

METAL FABRICATING

NEWS



Don Wahlin, president and founder of Stoughton Trailers, Inc., is an entrepreneur with a vision. In the background is a new plant designed to produce trailers in a JIT environment.

Stoughton Trailers Improves Productivity With Whitney 3700 ATC Fabricating Centers

If you do any traveling on our nation's highways, you've undoubtedly been passed by a truck pulling a Stoughton Trailer. Stoughton Trailers, Inc., of Stoughton, Wisc., builds a variety of trailers such as platform, single and double van, curtain freight vans and intermodule domestic containers.

Don Wahlin, president and founder of the company, began the business shortly after graduating from engineering school in 1960. When he graduated from college, he took a temporary job in a truck body company located in Stoughton. By November the company was bankrupt.

"When the company had its bankruptcy auction, nobody showed up," he said. "I negotiated with the banks for a little money and bought the company from the trustee.

At the time the company specialized in stake truck bodies and primary custom bodies for ice cream and frozen foods. It was housed in an old five story building—remnants of an old wagon works—and eventually burned down in 1967."

In 1964-65, the company began building short runs called city shag trailers. After the building burned down, Wahlin decided to rebuild and specialize in building truck trailers only, dropping stake and custom bodies from his production. Today, Stoughton Trailers is known for its quality trailers and has grown to be the fifth or sixth largest manufacturer of truck trailers in the United States.



Dross-free cuts on the W.A. Whitney 3700 ATC produce quality parts without secondary operations.

Bringing Parts Back In-House

Since today's marketplace is more competitive than it has ever been, Stoughton Trailers faces ongoing pressure to look for ways to cut production costs. Some of the ways it chose to do this were to bring more of its production work in-house, streamline its materials flow and adopt the just-in-time (JIT) philosophy.

Machines from W.A. Whitney became an important part of helping Stoughton Trailers bring all of their outside work back in-house. "It's much cheaper for us to do work in-house than to buy from the outside," said Mike Groff, director of technical services. "The only thing we do on the outside now is a special part we can't do because of its size and tonnage. However, it's a part that we rarely need anymore."

Stoughton has purchased three Whitney 3700 ATCs because they were ideal for the application they have. "Based on the type of material, the thickness we have to deal with and the contouring we do, these are the only machines that would do the job for us," Groff said. The Model 3700 ATC 42 Punch/Plasma Fabricating Center features the TRUECut™ oxygen plasma cutting system, conveyors that remove punching slugs and plasma cutting slag and a 18- by 24-inch drop door for small part removal.

"We are using 3700 ATCs to replace other plasma presses that were currently in operation. These Whitney machines have really improved our productivity," said Groff. "The operators feel that one 3700 ATC is worth about one and a half times that of the current equipment. They feel between reli-



Operator Larry Boley removing punched and dross-free parts.

ability, the speed, the extra punching capacity, the TRUECut, and the fact you don't have to change consumables so often, you actually gain about 50 percent production on the machines."

Before choosing the Whitney machines, Stoughton management looked at all the competitors with plasma cutting capabilities. At that particular point, they didn't need the capabilities of laser, but admitted that they would keep an eye on laser technology because they feel lasers will be in their future.

High Quality Cuts

The TRUECut system is a state-of-the-art cutting technology. Its monitoring capability monitors for arc-times and number of starts. "The quality of the cut on the 3700 ATC is much improved over our other machines, some of which had dual gas capabilities," said Groff. "On the others we usually cut with nitrogen, on the Whitneys we generally cut with oxygen for a much truer cut.

"This totally integrated oxygen-plasma cutting system guarantees high quality and maximum productivity to lower costs. The TRUECut system gives us an excellent edge. We're cutting with 200 amp nozzles running on .179 at 300 ipm. It's quick and the cut quality is more than adequate for our parts. They require no secondary operations," said Groff.

The consumables side of the 3700 ATC machine has been quite good for Stoughton. About 2,000 pierces out of a 200 amp noz-

zle. Groff said that they could get only 100 to 200 pierces out of the other equipment. When they first got the Whitneys, they were getting 500 to 600 on a 100 amp nozzle and 1,000 to 3,000 on a 200 amp. "It has been getting better, which I can't explain," he said. "If I'm using a punch, I generally punch a hole to get it started for cutting. If not, I'll pierce. We do a lot of edge cutting with a tolerance of 1/32 of an inch."

Ninety-Five Percent Uptime

The 3700 ATCs are run 18 hours a day, 80 hours a week. According to machine operator records, the downtime on these machines is very low, compared to other machines in the plant.

"Our uptime is pretty good—at least 95 percent," said Jim Fritz, chief programmer. "We use NC auto code, admittedly a little outdated. We have to do quite a bit of manual sequencing and editing to the program, but we have it set up half way decent. Right now we have over 500 parts programmed on the 3700 ATCs. To a degree, the 48- by 120-inch steel sheets are standard, but we do have a lot of other standard sheets which are not necessarily standard



Michael Groff, Manager of Manufacturing Engineering, and operator Brad Bjornstad.

in the industry. We use material from 3/16-inch or 1/8-inch to 1/2-inch thickness."

Automated Tool Changer Reduces Set-up Time

The tool changer increases tool and machine utilization and reduces set-up time



Truck trailers on the assembly line at Stoughton Trailer.



Tim Reilly, Ron Hinds and Don Hasselberger displaying a Tower King Pin Plate fabricated on the 3700 ATC. Stoughton produces many large parts off the 3700 ATCs.

and secondary operations. Any size tool can be used to fit any station, which is a big advantage when programming the machine. The company uses about 40 different punch sizes and shapes—using about 20 most of the time.

The machine's automated tool changer enables the operator to set up off-line, keeping the machine running during tool preparation, thereby reducing set-up time. Its full 40 tons of hydraulic punching works with the plasma cutting system for efficient, flexible fabricating of materials.

Work Flow

With the 3700 ATC, the quality of parts allow the parts to go directly to the forming and welding departments without any secondary operations. The plant is set up in a cellular arrangement to eliminate forklift traffic. When a part is fabricated, it comes off the 3700 ATC onto a cart which is then

transferred right to a press brake forming operation. After that operation, the part is loaded with a forklift and taken to the welding program.

Response Time

Stoughton Trailers has adopted the JIT philosophy, which seeks to eliminate waste and serve as a stimulus for zero inventories. Today, Stoughton no longer has to finish a part days in advance of need. Prior to the JIT concept, the fabrication plant was roughly two days ahead of the weld plant; the weld plant was three days ahead of assembly. "With the Whitney 3700 ATCs, what is being cut today is likely to be in a trailer on the assembly line tomorrow night. So in that respect we've cut a number of our working inventory processes," said Groff.

Stoughton Trailers' major business remains in the manufacturing of quality

over-the-road trailers at the Stoughton plant. The company has two other plants located in Wisconsin. The Evansville plant is dedicated to building domestic double-stacked containers and chassis. The Broadhead plant is involved with a different product, basically a research and development facility for composite protrusion materials for the transportation industry. "We developed domestic refrigeration containers made out of composites," said Wahlin. "Now we're developing and selling a composite domestic refrigerated trailer."

The policy at Stoughton Trailer has always been to take advantage of high technology and highly trained people. The acquisition of the Whitney 3700 ATCs is an example of how the company met its goal to achieve labor savings, reduced set up time and better material utilization in their fabrication plant. ◆



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