineers addressed the difficult-to-manage people issues that can limit productivity in areas such as die changing and press maintenance.

Understanding Downtime

To improve troubleshooting activities and prioritize the decision-making process used to implement productivity-enhancing ideas, the firm invested in new process controllers that track and manage production data. Controls were installed on each press as it returned from its 14-week rebuild. Then, pressroom manager Brad Graham, with plenty

of production data at his fingertips, embarked on a mission to minimize press downtime by slashing press-setup and die-change times. He also streamlined press maintenance and repair procedures, enabling the pressroom to quickly recover from downtime events and make shift transitions smooth and fast. In short, Graham looked to create a sense of urgency in the pressroom.

"Since September 1999, we've been able to increase production by 143 parts per person on our 300- and 600-ton stamping lines," says Graham.

To identify training needs among his crew of 166 that helps keep 26 presses running strong, Graham needed production data, and plenty of it. Immediately after taking over the pressroom last September after transferring from the industrial-engi-

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fer dies, and we recently added some new operators there. We were experiencing die-setup and troubleshooting delays. Those presses produce critical parts on dies that we can't outsource, so they need to be running smoothly. We've found that well-trained operators can troubleshoot common problems and have a press up and running in approximately 15 minutes. However, tracking those presses using LinkNet told me that we were experiencing delays as long as four hours. So by pinpointing our training needs, we've been able to realize significant improvements."

Managing Maintenance

Some downtime is unavoidable, particularly when presses show their age. So Electrolux also has worked hard to enable its pressroom to recover from equipment-related downtime events quickly. Mark Frauendienst, senior maintenance engineer at the plant, has been on a two-year mission to upgrade press controls

The control pinpoints the ladder logic to enable the technician to bring a press back up and running in an hour or less. Before, we might have been out of production for several hours or even days.

"Our five-press transfer line, where we produce the U-shaped, three-sided range chassis, is used in every range we make," continues Frauendienst. "That's a lot of hits from those machines. The line feeds a 20-station folding and resistance-spot-welding line to create the range chassis, so uptime there is critical to meeting our plant-wide production goals. And the easy-to-use diagnostics on the new controls make it run with improved reliability."

Half of the presses in the Electrolux pressroom have been outfitted with new OmniLink 5000 press controls, also from

ity to select Spanish-language prompts and diagnostics is very useful."

Happiness is a Frustration-Free Pressroom

"Being asked to double production while working with old presses and controls really challenged this place, particularly the maintenance people," shares Frauendienst. "As we've grown, we've added a lot of new people. By working upfront to collect data from the machines, we've been able to pinpoint training needs. And, the new controls have allowed us to keep the machines running as well as possible.

"We experience less frustration in the shop because our tools are running better and we've been able to cut back significantly on our outsourcing, which makes everyone happy. We're now running several-thousand more parts per week than we were a year ago due to increasing our capacity and bringing out-



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that, among other productivity-enhancing features, make press troubleshooting and repair a breeze. Mark works with a crew of 43 mechanical and electrical technicians, managed by Ronnie Keith, manager of maintenance and facilities.

In early 1998, Frauendienst recalls, "as part of the DFP process, we began to rebuild some of our presses and to speed some of them up by 50 percent. When the presses go out for rebuild, we also install new controls, which, when a press goes down, indicate for the technician the specific fault causing the stoppage. It might be a problem with a tonnage monitor or the lubrication system, for example.

Link Electric. Seven other presses now carry the Link 501 control. The 5000 is modular, allowing a firm to add optional capabilities as needed. It can control the clutch/brake, a programmable limit switch for sequencing auxiliary equipment such as automation products, and die-protection and process-monitoring devices as well as monitor and display press signatures and tonnage. It also can store as many as 105 production setups.

"One feature of the new controls that we really appreciate," adds Frauendienst, "is their bilingual capabilities. We now have a large number of Hispanic people working here, so the abil-

sourced work back in-house."

Streamlining its maintenance and repair procedures and its die-change activities has prepared the pressroom to handle changing needs and to be ready to accommodate future design changes to the end product.

"If you had told me a year ago that we could accomplish such an increase in production and flexibility," says Graham, "I would have been skeptical. But with our new-found handle on what we can truly produce in this pressroom, thanks to the availability of real-time productivity data and detailed machine diagnostics, we're well-prepared to handle anything that comes our way." **MF**