## **Outshining the Competition** Isn't Always a Good Thing-Ask a Medical Instruments Manufacturer Herb Tobben

**Solution:** 

A manufacturer of stainless steel laparoscopic surgical tools wanted to improve efficiencies in their finishing operation. Their instruments were machined and came from the fabrication shop with burrs, small defects, surface oxide, and slight discoloration. With a production volume in the neighborhood of 4,000 pieces per week, they needed to process at a rate of one finished part every 10 seconds. Their finishing objectives included deburring and cleaning to remove oxidation and other contamination from the parts. Their manual process included sanding and wire brushing. A routine step also involved visually inspecting each finished part with a magnifying glass, a painstaking process. Attention to detail and a fine finish were required to meet the demands of their medical community customer base—not to mention outshining their competition.

The local ZERO distributor offered to run parts for them to

demonstrate how blasting could contribute to improving their

operation and the customer took the distributor up on his offer.

The surgical instruments were processed with No. 10 glass bead

in suction-style (venturi-style) blast cabinet. To the uninitiated,

blasting is like magic. The customer purchased a manual cabinet.

And not only were they able to achieve their production rate, but

also they saw an improvement in the quality of their parts. Glass

bead blasting quickly and easily removed the burrs and oxidation

and produced a matte finish, which was an unexpected but pleas-

ant surprise. As you know, surprises in a manufacturing environ-

their customers raved about the matte-finish—it served to elimi-

nate the reflective glare on the instrument from the operating

room's high-intensity lighting, an obstacle they had lived with

With this value-added feature, tool production demand

for years. Removing the shine from the instruments' surface

instruments increased surgical productivity.

ment usually are not desirable! To the manufacturer's delight,



Rigid endoscope components are loaded on a fixture on a ZERO A-200 indexing turntable cabinet

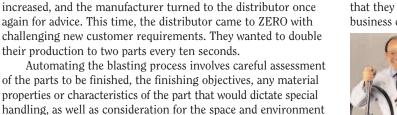
meet greater demand. They wanted finished parts with a single process and an easy operational learning curve for the workers. They needed a reliable, easy-to-maintain machine that would run 24/7, if need be.

The parts had to be handled individually and lent themselves to an indexing turntable machine, in which parts are loaded one-at-atime onto a fixture, and blasted one or two satellite stations at a time. In this application, the customer loaded three parts on one fixture, indexed to send the parts inside the cabinet for blasting, while they removed and reloaded more parts.

The finishing specification called for uniform coverage over 360 degrees around the part. In some medical applications, such as implants, specific roughness average (Ra) finishes are required. In this application, however, the goal was a visually acceptable

part. The machine was fitted with eight blast guns and the same No.10 glass bead that was used in their manual blast operation was also used here. To achieve the customer's finishing goals, we created special fixtures designed to hold three parts per fixture. By loading three parts on each fixture, three parts could be completed every ten seconds and the finishing production rate tripled the original manual-process rate, giving the customer room to grow into the machine with increasing demand. For the time being, the additional finishing capacity allowed them to process several different size tools with a simple change-out in fixtures. The automated process assures repeatability, which contributed to greater time and cost savings by reducing the visual inspection rate and virtually all part rework.

The challenge had been to design a machine and process that would offer a simple, elegant solution at a price that was within the customer's budget. Solving customer problems are never a slam-dunk. In this project, with a combination of luck, and of course skill and expertise (!), the customer was thrilled with their investment in a simple automated process, with achieving triple their production rate, and with the assurance that they would not very soon outgrow the machine. Their business continues to grow and in their eyes, we shined.



In this instance, the customer needed a machine that would speed the process so that production could be ramped up to

where the equipment will be used in the customer's facility.



Got a question about shot peening, abrasive blasting, or sample processing? Clemco can help. Call Herb **Tobben** at 1-636-239-8172 or submit your request at online at www.clemcoindustries.com in the Contact Us section. Herb Tobben is Sample Processing Manager for the ZERO Automation product line at Clemco Industries Corp. He is a regular speaker at the Electronics Inc. Shot Peening