

Prototype shop gets 20 percent faster set-up and running times with new CNC turning machine

Fryer Easy Turn Combination Lathe with Siemens SINUMERIK 840D sl CNC lets operators at Continental Machine program, set-up and run faster; critical for one-off operations

By definition, says Josh Johnson, Vice-President, Continental Machine, Rockford, Illinois, his prototype and short-run production shop must constantly run lean. There can be no tolerating excessive programming, set-up or machining time of any kind, otherwise the shop loses and, in this economy, Johnson notes, that is simply unacceptable.

Continental Machine is a seven-person, 13,000 square-foot facility that houses a variety of CNC milling, turning, wire EDM, hole popping and grinding machines, as well as various sheetmetal and plastic injection molding machinery. Therefore, the shop is well positioned to produce a wide variety of metal and plastic prototypes used by its diverse customer base, which spans markets such as window hardware, bicycle components, automotive parts, chemical processing, medical devices and foodservice equipment. Materials processed here are just as wide-ranging, including aluminum, CRS, tool steels such as A2 and D2, zinc, brass, copper, bronze, titanium and a variety of engineered plastics such as glass-filled Delrin.

Recently, this job shop purchased a Fryer Easy Turn-21 CNC Combination Lathe, controlled by a Siemens SINUMERIK 840D sl numerical control. The two operators responsible for this machine upgrade at Continental had limited experience with CNC and none whatsoever with the Siemens protocol, as this was the first of its kind at the shop.

The Easy Turn-21 was particularly appealing to Josh Johnson, who comments, "The set-up is extremely easy. Teaching the tools, altering the lengths and diameters is kept very simple. After the initial learning curve, which took only a few days, the operators picked up on the conversational programming, right away. Also, one of the best features on the machine was that you could still turn the parts by using the electronic handwheel and just one function, such as hogging off material automatically or putting on a tapered thread." He noted this feature was not only more comfortable for the operators, but it also allowed them to quickly and efficiently prove out part programs. Johnson commented that this

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would not have been possible on previous machines, owing to the flexibility of the control onboard the Fryer. The result has been a minimum 20% improvement in the overall cycle time on most part programs run at Continental. For this primarily prototype job shop, that fact translates into a substantial increase in the work product possible here.

Echoing this sentiment, Sue Ostrander, sales manager, Fryer Machine Systems, explained the process that led her company to select the SINUMERIK 840D sl numerical control for all its milling and turning machines, a move that was recently formalized by the company and announced to the trade.

"Since its inception 26 years ago, family-owned Fryer Machine Systems has based its operation on three core principles: build a quality product, price it fairly and provide quality service. This philosophy has allowed Fryer's business to grow even in challenging times," she said.

Fryer manufactures a diverse line of over 50 models of high-quality CNC machine tools in its 50,000 square-foot facility in Patterson, New York. Over the years, Fryer has become well-respected for its quality and innovation, throughout the job shop and production machining market segments.

"Moving to the Siemens 840D sl platform was the next step in Fryer's ongoing commitment to provide our customers with the most innovative machine tools available in the market today," Ostrander continued. "The Siemens solution allows machine tool end-users to achieve higher productivity through easy and intuitive features and step-by-step, on-screen programming. This enables them to dramatically reduce set-up, programming, and tooling times, while significantly increasing output."

"The SINUMERIK 840D sl modular design allows us to take full advantage of the superior mechanical features in our machines," continued Larry Fryer, president and CEO, Fryer Machine Systems. "Fryer has always been known for our easy conversational controls and the move to Siemens has allowed us to greatly enhance this feature," Fryer noted. "The 840D sl menu-driven system combines an advanced geometry calculator that displays the part while the operator is programming it. Sophisticated solid model graphics allow the operator to verify the part program with more clarity than ever before," he said.

Larry Fryer has also been impressed with the automatic tool set-up and easy part set-up, made possible by the Siemens CNC. Fryer explained that auto-run mode is where many operators experience difficulty. Siemens and Fryer Machine Systems worked together to create an electronic handwheel run mode that gives the operator a safer way to prove out program execution, both forward and backward, using a standard electronic handwheel.

Fryer further stated, "Siemens provides us with a highly flexible solution that is critical to our ability to meet the specific needs of each customer. Our enhanced capability to offer the same control for both turning and milling gives Fryer machines a unified platform that is very important to customers both in the short-term and for long range expansion. Coupled with Siemens quality and reliability, they are invaluable to us in competing in today's aggressive marketplace."



Fryer Combination Turning Machine substantially reduced cycle time at Continental Machine



Siemens SINUMERIK 840D sl CNC onboard the Fryer Easy Turn combination lathe

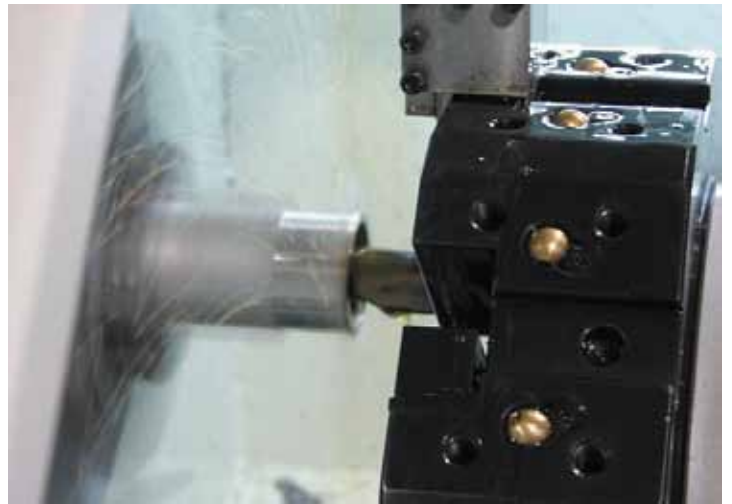


Close up of Siemens Sinumerik 840D sl



OD turning at Continental Machine produces a variety of prototype and production parts

Johnson added this comment on the service and training received by his operators at Continental. "Siemens has been helpful and very thorough in their training and after-sale service. The ShopTurn program, being integral to the control, now enables us to accurately determine tool path, potential collisions, tool changes and real



ID turning works in tandem with OD spindle to produce more parts faster

world run time. This makes our operators' jobs much easier, with the added benefit of allowing us to estimate much more accurately than ever." Johnson further noted the CNC has substantial hard drive space, thus allowing most programs to be stored directly on the machine, though the company does maintain a back-up system.

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