

# The Costs of Manual Deburring and Finishing: Inconsistencies, Rework and Scrap



Deburring and finishing are still predominantly manual processes for many manufacturers and job shops. However, the results are notoriously inefficient and inconsistent. Doing this by hand takes a lot of time and pulls employees away from more productive activities. Then, if the final product isn't to spec after all of that time and energy spent, it is scrapped.

Manual deburring varies widely from one manufacturer to another with some having streamlined processes with dedicated tools and requirements while others leave it to the discretion of individual employees. This hurts productivity and leads to inconsistent results.



Today there are new technologies, such as integrated solutions with Xebec® ceramic fiber brushes, that automate deburring and finishing that result in a precise product in a matter of seconds, and their return on investment is fast enough to warrant their cost.

Manual deburring comes with inherent quality and productivity issues. If you perform this type of work at your shop, you'll likely find these familiar.



## Common quality issues with manual deburring

### Imprecise edge breaks

It's nearly impossible to achieve a consistent or precise edge break with manual deburring, especially if the part is very thin. In many industries precise edge breaks are critical and if an edge break isn't perfect, parts and products are often scrapped – some of which might cost hundreds of thousands of dollars.

### Inconsistent deburring

Manual deburring is often performed by various employees with numerous tools. This results in inconsistent deburring depths and speed. You're more likely to get consistent results with employees dedicated to the task who are familiar with the details of the product and tools used. However, even they will produce varying results depending on the time of day and their energy level.

### Inconsistent finishing

For shops that provide finishing services, these same manual deburring issues can lead to inconsistent finishes. This affects other processes like anodizing, heat treating and coating, and can render a product scrap. It also hurts the company's reputation for producing well-polished products.

### More scrap and rework

Manual deburring increases the rate of scrap and rework, which can waste time, money and resources. This is one of the most substantial issues related to quality in the deburring process. For some sophisticated parts, such as in the medical and aerospace industries, just the setup time for a part can be hours long. If you have to scrap or rework the part, your loss includes this setup time, as well as the cost of acquiring materials and/or replacing the part and performing quality control.



### More quality-control work

Deburring manually often calls for more quality-control inspections, increasing the cycle time. In automated processes with more consistent results, quality control is more streamlined and shops can often box up parts immediately after the deburring and/or finishing process is complete.

### Manual deburring vs. automated deburring

If you're experiencing quality issues, weigh the impacts on cost and time. An automated process, especially for high precision work, may be worth the investment considering how dramatic the difference in consistency, quality and timing could be.

Xebec's automated deburring solutions have the potential to take your deburring rate from two parts per hour to 30 parts per hour, your scrap rate from thousands of dollars down to hundreds, and your reputation for consistent quality to a new height – creating happy customers and attracting new jobs. These solutions will reduce your costs and increase your productivity, primary goals for most industries.