

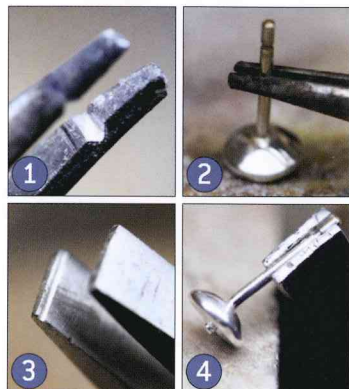
Tips for Soldering Findings

by Mark Maxwell

"Findings are the bread and butter of the bench jeweler," says Mark Maxwell, an instructor with the Gemological Institute of America in Carlsbad, California. In this Tech Sheet, he offers some suggestions for making the job of soldering those component parts a little easier.

Setting Up for Soldering

The key to soldering component parts lies as much in the preparation as the practice. More times than not, the causes of poor joints and misaligned pieces can be tracked back to awkward body positioning, poor lighting, or even a poorly secured piece. Before you even light your torch, make sure your work area is well illuminated, and that the light simulates daylight.



Also, check the height of your bench and the angle of your chair to make sure you have the best ergonomic positioning. For complicated pieces, I will often make a trial run of the soldering operation, just like the Olympic downhill skier who visualizes the race-course. Only when I feel comfortable with the procedure will I begin.

To ensure that all of the parts are securely in place for soldering, you shouldn't try holding them in your hand: That usually results in not only poor quality but also hand fatigue. Instead, you can easily modify a pair of cross-locking tweezers to ensure a good grip. Simply cut two small, aligned grooves close to the tip of these tweezers [1]. These will provide a ready recess for holding earring posts or any round wires [2]. When it comes time to polish the findings, use a separating disc to cut grooves into your double-flat or chain-nose pliers [3]; again, you'll get a much better grip [4]. In both modifications, make sure you polish the grooves; this will ensure that the findings are not damaged.

Thin Is In: Preparing the Solder

Excess solder on assembled findings can be extremely difficult to clean. This makes calculating the needed amounts all the more

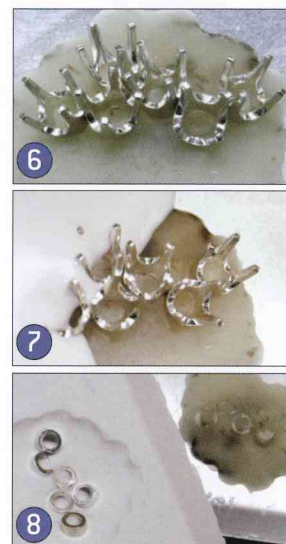


crucial. To help with this, try rolling your solder through a rolling mill [5]. By thinning the solder, you will be able to trim off much smaller portions—and avoid unnecessary cleanup when the soldering is done.

Head Start: Investment Soldering Basics

The assembly of heads always poses a challenge. Typically, a jeweler must take a group of oddly shaped heads and arrange them into a seamless, complicated pattern—a task that usually becomes an exercise in how to juggle the aesthetics of placement with the need for strength and durability. Lasers and tack welders definitely help with this challenge. However, if those modern tools aren't available, you can try an old (yet trustworthy) trick: investment soldering.

To begin, form a piece of beeswax into the desired shape of the finished item and place it inside a small container; this will be your staging area. Push the heads into the shaped wax, arranging them in their final desired form



[6]. Make sure the wax covers the parts of the heads where you want the solder to flow; otherwise, the investment will act as an inhibitor.

Once the heads are positioned, pour traditional investment plaster over them [7]. After the investment hardens, lift it from the wax (the wax can also be melted). Now invert the plaster-covered heads [8] and begin soldering [9]. Not only will the plaster hold the findings in place, but this technique also allows

you to use all hard plumb solder, with no step soldering necessary.

Once the soldering is completed, the investment can be soaked in water for a short period until it breaks away cleanly from the heads. All that remains is to dip the heads in the ultrasonic and polish it before final assembly (10).

Several squabbling geese

and the rolling Pawtuxet River harmonized with the hammering coming from the belly of an old textile mill. Flamenco's contrasting tempo accompanied Joost as he worked a piece of silver, surrounded by aged brick walls, hundreds of forming stakes and a canopy of light. His traditional training in the Netherlands drove him toward perfection, hammering every molecule to exhaustion.

But the metal was stubborn. So he listened. He shaped but didn't force, strengthening his intimacy with the piece. Too much struggle, it just wasn't meant to be.

Somewhere just a bit before half-way, he stopped.

He picked up the piece and turned it around and around. He set it on a stool and walked around it, twisting the hammer in his hand. It was still a bit of a mess, but the metal was responding—they were in tune. He could see its personality. He knew what it would become.

Exhilarated,
he started to hammer.

—May 18, 2004

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