How to make a Pendent with an Open Back

By Will Smith



Over the years of cutting beautiful agate/jasper I have discovered many times the back of the stone is just as beautiful as the front or that you need light to come in through a clear stone. If we use the standard methods for fabricating a setting for our gem stone, we cover the back with either silver or gold. To solve this problem I developed a different method which leaves the back open. It not only allows the beauty to come through, but reduces the weight of setting and is easier to fabricate. I going to show you how to make an open back pendent.



Tools This method does not require many tools and no sawing. Everything will be cut using side cutters and shears. This picture will show you some of the tools you will need. I like a Presto-Lite torch and wire solder.

Bezel We need to determine the height of the bezel to use in our pendent. We want it to be just tall enough to roll over the edge of our stone and hold it in place. Since we're going to have an open back the stone will need a ledge to rest on when we close the bezel. We will use 18 gauge square wire, so when we measure our bezel (remember it's length) we will need to set the stone on top of a piece of 18 gauge wire.





Wrap the bezel around your stone and cut it a little long. You will need to know this length in the next process so remember it. File one end of the bezel square and check to see how much more to cut off the bezel. Do not make it exact, but add the thickness of the bezel to the length. When complete, you want a little room around so the stone is not too tight when set. One or two thickness added to the length will work. Realize that you must file the other end square so add that to your measurement. Check to make sure the bezel fits around your stone with a little play and the ends match perfectly.



Solder Bezel From this point on we are not concerned with the shape of the stone so bend your bezel into a circle. Use a third hand to hold the bezel against your soldering block with the joint against the block. This joint must be perfect with each side touching and clean. Flux the joint and add a small piece of solder. I like to start with medium solder since the flow temperature is well below what causes fire scale. Apply a medium flame on each side of the joint to set the flux. then move to the top of the bezel to cause it to expand and close the joint. Now move down to the joint where you apply the flame from the side opposite your solder so the solder will flow to the flame and complete the joint. Keep a pick close just in case you need to use it to drag the solder across the joint, since it may only flows to one side. If solder went through the joint, pick until clean. If not heat again.

Square Wire Backing We need something for the stone to rest on, so cut a piece of 18 gauge square wire the length you cut the bezel. Once cut, shape it into a circle a little larger than the bezel. When you bend square wire, it will twist so you will need to correct this so the circle will lay flat on your bench. Place this circle inside the bezel pushing out so you can see length needed to fit tight inside the bezel. Do not feel you have to make it perfect, but error on the side of being a little undersize. We can fix if too small, but if the square wire circle is too large we will have to cut, remove some wire before we solder. Once you have cut the square wire, file the ends, place on soldering block with same type solder you used on bezel and solder joint. Lay circle on a flat steel plate and slam another steel plate down to cause the circle to lay flat on table. Now place inside the bezel circle to see how well they fit. You want them to fit so close you can not see any light between their sides. If not perfect, you will need to stretch the square wire to increase it's size to get a snug fit. Place the circle over a ring mandrel, take a soft hammer, and tap the outside edge until you stretch to size. Once you have it perfect (no light around the sides), with the bezel laying on your bench with square wire inside, use the end of a file to press the square wire circle down to the bottom of the bezel and table so it lays flat and back edge is smooth. Flux and use easy solder around the inside of the bezel and solder.











Finish the Bezel Make sure the bezel is flat, now use a wide file or whit stone to cut the back perfectly flat without any sign of where the two pieces were joined. When complete we want the piece to appear as if it was cast without any joints. Now go to the buffer and use Tripoli to cut out any scratches

and round the edge so it is smooth. Move to the polish wheel, then clean.

Gently squeeze the sides of the bezel to begin shaping it to the shape of the stone. Work from the sharpest end of the stone first. With the sharpest part of the stone laying in the bezel, continue to push until the stone fits into the bezel. Your bezel will bow up so lay it on your bench and press down until it lays flat again. With the stone in the bezel, roll the side of the bezel on the edge of you bench to cause it to take on the actual shape of your stone. Once the back is flat and has the shape of the stone, your ready to add a bail.















<u>*Make a Bail*</u> You now need a bail for your pendent. You may use any design, but one I like is simple to make using scrap.

Take a strip of 20—24 gauge sheet 1/4" wide by 1.5" long. Cut the corners off so you form a diamond shape leaving about 1/16" square at each end.

Fill the edges, square the ends, round and smooth the edges using a Tripoli buff. Once smooth without scratches, polish and then clean. Using your brush handle or something about 3/16" round, bend the diamond around to form a teardrop. Using round nose pliers, turn one end down into the other about 1/16" above it's end. You will need to play with this contact point since it needs to fit tight and touch so the solder will form a joint. Do not solder at this time.





<u>Attach Bail</u> We need to file our bail and bezel so they fit tightly where they join.

Once you have a good contact at the joint, place on solder block using pins to hold all parts in place. I like to tilt my block so gravity will assist the solder to flow down through the bail and on to the back of the bezel. Brush a lot of flux inside the bail and through the joint to the bezel. Place two large pieces of extra easy solder inside the bail at the joint. Use a soft flame to set the flux watching to make sure the solder continues to touch both sides of the bail in the "V". If solder moves, stop and correct problem.

Once flux has set, start moving the flame around in a circle so it flows over both the top of the bezel and the bail. Continue this watching for the solder to flow. Once you see the flow, move the flame inside the bezel just below the joint so as to draw the solder down the back of the bezel. This will only take a second or two after you see the first flow inside the bail. Before you remove the pins, look closely at the joint where the bail touches the back of the bezel to make sure you see if you had a good solder flow. If the solder did not flow, apply the flame again until you get a flow down the back of the bezel. You will see a little solder sweat at the edges. Once you have a good joint, pickle three or four times or until all black is removed. Lightly buff using Tripoli, then polish to a high shine using Fabulustre. Clean using soap and hot water. If you have a Speed Brite, run it through about 3 cycles to get the perfect shine.

Place stone in bezel and push it down so the back of the stone is setting against the square wire at the back of the bezel. With your thumb holding the stone in place, roll the edge against the side of your bench moving the edge of the bezel over the stone to lock it in. Now take a burnishing tool and gently move it over the edge of the bezel to push edge tight against the stone. Clean and wear your prize.



