



# Vintage Ring



by Annie Pennington

## IN THIS BOX:

- **Victorian Oval Ring Top Impression Die**
- **Under-bezel Ring Top Component Impression Die**
- **Half-shank Ring Impression Die**
- **Matching Oval Pancake Die**

Learn how to combine three impression dies to make a vintage ring! This month, we bring you a curated selection of antique dies and instructions on how to use them together to make a hollow ring that conforms to the shape of a finger. This is an intermediate-level project that will help you take your fabrication skills to the next level, and we can't wait to see what you create!

## Victorian Oval Ring Top



With its ornate, Victorian design, this Oval Ring Top impression die makes a great focal ring. It's a versatile size and shape that can be used for a whole lot more than just a ring...earrings, charms, and more! This die matches the Under-bezel Component and the optional Oval Pancake Die.

## Under-bezel Ring Top Component



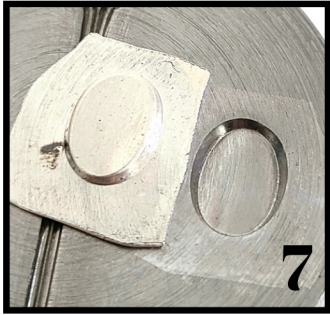
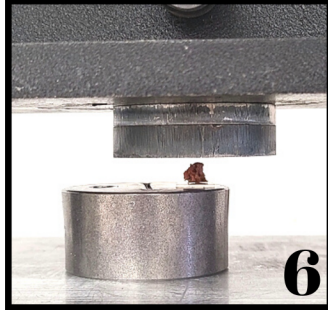
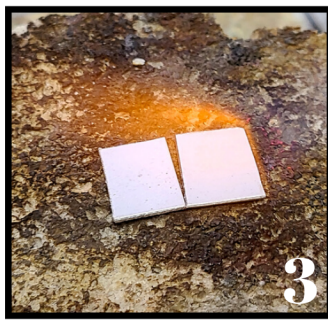
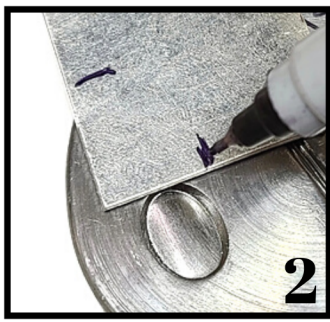
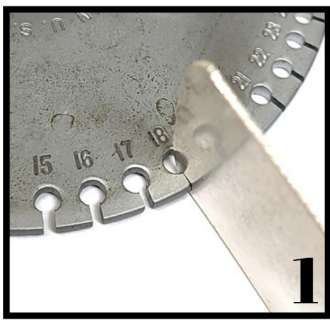
This impression die is used underneath a ring top or bezel setting on a ring, and the curved surface conforms to the shape of your finger. After soldering the ring shank onto either side, this Under Bezel creates a ring with an integrated top, as opposed to a ring band with a flat element soldered onto it. Alternatively, use the Matching Oval Pancake Die with the Ring Top die instead of the Under-bezel Component to create a pendant, charm, or as a back plate for any other designs you can think of!

## Half-Shank Ring



Press two of this impression die, solder them together, and you have a full-length ring shank to attach to the ring top! These instructions include how to adjust the shank length to your desired ring size, taking into consideration the integrated ring top.





## Tools & Materials

- Tools from the April 2022 Potter Box
- Sterling silver: 18g sheet; 1.7mm thick x ~5mm wide strip
- Jeweler's saw, 4/0 saw blade, cut lube
- Soldering setup with torch, flux, titanium soldering pick, cross-locking tweezers, third hand
- Hard, medium silver solder
- Pickle pot, copper tongs, water
- 20-ton hydraulic press: 2" tool-steel pusher, small pieces of 95 durometer urethane, spacers (all available at [PotterUSA.com](http://PotterUSA.com))
- Bench knife
- Files: half-round hand, half-round needle or escapement, triangle needle (opt.)
- Steel bench block
- Abrasive paper
- Dividers, calipers, ruler
- Rotary tool and accessories: drill bit to accommodate a 4/0 saw blade, snap-on sanding discs (various grits), pumice wheel
- Steel ring mandrel
- Rawhide or plastic mallet
- Calculator and scratch paper (for determining ring size adjustment)
- Liver of sulfur, pumice powder (opt.)

## Ring Top

### Prepare the Ring Top and Under-bezel Components

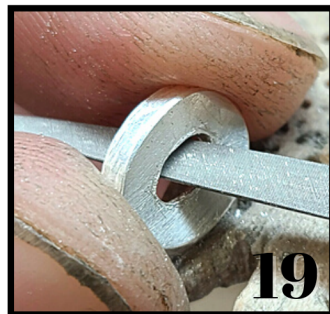
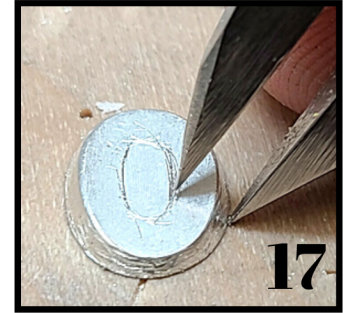
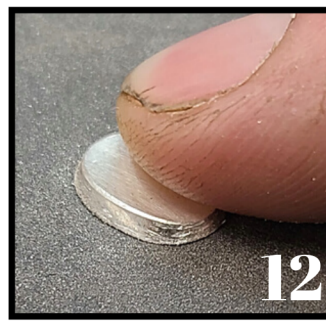
Use 18g sterling silver sheet for the two ring top components [1]. Measure, mark, and cut two pieces of silver that are larger than each component [2]. Anneal the silver [3], and pickle, rinse, and dry them.

### Form the Components.

Choose a piece of 95 durometer urethane that fits within the Under-bezel Component impression [4]. Place a piece of silver on the under-bezel impression and place the urethane on top of the silver [5]. Center the die in your 20-ton hydraulic press and use a 2" tool-steel pusher to press the urethane and silver into the die [6]. Press, rotate, press, rotate, and repeat until you capture all the detail [7]. Repeat to press the Victorian Oval Ring Top impression [8].

### Cut Out the Impressions

Use a jeweler's saw with a 4/0 blade to trim around both impressions [9].



The two components will be soldered together later to create a hollow form [10]. File the outside edge of the under-bezel component and ring top to remove saw marks and refine their circumferences [11].

Place a piece of 400-grit abrasive paper on a steel bench block, and sand the bottom edge of both components flat [12-15]. These flat surfaces will ensure a strong and complete solder joint between the two. Test the fit of the two components to make sure there are no gaps [16].

### Pierce the Under-bezel Component

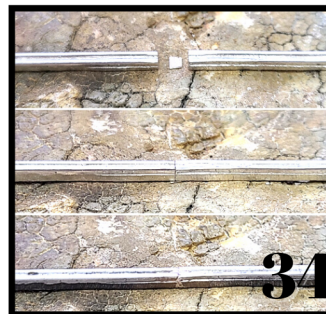
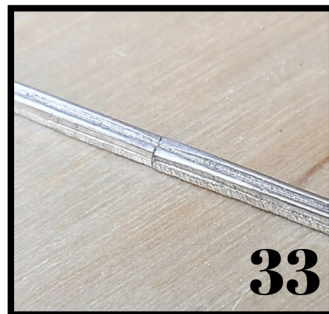
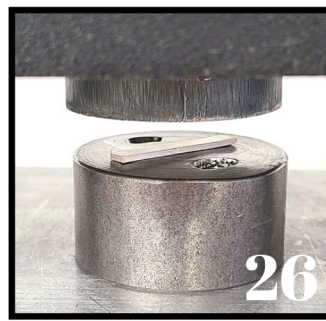
Set a pair of dividers to approx. 1/8", rest one leg of the dividers along edge of the under-bezel component and scribe an oval on the interior section of the impression [17]. Drill a hole inside the scribed oval (size doesn't matter as long as it's large enough to accept a 4/0 saw blade) [18]. Use the saw to pierce the scribed oval and use a half-round needle or escapement file to refine the edges [19].



Remove all saw marks, create a slight bevel along the inner edge, and use abrasive wheels and papers to refine the under-bezel component [20]. Check the fit of both ring top components [21] and adjust as needed. The under-bezel component may be slightly smaller than the flourish ring top. That's okay and will be adjusted later.

### Solder the Ring Top Components

Place the two components flattened sides together on a soldering board [22]. Apply flux to the joint. Use a titanium soldering pick and hard silver solder to solder the components together. (search YouTube for pick soldering tutorials.) Pickle, rinse, and dry the ring top [23].



Use files, snap-on sanding discs in a flex shaft, and/or abrasive paper to smooth the solder joint and blend the two halves together to give the appearance of a single unit [24]. Set the ring top aside for now.

## Ring Shank

### Press the Half Shanks

Cut two pieces of 1.7mm thick (or thicker) sterling silver approx. 5mm wide and slightly longer than the ring shank impression die [25]. Anneal the silver.

Place the silver on the impression die [26] and use the tool-steel pusher to press the silver solid into the die. **Do not use urethane!** Press and rotate multiple times. Use a bench knife to help pop the silver out of the die [27].

Check the flared ends of the silver impression [28]. If they aren't complete, use the jeweler's saw to trim around that portion of the impression [29] (or around the entire shank), anneal, and press again. Repeat to press two half shanks [30].

### Trim and Refine the Half Shanks

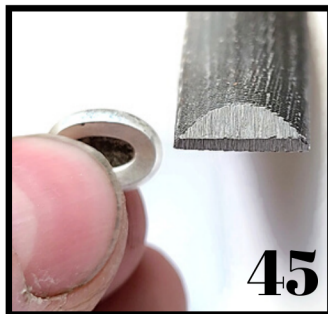
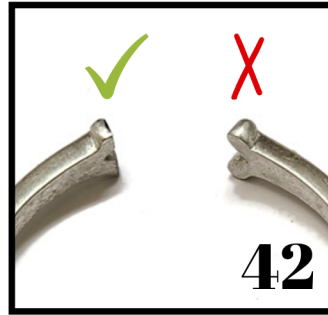
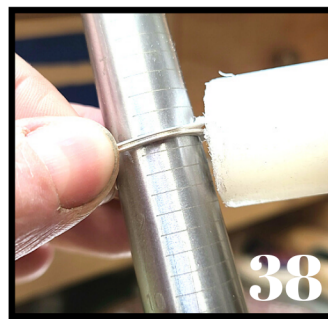
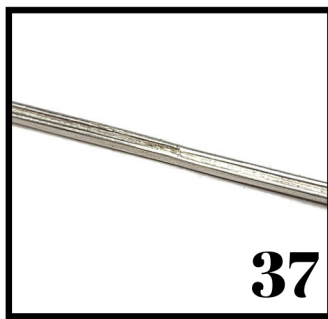
Use the jeweler's saw to trim the metal around both half-shank impressions [31]. Use a flat file to file the ends of each half-shank perfectly flat and flush [32]. The two ends must meet flush in a butt joint with no gaps [33].

### Solder the Ring Shank

Cut a small piece of hard sheet solder (or flatten wire solder with a hammer or rolling mill). Place the solder onto the soldering board and rest the ends of the half shanks on top of the solder. Make sure the ends meet flush. Apply flux and solder the half shanks [34-ABC]. Pickle, rinse, and dry the ring shank [35].



*In Step 24, completely finish the ring top. It's much easier to clean it up now than after it's attached to the ring shank.*



## Ring Assembly

### Fit the Ring Top to the Ring Shank

NOTE: These steps are quite fiddly and may be considered intermediate-level fabrication. This will require lots of work and minor adjustments. Work slowly and check your work often by test-fitting the ring top back onto the shank.

Use your fingers to adjust the spacing of the flared ends of the ring shank so that they line up with the tapered under-bezel component of the ring top. The inside edge of the shank ends should align with the curved, bottom edge of the under-bezel component [40].

Use a marker to make a mark on one end of the shank that's parallel to the taper of the under-bezel component [41].

Use a file to evenly remove the shank material up to the mark [42]. This step helps you adjust the shank to fit the angle of the under bezel [43]. Repeat on the other end of the shank, adjusting the space between the ends as needed [44].

Next, you'll adjust the new angle on the ends of the ring shank to fit the radius of the oval shape of the ring top. Choose a half-round or ring file that has a curve that matches the radius of the long sides of the oval ring top [45].

### Refine the Ring Shank

Use files, sanding discs, and/or abrasive paper to refine all surfaces of the ring shank [36]. If there's any misalignment and the groove down the center of the shank needs to be cleaned up [37], wait to refine the groove until after the shank is formed into a ring.

### Form the Ring Shank

Use a steel ring mandrel and rawhide or plastic mallet to form the flat shank into a ring [38]. Make sure the ends are aligned and in the same plane as each other [39].

NOTE: The maximum finished ring size of the ring in this box is 11. If you need a smaller size, see "[Reducing the Size of Your Ring](#)," page 7. If you need a smaller size, it may be easier to solder the entire ring together, then remove the excess material after the ring is assembled.



Slowly file a curve into each end of the shank, taking great care to keep the same angle you filed onto the ends previously [46].

Check the fit of the components, make minor adjustments with the file, and repeat until the shank ends meet flush against the tapered under bezel of the ring top. Before soldering, the shank should rest securely against the ring top with no gaps [47-49].

### Solder the Shank to the Ring Top

Place the ring top upside down on a soldering board and set the shank into position onto the under-bezel of the ring top [50]. If needed, use cross-locking tweezers in a third hand to exert slight downward pressure onto the shank to hold it in place. Apply flux to the shank ends and use medium solder to solder the assembly [51-53]. Pickle, rinse, and dry the ring.

**NOTE:** If you want to resize the band, do that now. See [“Reducing the Size of Your Ring,”](#) page 7.

### Alternative Design Options

- Forego the under-bezel component, and use the Oval Pancake Die to cut out a blank. Solder the flourish ring top onto the oval blank and add that to a ring shank of your choice.
- Use the same technique as above but attach a jump ring instead of a ring band for a hollow pendant or charm.
- Add two jump rings to the hollow form to make a chain link.
- Press both ring top components solid, solder them together, and fabricate a more heavy-duty ring with some weight to it.



### Finish the Ring

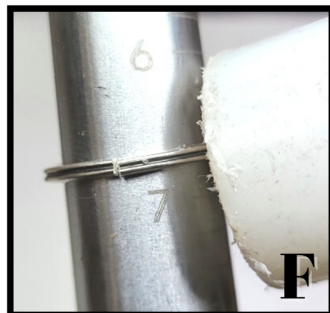
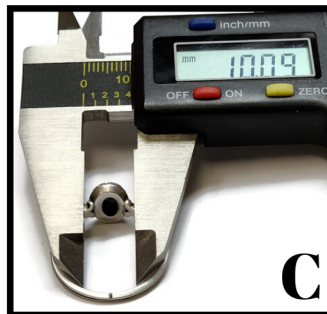
If you need to refine the groove down the center of the ring shank, use a triangle needle file to reshape the groove [54]. Use abrasive wheels/paper/etc. to refine the surface and solder joins of the ring [55].

Finish the ring as desired. I applied a liver of sulfur patina and used pumice powder to remove some of the patina from the high points to highlight the texture.



# Reducing the Size of Your Ring

The maximum ring size using the tools in this box is a US 11. If you need a smaller size, you'll need to remove length from the ring band.



## After Fabricating the Ring

After fabricating the ring according to the instructions, you'll need to remove a length of material from the bottom center of the ring shank to make the ring smaller. This is my preferred method since it's easier to make minor adjustments by testing the ring on a ring mandrel and doesn't require as much math.



1. Determine the size of the fabricated ring (it should be approx. a US 11) [A].
2. Determine the size ring you need to create.
3. Mark the solder joint at the bottom center of the ring shank [B].
4. Determine how much metal you'll need to remove from the band by using the "[Ring Size Chart](#)," [page 8](#).
5. Set calipers to this measurement, and mark the ring shank, centering it on the mark [C].
6. Cut through the shank inside each mark [D, E] and file the cut ends.
7. Use a ring mandrel and rawhide or nylon mallet to bring the two ends together [F], making sure it's a tight, flush fit [G].
8. If needed, saw through the point where the two ends meet to remove a small amount of material from each side, creating a perfectly flush join.
9. Place a pallion of medium solder on the soldering board, and center the join of the ring on the solder [H]. Apply flux, and solder the join [I].
10. Check the new size of the ring [J], and refine the ring as desired.

### Example: Size 11 to Size 7

Size 11 length = 64.1mm

Size 7 length = 54.0mm

$64.1 - 54.0 = 10.1\text{mm}$  (amount to remove from band)

## Before Fabricating the Ring

1. Determine the size of the ring you want to make.
2. Make note of its length in millimeters according to the "Ring Size Chart," *right*.
3. After you press and clean up the two half-shank impressions, measure the length when they're end to end. (This number may vary depending on how much you needed to file to bring the two ends together flush.)
4. Add the width measurement of the bottom curved portion of the under-bezel component to the length of the two half shanks. We'll call this the Base Measurement.
5. Subtract the length of the ring size you want to create (from step 1) from the Base Measurement.
6. Add the thickness of the shank material to get the measurement you need for your desired ring size, then add 1-2mm to allow for adjustments and filing during fabrication. We'll call this the Final Measurement.
7. Find the difference between the Base Measurement and the Final Measurement.
8. Use a saw to remove that amount of material from the connection point of the two half shanks. The final length of the two half shanks should equal the Final Measurement.
9. In this case, it's better to err on making the ring slightly too small, since it will be easier to enlarge the ring after it's fully fabricated.

## Ring Size Chart

US Ring Size	Length MM	Length Inches
4	46.5	1.836
4.5	47.8	1.888
5	49.0	1.941
5.5	50.2	1.992
6	51.5	2.042
6.5	52.8	2.092
7	54.0	2.146
7.5	55.3	2.196
8	56.6	2.249
8.5	57.8	2.300
9	59.1	2.350
9.5	60.3	2.400
10	61.6	2.463
10.5	62.8	2.504
11	64.1	2.567

