



Upcoming Industry Events

- **Pack Expo International**
November 2-5 2014 Chicago IL
- **Tool, Die, and Machining Association of Wisconsin Expo 2014**
November 11, 2014 Country Springs Hotel Pewaukee, WI
- **PMTS**
April 21-23, 2015 Greater Columbus Convention Center
- **Online Events**
- **eTek Tool and Manufacturing new website launch.**

We are pleased to reveal our newly designed website. Our goals for the new website include the following:

- To provide an additional channel of communication with our customers.
- To allow customers to get a better idea of who we are as a company in terms of our capabilities and our dedication to maintaining long-lasting partnerships.

We encourage you to visit and explore the new website at
www.eTekTool.com



The Made-to-Print



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Quotable

Whatever the mind of man can conceive and believe, it can achieve. – Napoleon Hill

A person who never made a mistake never tried anything new.
– Albert Einstein

The only way to do great work is to love what you do. –Steve Jobs

Great things are done by a series of small things brought together.
- Vincent Van Gogh

ISO 9001

In the pursuit of continuous improvement at eTek Tool, we are working with Wisconsin Manufacturing Extension Partnership (WMEP) to implement the ISO 9001:2008 quality management system. We are excited that the system is scheduled to be fully implemented and certified by early 2015.

Welcome to The Made-to-Print

Welcome to the premier of The Made-to-Print, our bi-monthly newsletter! You will find that it is filled with educational information, helpful tips, industry events, company news, and even a bit of humor. We hope that you enjoy reading it.

We want this newsletter to be valuable for you. Please share your feedback and any suggestions to help us improve.

Thank you,
Chris Ernster,
chris@eTekTool.com



Stop by eTek Tool for a visit then explore what our community has to offer.

eTek Tool is located just few blocks from historic downtown Cedarburg.

In downtown Cedarburg you will find specialty stores, unique art galleries, coffee houses, wineries, restaurants, parks, and inns.

Our community has calendar full of festivals and entertainment. Stop out and enjoy Cedarburg this coming holiday season. Find more information at www.cedarburgchristmas.com

Our Thanksgiving Morning Favorite. Pumpkin Spice Muffins using only TWO ingredients!

- 1 box Cake Mix – Spice works best.
- 1 can Pure Pumpkin (15 or 16 oz - not pumpkin pie filling)
- Completely mix the two ingredients together.
- Divide into muffin tins. (We use paper cupcake cups for easy cleanup)
- Bake at 350 degrees for approximately 15 minutes. Test with a toothpick.
- Enjoy!



Just for Fun!

Before going to Europe on business, a man drives his Rolls-Royce to a downtown New York City bank and asks for an immediate loan of \$5,000. The loan officer, taken aback, requests collateral. "Well then, here are the keys to my Rolls-Royce," the man says. The loan officer promptly has the car driven into the bank's underground parking for safe keeping and gives the man the \$5,000. Two weeks later, the man walks through the bank's doors and asks to settle up his loan and get his car back. "That will be \$5,000 in principal, and \$15.40 in interest," the loan officer says. The man writes out a check and starts to walk away. "Wait, sir," the loan officer says. "You are a millionaire. Why in the world would you need to borrow \$5,000?" The man smiles, "Where else could I find a safer place to park my Rolls-Royce in Manhattan for two weeks and pay only \$15.40?"



Increasing Manufacturability = Reduced Cost

Monthly Design Tip to Reduce Part Cost

Inside Corner Radius

One of the cost drivers for machined parts is the amount of time it takes to machine it. The rigidity of the cutting tool directly affects the feed rate. Short and rigid cutting tools can be fed though material faster, which reduces cycle time and the cost of the part.

Selection of cutting tools is determined by the design of the part. Machining time will be reduced by following some simple rules.

When designing parts with vertical inside corners, a radius is required, because the machining process uses rotating tools. There are ways to produce square inside corners, but it will add cost to the part (i.e. EDM).

Use the largest radius that the design of the part will allow. The tool used to machine the feature will have a diameter of 2 times the radius on the part. If the part design calls for a 1/16" radius, it will require a maximum of a 1/8" tool to cut that feature.

When the length of the tool must be increased due to a longer corner, the tool needs a slower feed rate in order to avoid deflection and breakage. Long slender tools are also prone to chatter.

If the length of the corner doubles, the feed rate is cut at least in half. A ratio of 3:1 or less is optimal. Under normal conditions, 8:1 is the upper limit, but it can add significant cost to the part.

For example:
1/8" Radius on Part, Using a 1/4" Diameter Tool, 3/4" Length of Corner or Less is Optimal, 2" Length of Corner is the Upper Limit.
(See Figure A)

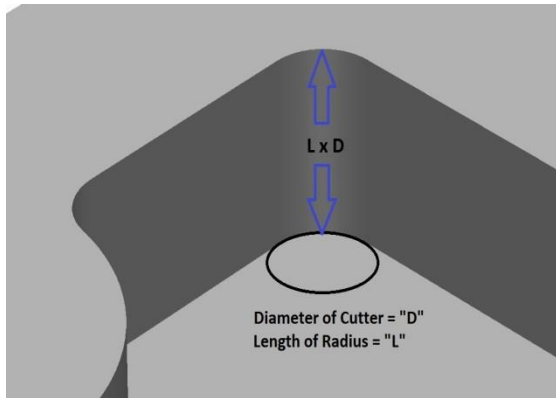


Figure A: Length to Diameter Ratio

In the next issue of *The Made-to-Print*, we will continue our inside corner radius discussion. Since we have covered optimal corner length, we will discuss optimal corner radius along with using non-standard radii with standard diameter cutting tools.

If you have any questions regarding this month's topic or any requests for future topics, please email us at info@eTekTool.com.

"A ratio of 3:1 or less is optimal."

Did a Machinist Invent Labor Day?



While most sources, even the Department of Labor, credit Peter McGuire with the origination of Labor Day, recent evidence suggests that the true father of Labor Day may in fact be another famous union leader of the 19th Century, Matthew Maguire.

According to legend, Peter McGuire stood before the New York Central Labor Union on May 12, 1882, to suggest the idea of setting aside one day a year to honor labor. McGuire believed that Labor Day should "be celebrated by a street parade which would publicly show the strength and esprit de corps of the trade and labor organizations."

Peter McGuire was a young, though well-respected, union leader. A child of immigrants, he quit school at an early age to go to work. In 1881, he founded the United Brotherhood of Carpenters, which would become the largest trade union of the time. Later, McGuire would join with his friend, Samuel Gompers, to found the American Federation of Labor (AFL). Through the AFL and the Carpenters, McGuire led the great strikes of 1886 and 1890, which would eventually result in the adoption of the eight-hour workday on the nation's agenda.

Recently, however, evidence uncovered at the New Jersey Historical Society in Newark reveals that another respected union figure of the day, Matthew Maguire, may quite possibly be the man behind the creation of Labor Day.

In the 1870s, Matthew Maguire was a machinist that led several strikes, most of which were intended to force the plight of manufacturing workers and their long hours into the public consciousness. By 1882, Maguire had become the secretary of and a leading figure in the Central Labor Union of New York.

According to the New Jersey Historical Society, after President Cleveland signed into law the creation of a national Labor Day, The Paterson (N.J.) Morning Call published an opinion piece entitled, "Honor to Whom Honor is Due," which stated that "the souvenir pen should go to Alderman Matthew Maguire of this city, who is the undisputed author of Labor Day as a holiday." This editorial also referred to Maguire as the "Father of the Labor Day holiday."

So why has Matthew Maguire been overlooked as the "Father of Labor Day"?

According to The First Labor Day Parade, by Ted Watts, Maguire held some political beliefs that were considered fairly radical for the day and also for Samuel Gompers and his American Federation of Labor. Allegedly, Gompers did not want Labor Day to become associated with the sort of "radical" politics of Matthew Maguire, so in a 1897 interview, Gompers' close friend Peter J. McGuire was assigned the credit for the origination of Labor Day.

A look back at how machining and manufacturing has evolved...



This Month's Q&A

Q: My design requires inside corners with little to no radius. EDM cutting is too costly for the volume needed. What can I do?

A: There are options to reduce the cost of features like this. The drawing shows how you can make a virtually square corner. This is an excellent technique for assembly or mating part clearance concerns where a larger radius would interfere.

The trick to this feature is to put the center point inboard and then adjust it to fit the application. Use the largest radius that will fit the application. A drill point mark on the floor of a pocketed part will also decrease cost.



The Tool, Die & Machining Association of Wisconsin is looking to grow membership. The association offers many great benefits. Please visit www.tdmaw.org for more information.

