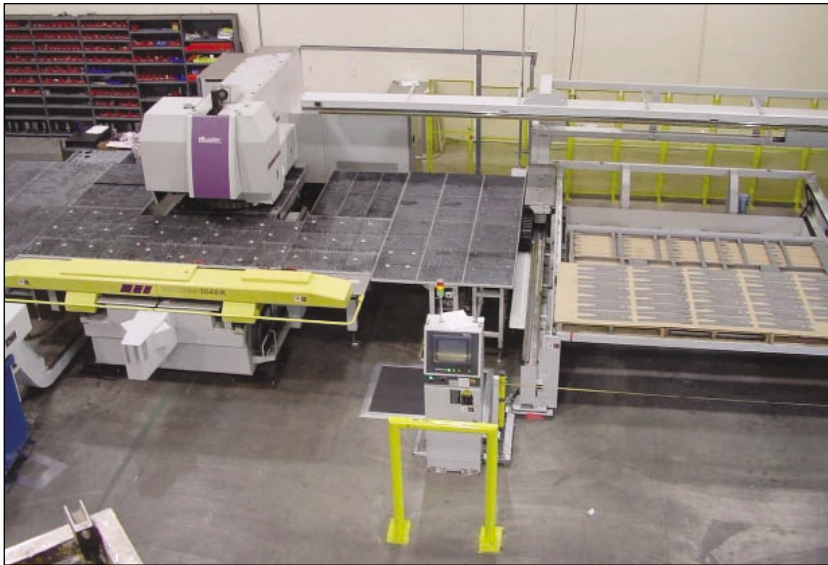


Automation Cuts Fabricator's Costs



Span-O-Matic Inc. (Brea, CA) supplies parts to telecommunications, electronics, appliance, oil drilling, and aerospace industries. The business, which is 80% fabrication, manufactures everything from small, simple parts to complex assemblies such as frames, consoles, cabinets, and racks.

In 2000, Span-O-Matic's owner, Wolfgang Arnold, purchased two Vectrum 3046cT servo hydraulic-ram turret punch presses from Murata Wiedemann Inc. (Charlotte, NC). In conjunction with the punch presses, Arnold purchased a FG-1250 automatic loader/sorter. "We bought this piece of equipment to increase our capacity," Arnold explains. "The FG-1250 allows us to have lights-out operation. We can set the program for this machine at the end of the second shift and leave for the night. When we return the next morning, the finished parts are precisely stacked and the scrap is in the skeleton box."

Arnold sees several benefits with the FG loader including decreased price per part, full-sheet usage, and

reduced labor costs. "We can stack up to 8000 lb (3.6 t) of sheetmetal on the loader at one time and use the entire sheet," adds Arnold. Unmanned operation is achieved from loading, punching, retractable forming, tapping, and parts sorting in one machine, increasing manufacturing efficiency.

Span-O-Matic selected Striker Systems (White House, TN) to supply programming software for the FG system. Striker's Fab Professional software offers fully integrated CAD/CAM capability including advanced nesting. The software's open architecture also makes it a suitable platform for development of the FG system's functionality.

Single parts can be loaded and unloaded using the FG system, but Span-O-Matic also nests groups of parts. Parts are punched and fully separated from the original sheet to be sorted on a finished-product table. "FG unloads parts without tabbing, and eliminates the deburring operation. This process cuts production costs considerably," says Arnold.

Each part is programmed and tooled, and is placed in a parts library. A nesting file is created, which selects the parts and quantities required for production. Subsequently, the nest is processed for the FG pick-and-sort system. A schedule is set up on the control system that identifies the nest to run and the sheet quantity to process for each nest. After the operator starts the automatic system operation, a blank sheet is loaded onto the punch press from the raw sheetmetal stack. FG pad groups are positioned on the sheet, after which the finished part can be picked off the press table. Finished parts can be separated with a tool in the main turret or the turret's subhead. This is done separately for every part in the nest or the first instance of each part. As each part is punched and separated from the nest, it is sorted onto the finished-parts table. After all parts have been processed, the remnant is placed into the skeleton box.

Automatic part loading and unloading allows for unmanned lights-out operation. Multiple carts speed production. A variety of operations such as loading, punching, retractable forming, tapping, and sorting are completed on one machine, permitting greater production flexibility. Material diversity and range of part sizes reduces excess scrap metal waste, thus increasing savings on material costs.

According to Arnold, "The key benefit of the FG system is the precise, accurate, smooth stacking of finished parts and the skeleton." This directly accomplishes his goal of increasing productivity while decreasing costs. The addition of the FG loader/sorter has increased Span-O-Matic's productivity by over 15%.

Visit Murata-Wiedemann's web site via www.sme.org to obtain information on the loader/sorter. Click on the *Forming & Fabricating* logo, and under "Issues On-Line" select the September 2002 issue, then "Automation Cuts Fabricator's Costs." Or, **Circle 180.**