COOL TOOLS

First published in *MJSA Journal*, April 2011

Jewelry makers brag about their coolest tools—even some they've developed.

Having a tool that would do everything from start to finish—and make lunch, too--might take a lot of fun and serendipity out of jewelry making. But most jewelers are always on the lookout for tools to help them work more quickly, efficiently, and accurately. This handful of tools comes recommended by—even designed by—jewelers like you.

Foredom Micromotor K.1050

A Foredom Flex Shaft may live on your bench, but Foredom also makes a Micromotor. While the Flex Shaft delivers high torque at relatively low rpms, providing maximum cutting ability with maximum control, the Micromotor delivers high speeds (up to 50,000 rpm compared to the Flex Shaft's 15,000 rpm) with less torque. "The faster speed gives you a smoother cut," says Foredom National Sales Manager Michael Zagielski, especially on fine detail; jewelers can run a 0.5mm round ball bur at 50,000 rpm smoothly enough to sign their work.

Despite the low torque, new micromotor technology means that "you can't stall the 1050," says Zagielski. The supple power cord that replaces the stiff flexible shaft means it's light and easy to use. And there are no brushes to change.

While Foredom's Micromotors won't do everything the Flex Shaft does, says Zagielski—they won't take larger buffs, nor are there so many accessories available--"Micromotors are coming into their own." One reason San Francisco-area jewelry artist and Revere Academy instructor Ronda Coryell has largely switched to the Foredom K.1050 Brushless Micromotor—which she calls the "Lamborghini of micromotors"--is

because vibration in the handpiece has been eliminated. She also likes the control box that comes with the K.1050 which allows her to choose forward or reverse; set a fixed speed, or work with the variable speed foot control. But the too-cool-for-school option is the “cruise control” that works like the one in a car. Hold the cruise control button and bring the foot control to the speed you want. When the control beeps twice, take your foot off the pedal and cruise. Tap the pedal to take control of the speed again. Just as the cruise control in a car allows you to rest during a long drive, the cruise option on the Micromotor allows you to rest if you have a lot of metal or wax to remove.

It’s not exaggerating to say Coryell loves the Foredom Micromotor hammer handpiece. Most hammer handpieces “come in reciprocating,” she says. But the Micromotor’s hammer handpiece starts only when you press it to the surface, so you can position it precisely before starting. Stroke intensity—from soft to hard—and striking speed are also adjustable. You can tap something only once if you want or need to. “It’s the most amazing hammer handpiece,” says Coryell. “I can’t imagine what I’d do without it. It’s so controllable.”

Kate Wolf’s Belt Sander

Despite her fondness for the K.1050, Coryell says “my favorite new tool is the Kate Wolf Belt Sander. It’s so fabulous that I don’t file much anymore. I use this belt sander.”

New Mexico jewelry artist Pat Pruitt, who most often uses a full-sized belt sander for his stainless steel work, says he first thought it was “a toy, geared for the hobbyist who just wanted a cute little sander. Boy, was I wrong. The construction is pretty darn good for such a small unit. All bearings look to be sealed so dust and grime should have a hard time getting in there, thus prolonging the life of the bearings.”

The sander--which is “about the size of your hand,” says Pruitt--“does a great job for its intended purpose.” While he thinks his chosen material and method of working

might be somewhat hard on the unit, “for those working in softer metals, such as gold and silver, this machine is going to be a dream.”

The sander fits quickly onto the bench with a clamp, has a dust collector to catch precious metal particles, and powered by the Foredom Flex Shaft, it makes “a very nice variable speed sander,” says Pruitt. The sanding belts provide a 1” x 4” sanding surface, and come in a variety of grits, from very fine to very coarse, says Coryell. It also takes a variety of 3M belts, which she uses to finish tools as well as jewelry.

And it’s flexible. Pruitt was used to sanding belts moving downward; the Wolf sander moves up and away. No problem. He simply flipped the sander around to get the belt moving in the other direction. (Since then, he’s purchased a Foredom that will run in reverse, mitigating the need to turn the sander upside down.)

(For the full text of Pruitt’s review of the Kate Wolf Belt Sander—and his plans for “tweaking” it to fit his needs, see http://patpruitt.ganoksin.com/blogs/2009/01/30/kate-wolf-vs-burr-king-a-battle-to-the-death.)

Simple Fixes for Heat

San Diego jeweler Jay Whaley loves developing tools that solve specific problems. While working in a small space, he kept knocking his soldering pad to the floor. In response, he developed the Heetrix, a soldering pad on a swivel, mounted to the bench with a clamp. The small pad swings into place when you need it, and swings away when you’re finished. A third hand mounted over the pad holds the work to be soldered; a well beneath the pad holds soldering granules in which to embed pieces that must be protected from heat.

Whaley makes his own mill stock from poured ingots, and he teaches others to do the same. But students fear molten metal. The awkwardness of standard crucible handles does nothing to help. So Whaley developed the WHIP—the Wire Handled Ingot Pouring

device. Made of heavy stainless wire, the jaws of the WHIP open by squeezing the handle, and close by releasing the pressure (just like a third hand). It holds the melting crucible securely, but releases it quickly if needed. The short stainless handle doesn't transmit heat, says Whaley. It makes pouring easy to control because the jeweler can work close to the ingot mold and clearly see the molten metal.

Reinventing the Hammer

While most metalsmiths alter their hammers to reflect their working style, Maine metalsmith Michael Good's hammers are a particularly idiosyncratic reflection of his anticlastic/synclastic raising method. The hammers are so specialized that Good always altered them for the students in his workshop. Now, two of these tools--a planishing and a crosspeen hammer--are manufactured by Maine metalsmith and tool designer Bill Fretz.

The planishing hammer "looks very odd," says Colorado metalsmith Travis Ogden, owner of The Naja Tools. Most hammer faces are centered and perpendicular to the hammer head, but the Good planishing hammer, "looks like the face is dripping off." Good developed the dropped face and the extended length of the hammer head to allow smiths to work in tight areas and to see the work clearly. It essentially allows the smith to "go around a corner and planish from the inside," says maker Bill Fretz.

The thin profile means the hammer is lighter and more sensitive, too. "A heavy hammer head is great when you're forging," says Good. "When doing what I'm doing, you're not hitting that hard, and you're hitting surfaces where you can easily bend the metal. It requires a sensitivity that lightening the head helps, to a degree."

The planishing faces are not at 90° to the hammer head, either, but are slightly angled so that they are at 90° to the arc of the swing of the hammer as you use it. This ergonomically driven change is very subtle, says Good, and probably not noticeable to occasional hammer users, but it can make a great deal of difference to a smith who

hammers constantly. Although smiths who have adapted themselves to traditional hammers over the years, “have to change the way they hammer,” says Good, “in fact, it is more comfortable.”

The Good crosspeen hammer, with its long, thin, elegant head and soft round edges, looks very different from many raising hammers, and has a very specific purpose. “When you do anticlastic work,” says Ogden, the hammer allows you to get into deep recesses “without hitting in the edge of the hammer or handle or any other part of the hammer on the higher edges.”

The hammer has two peens, a very small one for very small spiculums or ear wires, says Good, and a wider one for a range of larger work. Metal always assumes the form of the peen, limiting the type of curves you can put into a sheet. In addition, the shape and size of each peen has a relationship to the type of work you’re do and the stakes you use, says Good. Though “ideally you need more than [two peens],” says Good, “you only need about six to eight different crosspeens [to do most work]. I’m going to continue designing hammers with variety of other peens [for work from] earring to necklace size.”

Thoughtful jewelers and manufacturers will no doubt continue to dream up tools that make your work easier. Until you can buy that one tool that does it all and cooks, too, enjoy experimenting with them all.