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# **Engineered Tooling Corporation**

WALTHAM, MA

ngineered Tooling Corporation (ETCO) has flourished through the ingenuity, foresight and vision of Robert S. Snyder, Owner and President. When he started the company in 1986, CNC (Computer Numerical Controlled) machines were really just beginning to hit the market. The PC was just at the beginning stages and most metal or plastic machining work was still done on manually operated machines.

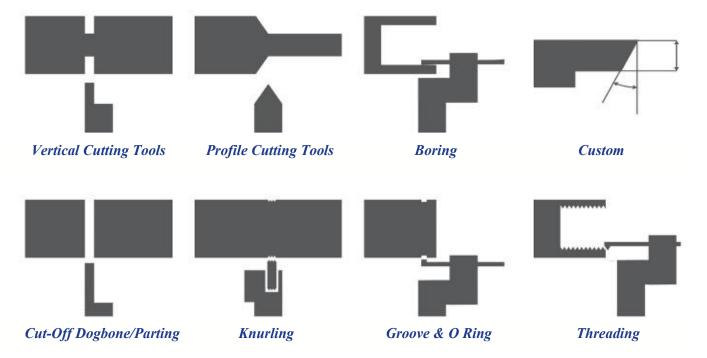
As Swiss CNC machines entered the production market, the tooling need grew as well. These Swiss style machines originally were used to produce high precision watch parts. Once CNC's greater speeds, tighter tolerances and high repeatability was seen, business owners saw the benefits in all types of industries.



ETCO manufacturing area.



Thread-whirling rings: 60 and 35 degree configurations.



Continued on page 7





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Engineered Tooling Corporation understood there was a growing need for accurate, highest quality, wear resistant tooling to be used in the emerging market place. Robert learned that designing even a basic simple tool could take 15 to 25 engineering hours, then another 5 to 15 hours to machine it correctly. Shaping tungsten/titanium



**Modified Coborn Grinder** 

carbide requires specialized equipment and very dedicated operator/s. Machine tool manufacturers don't offer tooling and most manufacturers have neither the engineers to develop proper tooling. nor the dedicated tool maker to produce the tooling needed. Robert focused on meeting this specific need for the Swiss/CNC marketplace.



Factory Manager instructing trainee on Starrett **Optical Comparator.** 



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#### SO HOW CAN ETCO HELP YOU?

Engineered Tooling Corporation designs and manufactures tooling for Swiss, and a wide range of other, CNC equipment styles. They produce both precision and 'mini-shank' tooling with under 1" shanks. They specialize in small, tight tolerance accuracy part production for the aircraft, aerospace, medical, dental and orthopedic markets.



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They handle proprietary, difficult to copy tool designs with utmost confidentiality and with the highest attention to narrow tolerances and critical angles. In addition, ETCO has taken the Swiss style philosophy and adapted it to make tooling for larger style toolholders for specialized applications.

Continued on page 9



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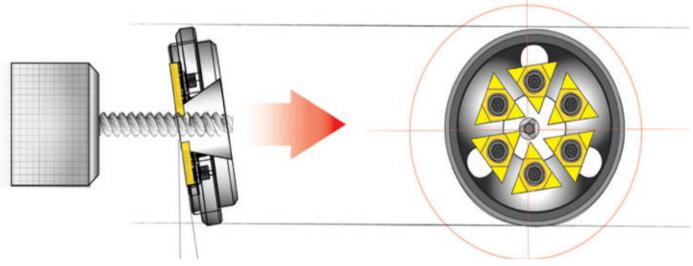




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# Thread Whirling insert geometries are used for spine repair, leg and arm repair, plus tooth implants in dentistry.

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Another Engineered Tooling Corp. advantage is they will modify insert styles on request. If no current tooling exists, Engineered Tooling Corp. will design the needed tool holder and insert. Typical turnaround for this type of need is 2 to 4 weeks. They often can modify existing tools to fit a desired application.



Haas Multigrind Robotic Grinder

In 2005 ETCO began to manufacture thread -whirling inserts and rings, products which had long existed in Europe, for the burgeoning market in the US, particularly for the orthopedic field. The thread whirling process is typically used for parts with high length-to-diameter ratios and for those made from metals such as titanium and stainless steel



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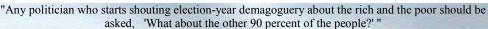
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# A GATEWAY EDUCATIONAL ENLIGHTENMENT ARTICLE

Subject: SINGLE POINT TURNING INSERTS

A CNC machine cuts (removes) metal as a metal stock is rotated rapidly against a sharp cutting edge formed of carbide, which is considerably harder than the material being cut. Two elements are involved: the toolholder and the tool (or cutting edge). The toolholder is a square or round shaft of high carbon steel which is secured in a toolholder block or slide. The tool which does the actual cutting is generally made of tungsten/titanium carbide, an exceptionally hard material.

Many machines have a turret or slide into which the toolholder is secured. A typical turret may have the capacity hold and use from five to twenty-four cutting tools in a single manufacturing operation.

Tools for Swiss style CNC machining are highly specialized. Tool dimensions and grades are dependent on numerous variables, including the type and hardness of the metal to be cut, cutting speeds, cutting depth, cutting precision, and how the tool is held and handled by the machine.

Traditionally, the tool was permanently attached to the toolholder by brazing. This attachment method had the disadvantage that as the cutting edge on the tool wore down, the entire unit (toolholder and cutting tool) had to

be removed to be replaced or reground (resharpened). The CNC machine could not be used for production while the tool was being replaced. After the replacements, the machine had to be recalibrated for the new tool. The total downtime while the tool was being replaced could run from several minutes to more than an hour. Tool replacement could occur frequently, from under one hundred cutting operations to several hundred.

In most modern machine shops today, the cutting portion of the tool is secured to the toolholder by a clamp or screw, rather than the old-fashioned brazing method. ETCO services exclusively this modern approach, which allows the tool to be replaced without removing the toolholder from the machine, reducing downtime significantly. This process is analogous to replacing razor blades in a razor. Additional several cutting edges can be placed on a sinle tool. When one edge is worn, the tool is simply rotated or "indexed" to an unused edge.

#### Submitted by:

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# PRESS RELEASE

#### **Marena Industries Shop Expansion**

Marena Industries, Inc. has expanded their machine shop and office space through the acquisition of several adjoining properties, totaling 65,000 square feet. This brings their total square footage to just over 100,000 sq. ft. One of the main reasons for this expansion is due partly to their becoming the sole North American distributor known as Fenix Grind USA. Fenix Grind USA will occupy about 24,000 feet of the new space as showroom and added production space for equipment service and rebuilds. They will also offer used as well as new equipment.

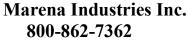
The rest of the space will be used for equipment expansion for Marena Industries with several new pieces of equipment, such as: A new Gray VTL that increases their capacity from 86" in diameter by 50" high, to 110" in diameter and 100" in height.

If you have interest in the Fenix Grind USA business, go to <a href="https://www.fenixgrindusa">www.fenixgrindusa</a>, which features their equipment. They also feature Fenix Grind USA on their <a href="https://www.favrettousa.com">www.favrettousa.com</a> site. They are one of the few companies offering both service and sales of Favretto replacement parts and equipment. They also carry parts and can service for Favretto, Mattison, Thompson, Brown & Sharpe, and Blanchard machines.

**Marena Industries, Inc.** started in business in 1960 by Ted Marena. Ted saw a need for carbide tipped work rest blades and filled a

need by starting his own machine shop in the basement of a multi-family apartment. That shop grew and Ted needed bigger, specialized equipment to continue its growth. He found sources from his Italian heritage and that began a bonding relationship in the machine tool market in 1978. Today his machine shop has continued to grow, producing small to humongous machined parts.

Marena Industries, Inc. now offers a great variety of machining services to the metal working industries and still produces the finest work rest blades on planet earth. Fenix Grind USA also offers a wide range of machine tools and the ability to service those tools, including rebuilding of older machine tools to today's standards. All of the offerings at Marena Industries for machined parts or machine tools are best seen and explored on www.marenaind.com.



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## PRESS RELEASE

Pauway Corporation Receives Nadcap Merit Status for Chemical Processing – Paint & Dry Film. Nadcap recognizes Pauway Corp., for its superior performance and commitment to continual improvement in aerospace quality.

Pauway Corp., announces that it has been awarded Nadcap Merit status for Chemical Processing – Paint & Dry Film.

"This achievement has been the culmination of years of organizational effort from the top down. I am very proud of this accomplishment as it reflects our dedication to continuous improvement and customer satisfaction. — Mark A. Rydzy, VP"

Pauway Corp., has held Nadcap accreditation since 2015. Having demonstrated their ongoing commitment to quality by satisfying customer requirements and industry specifications, the Nadcap Task Group has determined that Pauway Corp., has earned special recognition. This means that, instead of having their next Nadcap audit in twelve months, Pauway Corp., has been granted an accreditation that lasts until January 31, 2019.

"Achieving Nadcap accreditation is not easy: it is one of the ways in which the aerospace industry identifies those who excel at manufacturing quality product through superior special processes. Companies such as Pauway Corp., go above and beyond achieving Nadcap accreditation to obtain Merit status and they should be justifiably proud of it," said Joe Pinto, Executive Vice President and Chief Operating Officer at the Performance Review Institute. "Benefitting from a less frequent audit schedule reduces audit costs and associated pressures and demonstrates the trust that the aerospace industry has in Pauway Corp., based on their past performance in Nadcap audits. PRI is proud to support continual improvement in the aerospace industry by helping companies such as Pauway Corp., be successful and we look forward to continuing to assist the industry moving forward."

#### About Nadcap

Created in 1990 by SAE Inc., Nadcap is administered by the not-for-profit Performance Review Institute. PRI is a global provider of customer-focused solutions designed to improve process and product quality by adding value, reducing total cost and promoting collaboration among stakeholders in industries where safety and quality are shared goals. PRI works closely with industry to understand their emerging needs and offers customized solutions in response. Learn more at www.p-r-i.org or contact PRI at PRI@p-r-i.org



Billy Uva, Wayne Rydzy and Mark Rydzy inspect a recently treated part. Billy was Pauway's first employee and is both plant foreman and Quality Manager. Mark is responsible for daily operations and marketing.







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## PRESS RELEASE

### Sturbridge Metallurgical Goes Virtual

Sturbridge Metallurgical Services Inc. of Sturbridge MA has taken their lab into the virtual world. They have given their customers, regardless of geographical location, the ability to tour their facility without leaving their own offices. **3D Virtual Tour** through the use of the latest 3D imaging technology, Sturbridge Metallurgical has provided a "walk" through tour of each area of their building. The tour allows for freedom of movement in 360 degrees, giving visitors the ability to feel like they are actually standing in each room. "We wanted the tour to feel like they were really here, not just some still shot image that doesn't feel real" said Daniel Welton, Sales & Marketing at Sturbridge Metallurgical. "Before going live we sent it around to a few of our customers, family and friends and the reactions were all the same; they really felt like they were in the building. We knew we had it right." Expanding the Front **Door** 3D Virtual Reality has become increasingly popular in the gaming industry as well as the real estate industry. It has allowed companies to bring their front door directly to the desk of their customers rather than waiting for schedules to be just right. "We work with customers all over the country and even around the world and we pride ourselves on our facility" says Brendan Fullam, General Manager and Business Development manager at Sturbridge Metallurgical. "When we invite customers in and give them the tour, they are always impressed and often realize we can provide them with many more services then what we are currently working with them on. To now be able to offer that same experience to people who can't make the trip, is priceless". **Take the Tour**You can view the tour of Sturbridge Metallurgical Services Inc here:http://www.smslabs.com/about-sms-labs/3d-virtual-lab-tour/ Sturbridge Metallurgical's virtual tour was done using a technology called Matterport® by a local video and drone professional, Thomas Jones of Drone Home Media. (www.dronehomemedia.com)

#### About Sturbridge Metallurgical

Sturbridge Metallurgical Services, Inc. was founded in 1990 by Courtney Grimes. They currently have 10 employees and occupy an 8,000+ square foot facility in Sturbridge, MA. They offer materials testing services, metallurgical equipment for in-house labs and metallurgical consumable supplies. They are A2LA ISO 17025 Accredited, Nadcap Accredited, GE S400 Approved, ITAR Registered, and Sikorsky Approved and have their Federal Firearms License (FFL).



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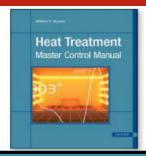
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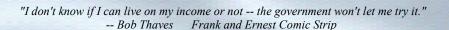
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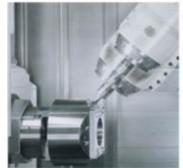




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