

Batter Up

“Pinch-Hitting for Herb Tobben . . . Manny Mota”

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The Problem:

A sports equipment manufacturer asked Clemco to develop a machine to create a uniform finish on aluminum bats and composite golf club shafts. Blasting would take place near the end of the manufacturing process, just before final assembly, color anodizing, and silk-screen labeling.

Blasting's ability to create the desired finish was never an issue. The Distributor working this project had been manually bead blasting the bats in their job shop. The delay and expense created by sending out the bats had convinced company executives they needed to bring the process in-house.

The big question mark centered on the tapered shape of both the bat and the club shaft. Regular readers already know that having to process two distinctly different parts in one machine raises a red flag. Pinch-hitting is a ploy best saved for the ball diamond.

Using one machine to process two parts usually calls for separate fixtures, distinct gun placement, and different cycle times – plus well-trained personnel to effect the changeover quickly and consistently. With short production runs, it's usually cheaper and less troublesome to build separate machines. The bats were an existing product for the customer, while the golf clubs were in the development stage, with the possibility of never coming to market.

The box score was simple and succinct – this customer had neither the space nor the budget for two machines.

The Solution:

We designed and built a through-feed cabinet with an unusual parts-handling system. From a loading point at one end of the cabinet, pinch rollers – some powered, some passive – carry the part through the blast enclosure. The rollers feature a precisely machined V-groove that fits the small-diameter golf club shafts and the large-diameter bats.

By making the V-groove just deep enough that the top and bottom rollers never touch, the diameter of the bats and shafts and their varying taper have no effect on the system's ability to move them through the cabinet.

With the parts set in motion, it's time to blast. The simplest solution is a circle of nozzles pointing inward to blast the part as it passes. With these slender parts, however, blast overspray from the guns would quickly wear away the guns and their



Herb Tobben creates solutions to customer problems at ZERO's Sample Processing facility.

mounts. Instead, the nozzles are mounted in a 360-degree spiral along the path traversed by the parts – each nozzle aimed at a gap between the sets of pinch rollers. The urethane V-groove rollers keep the bats from rotating, so each receives a consistent all-over blast in one pass.

Any nicks or scratches incurred after blasting will show through the anodizing. The cabinet operator feeds four or five bats into the cabinet. As the bats exit the other end, the operator places them into a padded rack for their trip to the anodizing booth.

Bats that do get nicked in subsequent processes are sent through the cabinet again for rework.

With the system up and running, the customer is breaking longstanding records for productivity and quality control. To save money on media, the customer switched from glass bead to stainless steel cast shot.

I guess you might say we hit a home run, but then I never was much for bad jokes.

Got a question about peening, cleaning, or sample processing? ZERO can help. Call 636 239-8135 or submit your request online at www.clemcoindustries.com.

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