Small Tri Retro

USFG 2019 SSC Novice Design

Design by Robert Long
Test Cut by Bill Poland

The stone pattern that was chosen for the Novice competition is the *"Small Tri Retro"* designed by Robert Long. Although it doesn't look all that challenging, looks can be deceiving. I chose a piece of blue "Laser Gem" (a synthetic material similar to quartz) because it was free of imperfections and I have had great success in polishing it in the past. Since polishing is a large part of your final score, be sure that you choose a stone that you have used in the past and that you know you can polish successfully. Something to consider - the stone you are going to cut is a triangle with sharp pointed corners. You will have to be careful not to cut yourself or to damage the somewhat fragile corners of the stone. That being said, here is how I tackled this task….

Be aware that the measurement for sizing begins with a width of 12mm, however the length of the stone is slightly longer (12 mm x L/W ratio = 12.432 mm). All these measurements are also difficult to measure since none of them are measured from one flat to another flat, you must measure across from one point to another point. To complicate this measurement even further, your metal calipers will tend to chip the fragile corners of the stone - if you aren't very careful.

The diagram calls for starting by cutting the girdle. I cut to a 12.3 mm width to leave a little room for polishing. I chose a large girdle size so that in case something went wrong during the cutting process and I needed to recut something, I would have some extra material to work with. I also cut slightly below the 12.5mm. maximum in case my calipers were off a bit. I used a fairly new 1200 grit lap to cut my Girdle. Once it was cut within the range specified, I proceeded to cut the P1 and P2 facets. They went as expected and lined up perfectly with the girdle facets. I then polished the pavilion facets and transfer-doped the stone. I polished with a standard blue "Spectra" cerium Oxide polishing disk.

Next, I cut the Crown facets, both the C1 facets and the C2 facets using a 1200 grit lap. They cut really fast so be careful. Then I polished the gridle (again with a "Spectra" disk) and made sure that it was within the range. Being outside the 0.5 mm. +/- 0.3 mm. range on the Girdle thickness is a large deduction. Just as the stone width must be 12 mm +/- 0.3 mm or a similar deduction will be charged. Don't give up easy points, get it right and be careful when measuring.
This is a simple stone with a minimal number of meet points, so every one of them is important. Go slowly and be careful and you should have no trouble in cutting and polishing this stone.