

## Technology Exceeded Our Expectations



**Dan Champion, Production Manager; Jim Holland, President; Tom Champion, VP/GM, Moore-Addison shown with a paddle machined on the Southwestern Industries' TRAK FHM 7 Bed Mill.**

Older and outdated machines were slowing productivity at Moore-Addison, a company in Addison, IL, specializing in machining simple plastic, nylon and other non-metallic parts.

"We had outdated equipment we had to replace because it was adversely affecting our productivity, causing machine down-time and driving up our maintenance costs," said Jim Holland, President of Moore-Addison. "We considered retrofitting and rebuilding our old equipment or acquiring new CNC equipment.

"We chose to purchase new CNC bed mills and lathes from Southwestern Industries (SWI). Our reasons for choosing this equipment were varied and included the following:

"Our processes are basic. Moore-Addison executes high tolerance, flat, two-dimensional machining adding value to a sheet of plastic or other non-metallic material by cutting it to size. We will precisely drill holes and cut varying basic geometric shapes. Moore-Addison also processes a lot of lathe work doing fundamental two-axis turning: OD, ID, thickness, grooves and counter bores. Shapes like gear blanks, packing glands and shoulder washers are perfect applications for us.

"Bottom line - for the quantities we work in (50 - 5,000 parts) and the simple elegance of the basic profiles we fabricate, we don't need costly, highly-specialized CNC machines to make high-tolerance parts. Moore-Addison is known for the quality of work produced on our machines by our motivated mature workforce. This straightforward machining style represents a minimalist approach that reduces our fixed

costs and our customers' piece part prices.

"Because skilled machinists are in short supply and we wanted to increase our business while keeping our labor and fixed costs under control, we had to ensure that the machines we were going to buy were cost-effective. Accordingly, we chose two TRAK DPMSX5 bed mills, two FHM7 bed mills and TRAK model TRL 1630SX and 1845SX lathes from SWI. These provided us with SWI's ProtoTRAK CNC technology that uses a very conversational language our machinists could learn quickly. This interactive ability with programming, set-up and machining allows both simple and complex geometries. This includes bolt-hole patterns, threads, regular or irregular profiles and regular or irregular pockets. We can also run SWI's equipment in manual mode whenever the need arises.

"SWI equipment exceeded our expectations as the ProtoTRAK CNC technology turned out to be easier to learn and use than we had anticipated. We also did not realize how useful the TRAKing feature would be. TRAKing allows our machinists to run a CNC program by turning the table hand wheels. The speed at which a program is executed is determined by how fast the hand wheels are turned. This provides our machinists with greater control over what they are doing and increases their confidence levels. In addition, TRAKing increases our productivity because it allows programs to be 'dry run' while simultaneously machining parts. Our machinists can even run programs backwards by turning the hand wheels in the opposite direction.

"In addition, a completely unexpected benefit in using SWI's equipment was that the dreaded downtime for maintenance and repairs is substantially less than other CNC machines, even approaching downtime for manual machines. This stuff runs good," said Mr. Holland.

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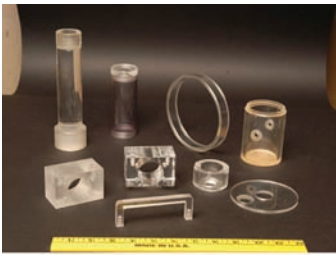


**Marty McDermott, Lead Machine Operator, Moore-Addison, shown working with the ProtoTRAK control on a Southwestern Industries' lathe.**

*As Seen In August 2012*



# MANUFACTURING NEWS



**Acrylic parts machined at Moore-Addison.**



**Delrin parts machined at Moore-Addison.**



**G-10 parts machined at Moore-Addison.**



**UHMW parts machined at Moore-Addison.**

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The SWI TRAK DPMSX5 bed mills purchased by Moore-Addison come with a 50" x 12" table with X, Y, Z travels of 40" x 20" x 23.5". The spindle speed range is 40-600, or 300-5,000 RPM using a 5 HP spindle motor.

The SWI TRAK FHM7 bed mills have a table size of 76" x 14" with X, Y, Z travels of 60" x 23" x 20.5". The spindle motor is 7.5 HP producing 200-5,000 RPM.

The SWI TRAK TRL 1630SX lathes have a distance between centers of 30" and a swing over bed of 16". The spindle through hole is 2.12" and the spindle motor of 7.5 HP produces a 150-2,500 RPM range.

The SWI TRAK TRL 1845SX lathe purchased by Moore-Addison has a distance between centers of 45" and a swing over bed of 18.1". The spindle through hole is 2.36" and the spindle speed range is 80 - 850, or 250 - 2,500 RPM using a motor of 10 HP.

"The equipment from SWI has dramatically reduced our set-up times. When you bring up a program, it has everything you need for the job including tooling required. All the set-up 'stops and blocks' are built into the table travel. And because there is no human intervention, the in-process run time per part is 50% faster. The quality of the parts machined by SWI equipment exceeds the quality produced by our previous equipment," said Mr. Holland.

Moore-Addison specializes in precision machining and other processes on all types of non-metallic materials. Founded in 1953 the company has 41 employees and is owned by Jim Holland, Tom Champion and Dan Champion. The company has the equipment and capabilities for turning, grinding, shearing, sawing, forming, punching, milling, drilling, reaming, tapping, routing, broaching, deburring, sanding, buffing, screw machining, molded parts machined to specifications, laminates glued, inserts installed and light assembly.

A major group of customers in Moore-Addison's client base has been with them since 1953. These customers are gear manufacturers. Moore-Addison machines gear blanks for these companies. These are gears with no teeth; they are

'precision donuts'. The rigorous discipline Moore-Addison takes to produce these components is an example and a standard for machining other components in the shop.

"The niche Moore-Addison fills is that we machine precision donuts out of nasty stuff," said Mr. Holland. "The engineered plastic materials we work in are heavy duty. They comprise, but are not limited to, the dusty phenolic family of layered up materials including all the abrasive glass-based materials supporting a wide range of resin systems. This includes G-7. Few machine shops enjoy working in these commodities. They can't spray oil all over the parts because the dust collected in the oil will clog their coolant pumps; other materials make funny chips and nothing smells right. Moore-Addison cuts everything dry. Other value-added plastics shops worry about tight tolerances; Moore-Addison routinely turns tolerances of +/- .0015. We also make parts in other nonmetallic materials including, but not limited to: UHMW, nylon, Delrin, Pek, Pet, Ultem, acrylic and Lexan. If the material makes a cool chip when machined, we make parts from it. The things Moore-Addison fabricates are typically used in mechanical, electrical and/or chemical applications to capital equipment across many industries. These crafted shapes are not cosmetic; they are industrial parts.

"Although we specialize in the machining of non-metallic parts in a timely manner and at a competitive cost, we are actually in the business of 'Good Service'. By 'Good Service' we mean we react to our customers' needs. This starts when you contact us - we work well on the telephone. For example, a well-informed human being will answer your call before the third ring. We are also fluent in e-mail and can read attached prints in any of the standard formats. 'Good Service' also means consistently good parts which portends superior quality. We have always used the policies and procedures described in ISO standards and honor them in our own Quality Manual; we are ISO compliant. The pillars of 'Good Service' are strengthened when you want to actually see what we do. Our policy for tours is simple: if you walk in the front door, we would be happy to physically walk you through our facility and are delighted to answer questions. We also have a protocol on providing material samples: we support customers in design and engineering trying to understand how a plastic part might succeed for them," said Mr. Holland.

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