

3D Printing: Transforming Custom Jewelry Manufacturing

Bob and Rachel Krug know their footballs, bananas, chubbies and glow worms—and everything else about making high quality custom jewelry. Between them, the Krugs have 50 years of experience creating unique pieces of jewelry. Their original designs are manufactured and sold in their jewelry store, *Imagine Jewelry Studio*, in Helena, Montana. What the Krugs are now learning is how 3D printing can take their creativity and productivity to new heights.

The jewelry making process starts with a drawing that Bob develops with a computer-aided design program. He can show customers exactly what their piece will look like and make modifications before going to final production. Interacting with customers in the design phase allows Bob and Rachel to not only deliver high quality jewelry; it is a fun part of their process, too. Once a design is set, Bob develops the wax pattern or model that will be used to create the mold for the final production in metal.

For most of the past 10 years, Bob has used a jewelry mill to create the wax design, a process that took many hours to complete, one piece of jewelry at a time. But starting in December of 2014, he made the leap to 3D printing and has seen his business transform. "My ProJet 1200 produces high quality wax patterns in a fraction of the time it takes with my jewelry mill," says Bob. "With more time to devote to customers, my custom design work has doubled in a few months."



Using a 3D printer to make the wax patterns, Bob can produce 7 rings in a quarter of the time it takes to produce one ring with his mill, and at a fraction of the cost. He is able to create more intricate, filigree styles, and design on the inside of rings—not something he could achieve with his 4-axis mill. With the accuracy and precision of a 3D printed pattern, most pieces weigh less which makes it more affordable for customers to own an Imagine Design creation. And that's good for both the Krugs and their customers.



Bob's creativity has been unleashed in unexpected ways with his 3D printer, too. "Before, I used to 'out-design' my mill. But now I can create anything, and the printer will print exactly what I design. I visualize what I want to do, then create the structure to make it work."

Speed, cost, creativity—that's what the 3D printer has brought the Krugs. Bob has completely switched over to using 3D printing in his jewelry making process. Anyone want to buy a used mill?



Bob had fun making the Eiffel Tower in his new printer

To see more of Bob and Rachel's beautiful creations, visit their website at <http://www.imaginedesignsmt.com>.

To learn what footballs, bananas, chubbies and glow worms are in jewelry slang, see <http://diamondcuttersintl.com/diamond-slang>.

To see how Intermountain 3D might help you transform your business, visit us at www.intermountain3d.com

