Needle Sharpener Keeps Phoenix on Point

Phoenix Medical Products, a contract manufacturer of various devices used in a number of medical markets, has one department devoted entirely to needle design, production, sterilization, and packaging, as this work has a unique set of challenges. As David Hannah, general manager for needle production explains, "Our former method for one type of needle production involved sharpening with a 5-axis CNC grinder and manual fixture. The needles needed to be end-swaged down to a particular and different diameter, which was not a very precise process. When we'd set up the CNC grind, we'd often need to run some parts two or three times to get the desired edge because the swage did not leave us enough usable material."

Hannah and Phoenix engineering manager, Chris Blake, found Advanced Machine & Engineering (AME), a new supplier for them. AME sent an engineer--Dan Lapp, vice president of sales--to see Phoenix's process and current manufacturing. After the initial visit, the AME design department went to work. After a series of discussions, the SolidWorks model was ready for review. Only minor modifications were required by the Phoenix team, after which the first unit was built, entirely at AME, itself a contract machine builder.

Once the first machine was built, it underwent extensive testing on Phoenix needle products, using an in-house grinder at AME to test accuracy, surface finish, part-to-part time, and the machine assembly itself. To the great satisfaction of the customer's production team, this needle sharpener was found to be highly productive, from the outset. As Hannah notes, "With this new fixture, we were able to set the products up on our manual grinder and a surface plate. Using our video system, the operator could observe each needle being ground and achieve the correct point on the first cycle, every time. As a result, in a very short time, we were able to track a 40% increase in our production plus a 5-10% decrease in scrap." This latter number is quite significant, as the raw material for such needles is typically an expensive 304 or 17-7 stainless steel. Hannah further observed the entire operation was now simpler and much easier for the operator to execute, with less set-up time and reduced maintenance. Since its start-up at Phoenix, the needle sharpener has needed only one routine cleaning.

Information: www.ame.com *[1].*

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