

Riveting Essentials[†]

by Gwen Youngblood



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Kit Contents

6 Rivet Gauges[†], 3 Rivet Punches[†], 1 Rivet Block[†]

IMPORTANT SAFETY INFORMATION

1. Always wear safety glasses
2. These tools are not intended for use by children
3. Never use a broken or damaged tool

About the Sizes

The Rivet Gauges[†] are numbered 14, 16, or 18. The tool set includes two of each number. Corresponding numbers are intended to be used together (i.e. use the #14 gauges together; the #16 gauges together; and the #18 gauges together). **The Rivet Gauges[†] are numbered to correspond with the gauge of the riveting wire used, and not the thickness of the metal being joined.**

- If using 14 gauge riveting wire, use the #14 Rivet Gauges[†]
- If using 16 gauge riveting wire, use the #16 Rivet Gauges[†]
- If using 18 gauge riveting wire, use the #18 Rivet Gauges[†]

Holes must be pre-drilled in pieces to be riveted together. The holes must correspond in diameter to the gauge of the riveting wire. If the drilled/punched holes are too small for the riveting wire to pass through, enlarge the holes very slowly with a round diamond file or awl. The riveting wire should just barely pass through the drilled/punched hole. If the riveting wire is:

- 14 gauge, use #52 twist drill bit or the small punch of a 2-hole screw-down punch
- 16 gauge, use #56 twist drill bit or 1.25mm hole punching pliers
- 18 gauge, use #60 twist drill bit

Materials & Tools

Materials:

Copper, any thickness
Fine silver wire—14, 16, or 18 gauge
Small stone cabochons
Bezel cups

Tools:

Flush cut wire cutters
Drill bits, screw-down hole punch, or hole-punching pliers
Steel bench block

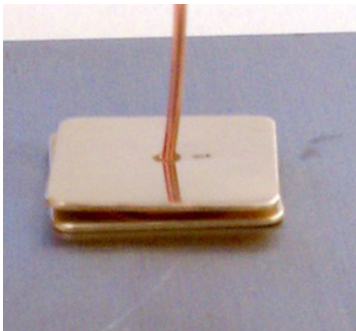
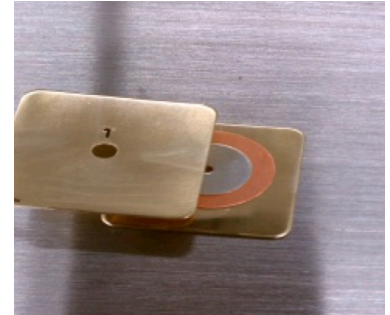
Chasing hammer or ball peen hammer
Utility hammer or brass hammer
Butane torch (for ball rivets)
Cross-locking tweezers
Bench-mount vise
Diamond mini-file set

Using the Riveting Essentials Tools



1. Place one of the Rivet Gauges[†] on a bench block.
2. Stack the pieces to be riveted on top of the Rivet Gauge[†]; align the holes in the pieces to be riveted with the hole in the Rivet Gauge[†].

3. Place the second Rivet Gauge[†] on top of the stack, aligning all the holes, making sure that the numbers on the two Rivet Gauges[†] are the same.

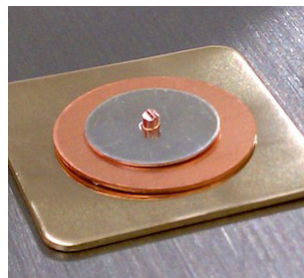


4. Flush cut the end of the rivet wire before inserting it into the stack. Pass the rivet wire down through all the holes in the Rivet Gauges[†] and the pieces to be riveted. Make sure the flush-cut end of the wire is resting securely against the bench block.

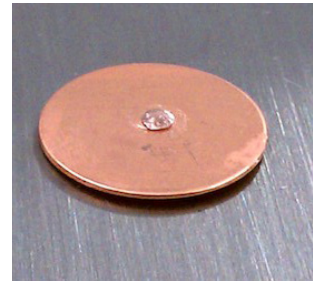
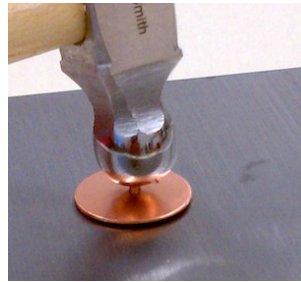
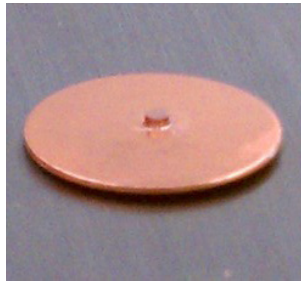
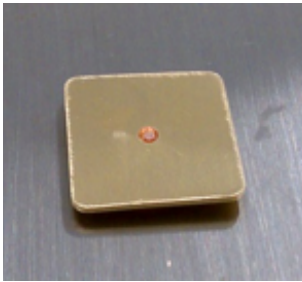
5. With the flat back of flush cutters resting on top of the Rivet Gauge[†], snip-off the rivet wire flush with the Rivet Gauge[†]. Hold the “tail” of the wire with your finger to prevent it from flying. **Be sure to wear safety glasses while cutting!**



6. Remove the Rivet Gauge[†], exposing the stub of riveting wire. Tap the exposed end of the rivet wire with a riveting hammer or the peen side of a chasing hammer to flare and form the first side of the rivet.

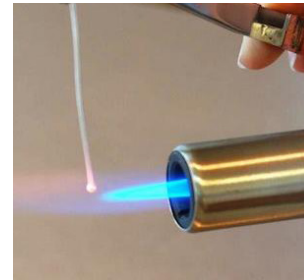


- Invert the stack so that the remaining Rivet Gauge[†] is on top and the previously formed rivet head is on the bottom, against the bench block. Remove the remaining Rivet Gauge[†], exposing the stub of riveting wire. Tap the exposed end of the rivet wire with a riveting hammer or the peen side of a chasing hammer to flare and form the final side of the rivet. The rivet is complete.



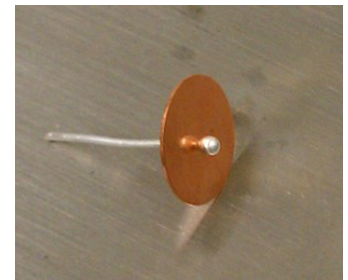
Setting a Ball Rivet

Ball rivets are easy to make and fun to use to embellish metal pieces. To make a ball rivet, cut a 1 – 1 ½" length of FINE SILVER wire. Hold one end of the wire in the tips of heat-proof, cross-locking tweezers. Suspend the opposite end of the wire vertically in the flame of a butane torch until a ball forms. Quench the wire in water.



- The small dapping block and one Rivet Gauge[†] will be needed. Make sure the Rivet Gauge[†] matches the gauge of the riveting wire used to create the ball rivet (#14 Rivet Gauge[†] for 14 gauge wire, #16 Rivet Gauge[†] for 16 gauge rivet wire, #18 Rivet Gauge[†] for 18 gauge rivet wire).

Place the ball rivet through the pieces to be riveted.



- Place the assembly on the bench block, with the head of the ball rivet resting on the bench block and the wire tail sticking up into the air. Place the Rivet Gauge[†] over the wire and rest on top of the assembly. Use index finger and ring finger to stabilize the assembly on the bench block.



- Using middle finger to control wire tail, with the flat back of flush cutters resting on top of the Rivet Gauge[†], snip-off the rivet wire flush with the Rivet Gauge[†].

Remove the Rivet Gauge[†], exposing the stub of riveting wire.

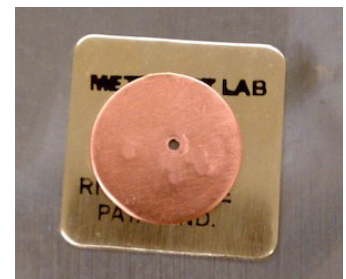
- Use two fingers to stabilize the assembly in/on the Rivet Block[†]. Tap the exposed end of the rivet wire with a riveting hammer or the peen side of a chasing hammer to flare and form the rivet. The ball rivet is complete.



Riveting a Bezel Cup

Before you start, use a pair of 1.25mm hole-punching pliers to punch a hole in the bottom of bezel cup and in your piece of metal to which the bezel cup will be attached. A serrated bezel cup is preferred. For a 3mm bezel cup, the upper edge may need to be flared outward slightly to accommodate the jaws of the hole-punching pliers. If so, gently grasp the “teeth” with a pair of chain nose pliers and flare them slightly outward. Do not overwork the “teeth”—they will become work hardened and make setting the stone difficult. For bezel cups larger than 8mm, more than one rivet might be needed.

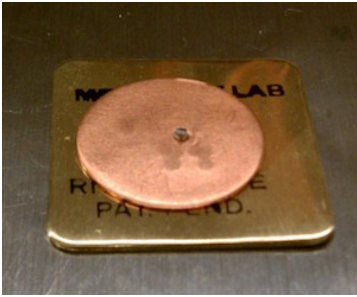
- Flush cut a piece of 16 gauge riveting wire. Fine silver wire is preferred because it is softer than sterling and will flatten easier.
- Place a #16 Rivet Gauge[†] on the bench block and place the piece to be riveted on top of the Rivet Gauge[†], aligning the holes.



- Place a #14 Rivet Gauge[†] on top, aligning all the holes. The #14 Rivet Gauge[†] is used on top, resulting in a longer stub of wire to accommodate the bezel cup and still allow the formation of a solid rivet within the bezel cup.

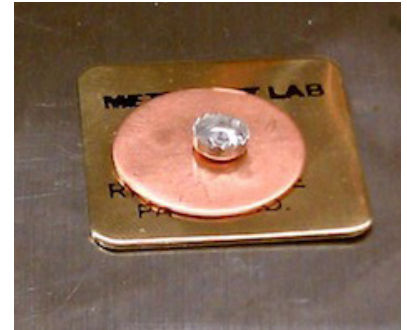
Pass the riveting wire through the holes so that the flush end of the wire rests firmly against the bench block.

4. With the flat back of the flush cutters resting on the Rivet Gauge[†], snip the riveting wire flush with the Rivet Gauge[†].



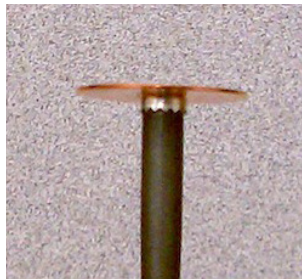
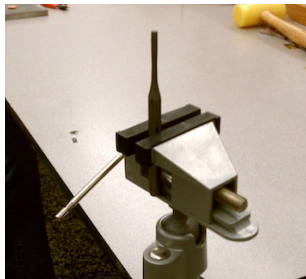
5. Remove the top Rivet Gauge[†], exposing the stub of riveting wire.

6. Place the bezel cup over the stub of riveting wire, so that the stub is sticking up inside the middle of the bezel cup.



7. Select the largest diameter Rivet Punch[†] that will fit inside the bezel cup. Place the end of the Rivet Punch[†] in the bezel cup. Tap on the opposite end of the Rivet Punch[†] with a household hammer. This action will flatten the end of the wire inside the bottom of the bezel cup.

8. Remove the Rivet Punch[†] from the bezel cup and install it vertically in a vise. Overturn the assembly onto the top of the Rivet Punch[†], with the bezel cup over the Rivet Punch[†], exposing the back of the riveted piece. Tap on the exposed stub of riveting wire to set and form the back of the rivet. Remove the assembly from the Rivet Punch[†]. The bezel cup is ready to set the cabochon.



Enjoy your new Riveting Essentials!

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