

# BENCH

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# Bezel Setting Fat Stones

*Tom Weishaar*



In the last issue of Bench Magazine I showed how I like to bezel set opals. This emerald will also be bezel set, but it will be done in a completely different manner. I thought you might like to see my second method of bezel setting. Since this mounting is a ring that will be worn every day, the bezel setting will need to be heavy enough to last for many years. The bezel for this stone was fabricated out of 1mm, 18 karat yellow gold stock. I made the bezel's dimensions so that the stone would overlap the bezel walls by  $\frac{1}{2}$  of a millimeter on each side. The seat for the stone will need to be cut into the bezel by hand.



Most colored gemstones are cut with deep, bulbous pavilions. For this reason I call these fat stones. Fat stones rarely have symmetrical pavilions. Each side of the bezel will need to be cut to fit only one side of the stone. I marked the emerald with white-out and scratched a small X into the corresponding side of the bezel. This way I won't mix up which side of the stone goes where.



The first step in setting the emerald will be to roughly cut out the stone's seat. I like to do this operation using a flat graver. The emerald is continuously checked against the seat to make sure that I am not removing too much metal. This is a very slow process that required nearly one hour.



Once I get the seat roughly cut and the emerald fits reasonably well it is time to fine tune the seat. Jeffery Mathews, CMBJ, first introduced me to using Disclosure Powder many years ago. This non-toxic spray powder is primarily used in the dental industry for fitting people with new crowns, but it works great for helping to set stones. Several of the jewelry tools catalogs will offer discloser powder or you can get it through dental supply companies.

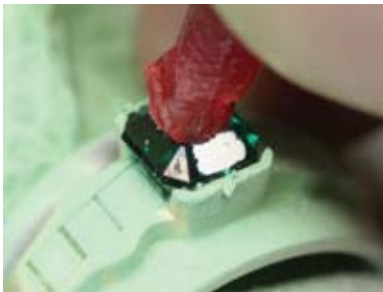
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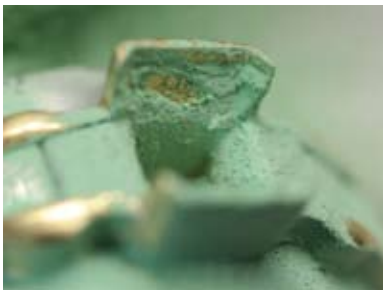
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I first sprayed the top of my ring with the discloser powder. As you can see I used a fairly thick layer of the spray. After drying I fitted the stone into the seat and gently rocked it back and forth. The red wax that I am using to hold the stone is called boxing wax and is available in most jewelry tools catalogs.



After I lifted the stone out of the bezel and you can see the high spots where the bezel contacted the stone. Now I can go back in with my flat graver and remove these bumps of metal that I call pressure points. If I don't remove the pressure points then I will run a higher risk for chipping the stone during setting. My goal is to have the seat fit the emerald perfectly. The process of spraying the ring and fitting the stone was repeated many times until I was happy with the fit.

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There are several final checks that I use to make sure a stone is well seated. I like to gently push on the stone to see if it rocks back a forth; movement would indicate that I still have a high spot in the seat. I also spray the ring with disclosure powder one last time and see if the stone will leave any wear spots in the powder. I also do a visual check to make sure that the bezel is uniform in thickness and that there are no gaps between the stone and the bezel. Once satisfied I am ready to set the emerald.



I use a tapering hammer bit with a beveled face for setting. If I need to I can stand the hammer up and use the leading edge of the tool to pound metal down or I can reduce the angle and use the flat face of the bit to smooth out the hammered surface. I do also recommend using a microscope for setting fragile gemstones, especially any that are this valuable.



Once the metal has been laid down onto the emerald I like to use a combination of tiny burnishers and a flat graver to seal the bezel around the stones edge. I take great care not to rub the graver directly onto the stone.



I really enjoy the challenge of setting fragile gemstones. I hope this article has helped anyone who feels less confident with their setting procedures. This stone required more than two hours to set, but these stones can't be rushed.

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#### Quote Worth Re-Quoting

*The older I get,  
the more wisdom I find  
in the ancient rule of  
taking first things first*

—

*a process which often  
reduces the most complex  
human problems to  
manageable proportions.*

*Dwight D. Eisenhower*

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