

Jump Rings 101



Level: Beginner

Technique Focus: Jump ring coiling, cutting, closing and cleaning

Materials Needed: 16 gauge wire

Tools Needed: mandrels
wire cutters
jeweler's saw
cutting lubricant
safety glasses
leather gloves or finger guards

Coiling Jump Rings

1.



This is my coiling set-up. It consists of a winder and some mandrels* (metal rods).

The end of the coiler is similar to a drill chuck.

2.



Insert the mandrel into the chuck and tighten it so the mandrel will not fall out.

Insert the end of the wire into one of the spaces between the teeth of the drill chuck.

3.



Bend the wire 90° so that it is coming towards you.

4.



Hold the wire between your thumb and forefinger.

Slowly begin turning the handle of the coiler to wind the wire.

Be sure to turn it at a steady speed, and not too fast. You do not want any gaps between the rings.

5.



The Koil Kutter mandrels have a notch in the far end.

The wire is inserted into it, and wound towards the drill chuck.

* Transfer punch sets, knitting needles and wooden dowels all make good mandrels.

Jeweler's Saw

It is important to use the correct blade for the gauge wire that you are cutting. A good rule of thumb is that there should be two teeth within the thickness of the metal. For 16 and 18 gauge wire (the most common size wire for jump rings) you would want to use size 2, 3 or 4 saw blades.

You will want to insert your blade into the saw so that the teeth are facing away from the frame and down towards the handle. The blade should be tight and “twing” like a guitar string when snapped. Loose blades will break easily and not cut properly.

1.



The first step in cutting jump rings is to protect yourself. Always wear leather gloves/finger guards and safety glasses.

2.



I grip my coils like this when I cut, so I wear my finger guards on my thumb and middle finger.

3.



Place some cutting lubricant on the coil and also the saw blade.

Commercial brands and beeswax work equally well.

4.



To get started, it is easier to start with the saw blade next to the end cut of the coil.

You will want to hold your blade as vertically as possible (without cutting through both sides of the jump ring) to get the best cut.

5.



Because the teeth on the saw blade are facing down towards the handle, you will only cut the metal when you are pulling the handle towards you.

6.



Use long, even strokes when sawing. If you use just short strokes you are only using one part of the blade and will wear it out sooner.

7.



If you find the coil hard to hold while cutting, you may insert the mandrel or a wooden dowel inside for extra support...just be sure not to saw a metal mandrel, as it will break your blade.

Koil Cutter

The Koil Cutter is manufactured and sold by Dave Arhens of Tucson, Arizona. He may be contacted via e-mail at: gemstonesetc@gainusa.com.

The Koil Cutter may be used to cut silver, gold-filled, karat gold and copper.

1.



The Koil Cutter set-up consists of three parts...

The metric mandrels with slots cut in the end for easy wire winding.

2.



The Koil Winder that can be clamped or permanently mounted to a work surface...

3.



And the Koil Cutter, which includes a blade, arbor, cutter guide, coil holder and an allen wrench.

(Rotary tool sold separately)

4.



The blade should be mounted so that the teeth are going counter-clockwise.

Position the blade inside the blade guard (white PVC piece) so that the blade will not hit the edges of the coil holder (metal piece).

5.



Place the jump ring coil in the groove of the coil holder.

The stopper should be on the left side of the coil holder.

6.



Attach the holder cover with the screws provided. Push the coil all the way down to the stopper with a popsicle stick.

7.



Be sure not to tighten the screws too tight. The holder top should be flat, not bowed.

8.



Place the blade guard into the holder top and bring the rotary tool up to full speed.

Move the blade from right to left.

When you reach the end of the coil, turn off the rotary tool and wait for it to stop completely before bringing up off the holder.

All Metals Saw

The All Metals Saw is no longer available. It was manufactured by Ray Grossman (the maker of The Jump Ringer).

As it's name implies, it can cut all metals, including titanium, niobium, aluminum, steel and platinum.

1.



This is the All Metals Saw.

2.



It is set-up similar to a table saw, with a reversible shield that fits on top of the blade to act as a guide for the coil being cut.

3.



The coil is placed into the guide, and the saw turned on.

4.



The coil gets pushed over the blade with a popsicle stick, and the rings come out the other side.

Closing Jump Rings

1.



Jump rings begin life as a spring like coil.

2.



When they are cut, they are not closed.

3.



The cut in the top is slightly larger than the blade width used to cut the coil.

This is called the kerf.

4.



To properly close a jump ring, you should place the cut in the 12:00 position...

5.



...and the pliers at the 3:00 and 9:00 positions.

Hold the chain (pointed) nose pliers in your dominant hand, and the flat nosed pliers in the other.

6.



Push the rings in slightly, so that they just overlap.

7.



Push one end of the ring away from your, while pulling the other towards you.

Repeat this 5-6 times, being sure to overlap the ends of the rings slightly each time.

8.



This is known as work hardening the metal. You are rearranging the molecules on the bottom (opposite the cut) of the ring. By rearranging them, they become hard and the jump ring will not pull apart as easily.

9.



As the metal becomes harder, the ends will line up more easily.

Once closed, you should not be able to see any light where the two ends of the rings meet.

Cleaning Jump Rings

1.



Stainless steel shot is used for the final polish in cleaning jump rings.

Other tumbling media can be used, but they will take longer.

2.



Place the jump ring or finished jewelry into the tumbler.

My tumbler is a 3 lb vibratory. That means that it can handle up to 3 pounds of weight in the bowl. I use 2 pounds of stainless steel shot, so I can tumble 1 pound of jewelry.

3.



Add liquid burnishing fluid or dish soap (original Dawn) plus water until it is just visible in the media...do not fill the bowl with liquid above the top of the items being tumbled.

Allow jewelry to tumble approximately 1-3 hours, remove and rinse.

I use a vibratory tumbler...the Gy-Roc model B. It costs about \$180. It is available through special order from Magpies in Rockford, IL.

Harbor Freight Tools carries an inexpensive rotary tumbler for about \$40. Rotary tumblers take about 3 times longer to tumble.

The Lorotone tumbler is a good quality rotary brand and runs about \$65.

Stainless steel shot runs between \$15 and \$20 a pound and is available locally from Burnie's Rock Shop in Madison.

Chain Maille Resources



Magpies

(www.MagpisInc.com)

This is the store where I teach. It is located near Interstate 90 in Cherry Valley (Rockford), Illinois.

They have an excellent selection of beads, jump rings, wire, tools and metal working and chain classes to choose from.



Urban Maille

(www.UrbanMaille.com)

for sterling silver, 18 kt gold and platinum jump rings and kits



Golden Maille

(www.GoldenMaille.com)

for 14/20 gold filled rings and gold-filled refill packs for Urban Maille's kits.



Spider Chain

(www.SpiderChain.com)

for various materials of rings, kits and instructional DVDs



The Ring Lord

(www.TheRingLord.com)

Canadian source for jump rings



Derakon's Library

(<http://derakon.chainmailstore.com>)



Mail Artisan International League

(www.mailleartisans.org)



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