

USFG 2021 Pre-Master Cutting Notes



Gazebo Square Emerald cut, design by: Jim Perkins

For this year's "Pre-Master" test cut I used a light blue Synthetic Spinel. This result was a very pleasing stone that my wife immediately fell in love with and will be wearing soon. I believe that you too will produce a very lovely stone suitable for mounting and wearing. The high RI of the Spinel stone, if cut to the documented angles and polished sufficiently, will insure a bright and sparkling stone you will be proud to show to your friends.

This year's stone cut has a "preform", and if you haven't worked with preforms before, you will be delighted with this one. This preform not only defines the final girdle outline, but allows early sizing for the required stone width. Once the proper stone width is established, the corner cuts will be automatically cut to the proper dimensions.

After the Preform, the next step is to cut the P1's and P2's. The P1 cuts are simple enough and they define a new and Permanent Center Point (PCP), but to wind up with a winning stone you will have to be extremely accurate and bring all of them in to a single culet point. Remember that any faults that you make early on will be magnified in subsequent cuts that depend on them being accurate. The P2's will come down to meet the Girdle. Next cut the P3's. The P3's will overcut the P2's which previously overcut the preforms giving a layered look. Pay careful attention to the corners at the girdle as there are a number of facets meeting at those corners. Complete the pavilion by cutting the P4's. Again, pay close attention to the meet points at the corners.

Now it is time to polish the pavilion. I used a Lightning lap 3000 for my initial polish and then switched to a Darkside lap with 50,000 diamond followed by 100,00 diamond to complete the process. As you are probably aware by now, Spinel will not polish with Cerium oxide. However, what you choose to polish with is up to you.

A word about the transfer process. It is very important to get a well lined up cross-dop. Spend a good deal of time making sure that you are satisfied that the girdle being produced with the crown C1 facets will be parallel with the one produced with the pavilion P3 and P4 facets. Of course, you will also need to pay very close attention to get the girdle thickness as close as possible to the required thickness. After the C1's have been cut, I generally do not use anything coarser than a 1200 grit lap. The C2's, C3's and C4's should remind you of the pavilion facets – a lot of facets coming together at a

common meet point. The more accurate you are with these facets, the easier the remaining cutting and polishing will go. The C5 cuts are at an angle of 12 degrees. With my equipment, this is a very hard angle - (I use a Facetron). The old phrase – “cut a little, look a lot” - should be well followed. Remember you are not looking for an OK cut, you are looking for a great cut! Again, watch the meets. Take your time and do not overcut....

Finally, take your time to cut and polish the Crown, making sure that it meets at the intersections of the C3, C4, and C5 facets. You will be surprised at the sparkle.

This stone should test both your skills and your patience. Don't rush! Take your time and remember to have FUN! You should be able to produce a beautifully faceted and polished stone that you will be proud to share with your friends and family.

Good Luck!

Bill Poland