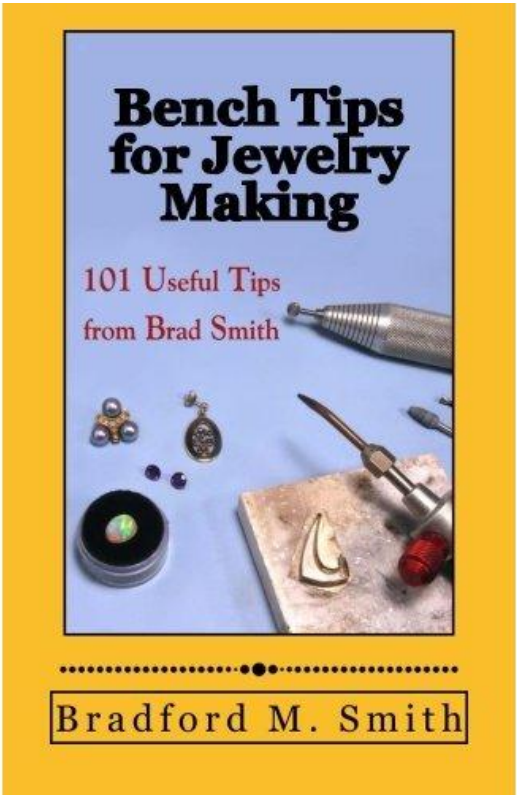

BENCH TIPS FOR JEWELRY MAKING

BY

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Bench Tips for Jewelry Making

101 Useful Tips from Brad Smith

Novel jewelry techniques, shortcuts, and suggestions to improve skills, save time, and increase quality of your work

First soft cover edition printed 2012

The material in Bench Tips for Jewelry Making should be used only as a learning guide. Nothing in these tips is intended to negate the need for proper clothing, dust masks, and eye protection. All generally accepted industry safety procedures should be followed when using tools in the jewelry shop.

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ISBN: 0988285800

ISBN-13: 978-0988285804

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PREFACE

In every field, the top artisans have their favorite ways of solving common problems. Making a piece of fine jewelry is no exception. The work is intricate, but accomplished jewelers have a variety of alternative techniques, special tools, and shortcuts that save time and increase the quality of work. They're known as bench tips.

As a studio jeweler and a classroom instructor, I've always been interested in adding good bench tips to my knowledge base. My students seem to find them helpful as well. As the tips grew in popularity and in number, I realized they might be of interest to other jewelers and decided to publish them in book form.

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Happy hammering!

- Brad

CHAPTER 1

FABRICATION TIPS

BROKEN DRILLS

Have you ever broken a drill bit off in a hole? Sometimes you can grab it with pliers, but other times, the piece of steel is below the surface in the hole. If this happens, you can usually dissolve out the steel with a solution of alum.

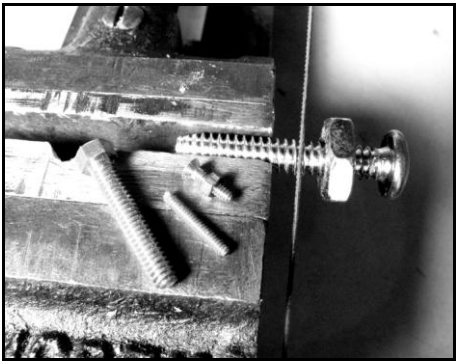
Alum is typically available from a food store. It's used to make a pickling solution. Use about a tablespoon per cup of warm water. Submerge your piece so that the partially drilled hole is facing up to let the bubbles float free and not block the hole. After several hours, or overnight, any remaining drill bit should drop out.

CUTTING A BOLT

Whenever you have to cut a threaded bolt a little shorter, it is often difficult to get the nut to fit back onto it. And the smaller the bolt, the more difficult it is to restore the distorted threads. The problem is easily solved with the use of a nut.

First, screw a nut onto the bolt before starting to cut. Grip the bolt by the piece of the threaded end that will be sawed off.

Then saw the bolt to the desired length, taper the end with a file or sandpaper, and unscrew the nut from the bolt.



Unscrewing the nut over the freshly cut end of the bolt reforms any of the threads that may have become distorted and knocks off any burrs. Gripping the bolt by the piece to be sawed off localizes any crushing damage to the piece that you'll be throwing away.

DEBURING A HOLE

When you drill a hole, there's usually a burr produced on the underside of the metal. Typically you would then file or sand

CHAPTER 5

SHOP ORGANIZATION TIPS

SHEET & WIRE STORAGE

The more you work with jewelry, the more problems you have finding the piece of metal you need. My pieces of sheet were generally stored in various plastic bags, and the wire was in separate coils. Few were marked. so it often took me a while to locate that piece of 26 gauge fine sheet I bought last year especially since I usually take my supplies back and forth to classes.

A tip from a friend helped me organize everything. I bought an expanding file folder from the office supplies store (the kind that has slots inside and a folding cover). I marked the tabs for each gauge of metal I use. Then I marked all my pieces of sheet with their gauge, put them in plastic bags, marked the gauge on the bag, and popped them into the folder. I usually store coils of wire loose in the folder, but they can also be bagged if you prefer. I use one tab for bezel wire and one for miscellaneous items.

The resulting folder is really convenient when I want to take my metal out to a class or workshop. It's also colorful enough for me to easily find it in the clutter of the shop!

CHEAPER & BETTER PICKLE

Most jewelers use a granular pickle mixed with water. The active ingredient is sodium bisulfate. This can be purchased from local stores as a common pool chemical used for adjusting the acidity of the water. It's sold under various names, so be sure to check the list of active ingredients for a brand that is 95% or so sodium bisulfate.

An added benefit, I believe, is that the pool chemical is more pure in form than what is sold for jewelry use and does not cause the brown grime floating on that you sometimes see the top of a pickle pot.

IDENTIFYING SOLDERS

Despite the many ways to mark your sheet or wire solders, I have sometimes forgotten to do it and had a couple that I could not identify. The answer is to compare the melting temperature of the unknown with that of a couple known solders.

What I do is take a thick scrap of copper or nickel and arrange several solders on it. Ideally, I would have a sample of easy, medium, and hard known solders surrounding the unknown solder. Then I heat the plate from the bottom and watch the order in which the solders melt.

OCHRE APPLICATOR

Yellow ochre is used when you want to be sure the solder won't flow on an area of your piece while you're soldering another area. The only problem with ochre is coming up with a good way to store and apply it.

SOLDERING PRONGS

I often use prongs to hold an irregular cab or other object on rings and pendants. But prongs are a little tricky to solder. You have to find some way to hold them all upright while soldering. The simple butt joint that looks strong sometimes breaks when you start to bend the prong over the stone. There's nothing worse than having a prong break off when you're setting the stone *#~*!

I solved both problems with one little trick. It keeps the prongs in position for soldering, and it gives you a stronger joint at the same time. Locate and centerpunch the position for each prong. Then drill holes a little smaller than your prong wire. Sand a small taper on the ends of your prong wires, and stand them up in the holes. The wires support themselves. Soldering is easy. The joint is stronger because of the increased soldering area.

SUPER PICKLE

We've all made the mistake of putting some steel in the pickle, causing all your pieces to be coated with copper. Easiest way I've found to clean it off is to fill half a coffee cup with new hot pickle and put in an ounce or two of hydrogen peroxide from the drug store. Put your pieces in, and the coating is gone in about 10 minutes. Pour the solution back into your pickle pot.

Many people think that when some steel gets into the pickle, the solution is contaminated and should be thrown away. Not true as long as you can remove all the steel from the pickle. In fact, the pickle should work even better after the steel is removed.

Pickle works by dissolving the copper oxides that form on the surface of copper bearing alloys exposed to the heat of soldering. Pickle gets "old" when it cannot hold any more dissolved copper. Putting steel in the pot forces some of the copper to come out of solution. This allows more copper oxides to be dissolved.