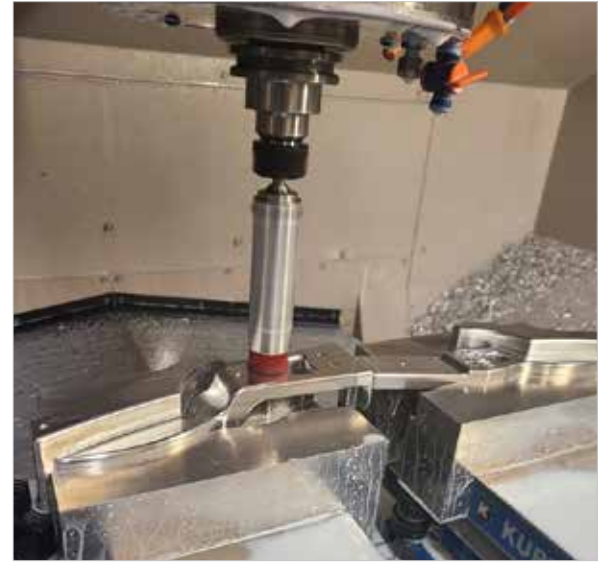


# Area Tool Cuts Labor Time and Costs with Xebec Brushes



Area Tool & Manufacturing, Inc. is a precision manufacturing shop in Meadville, Pa. They’re considered a “job shop,” manufacturing high-precision, tight-tolerance parts for customers. Much of their work is in the medical industry, including R&D prototyping of medical hardware. Their other top industries are aerospace and telecommunications.

## The Layout

Area Tool has two operators for six machines in their CNC department. They’re not a production shop, so they don’t typically run the same part for an extended period. More often they run one-off parts and prototypes.

It takes incredible focus for Area Tool’s employees to keep these machines running. They need to be able to work efficiently with what they have. The ability to run machines “unattended” is ideal for their operations.



## The Need

Area Tool’s relationship with Xebec stemmed from their work producing 6061 aluminum barebow recurve risers for CD Archery. A recurve riser makes up the center section of an archery bow. When making this part, Area Tool polishes the tooling marks out for a uniform finish.

Formerly, Area Tool hand-sanded these and other parts they produced using sandpaper and ScotchBrite to polish the parts. They could also do this work by attaching scuff pads, or discs, to a pneumatic air gun.

Individual discs don’t cost much, but buying 20 at a time several times over adds up. And for the bows, hand-polishing took about half an hour of labor per part.

Area Tool’s production volume in these bows was enough to pull significant time away from other work. They started searching for a tool to automate the polishing process.

## The Solution

One of Area Tool’s local tooling distributors (James H. Cross) put them in touch with Xebec. And Xebec allowed them to demo their ceramic brush so Area Tool could experience the benefits for themselves. They were sold.

Area Tool went from manually deburring by hand to an automated CNC machine process using Xebec brushes on the barebow curve risers. With the brush, polishing went from a half-hour process to a five-minute program. Programming takes a little extra time, and adds five minutes of run time per part, but cuts 20 minutes of production time per curve riser, saving up to 60 hours of labor per year. While the machine is running, employees are free to get the next job up and running. This also reduced rejects by having a consistent, even polished finish on every riser.



*Area Tool has made around 350 bow risers using the same brush for this process over the past two years.*

Area Tool’s need for Xebec brushes has led to a dozen uses in the shop. For example, they use Xebec brushes to deburr tough materials like CPM 10V tool steel, which produces notoriously gnarly burrs. Formerly, they used carbide files to deburr this material by hand. Now, they run the ceramic Xebec brush over the part and it cuts through the hard material like it’s nothing. Brushes wear faster in these applications, but Area Tool says it’s well worth the investment for a better, more consistent process and for the man hours saved.

Area Tool also uses a Xebec brush to deburr “sprockets,” round parts they produce that have 24 slots around the outside. The slots break out each end of the part, creating a burr. Hand-deburring the edges of these slots with a tiny file took longer than the 12 minutes to make the part itself. They would fall behind on deburring one before the next was ready. Now, they’ve programmed a Xebec brush to go in multiple directions and catch the sides of the slots for a nice, rounded edge. This adds two minutes of run time to the job but saves around 15 minutes per piece in labor.



## The Benefits

### *Savings on Labor, Lift in Productivity*

Area Tool has eliminated much of their hand-deburring and hand-polishing work. For shops like theirs, automated processes that let employees work on different jobs while a machine runs equal huge cost savings – and shops can get more parts out the door faster. In some instances, Area Tool has gotten to a point of profitability on parts they were formerly breaking even on.



*If you're making around 175 bow risers per year and saving 20 minutes per bow riser, you could save up to 60 hours of manual labor annually.*

*Improved Quality, Consistency*

Xebec brushes take the potential for human error out of the equation, so the outcomes are high-quality and consistent. This is especially important for Area Tool. They do high-precision work and damaging the surface of a part through simple human error can render it unusable. Xebec brushes deburr and polish parts at the same time, so it's no longer a two-step process. A consistent, high-quality polish on parts allows any subsequent work such as plating, coating, heat treating, and anodizing to be completed without uneven finishes or witness lines. With Xebec brushes, Area Tool can consistently put a better quality product in the hands of their customers, which encourages repeat work.

*Enhanced Safety*

Area Tool has found Xebec brushes easy to use for a variety of applications, which is perfect for their production model. And automating this process – taking it out of the literal hands of employees – makes day-to-day operations even safer, helping avoid injuries and the challenges associated with them.