

2013 USFG SINGLE STONE COMPETITION

2013 CUTTING REVIEW

By Jeff Ford

For the 2013 USFG Single Stone Competition patterns were inspired by Dale P. Carriere's "Lady in Pink" featured at <http://www.oneworldgemstone.com/asscher-edition/>

I had the pleasure of looking at the Lady in Pink stone first hand. Although Dale does not consider himself a technical competitor, I was very impressed with both the cutting and polish of this stone. No set pattern was used to cut the Lady in Pink but Dale did share his methodology in approaching the pattern. Together we came up with a Master pattern for this year's competition. From there the competition committee decided to follow a 'Ash-er' theme for the 2013 competition.



Dale P. Carriere's "Lady in Pink"

Here is the edge data from the model relating to W based on a 12mm stone.

- P1 = 0.200W = 2.40mm
- P2 = 0.189W = 2.28mm
- P3 = 0.352W = 4.22mm

- C1 = 0.153W = 1.84mm
- C2 = 0.146W = 1.75mm

Time to get real; cutting to .01mm is overkill for this pattern. My suggestion is to get a plastic gauge (like a potted plant stake). With scissors cut it into a long thin taper then trim the end to the width you need for the gauge. Hold the gauge up to the tiers and prepolish to the size you need.

With the exception of the P3 tier this pattern is a little tougher to make/cheat the meets, e.g., the facets are four sided vs three. Just take your time and it should work out.

NOVICE ASH-ER

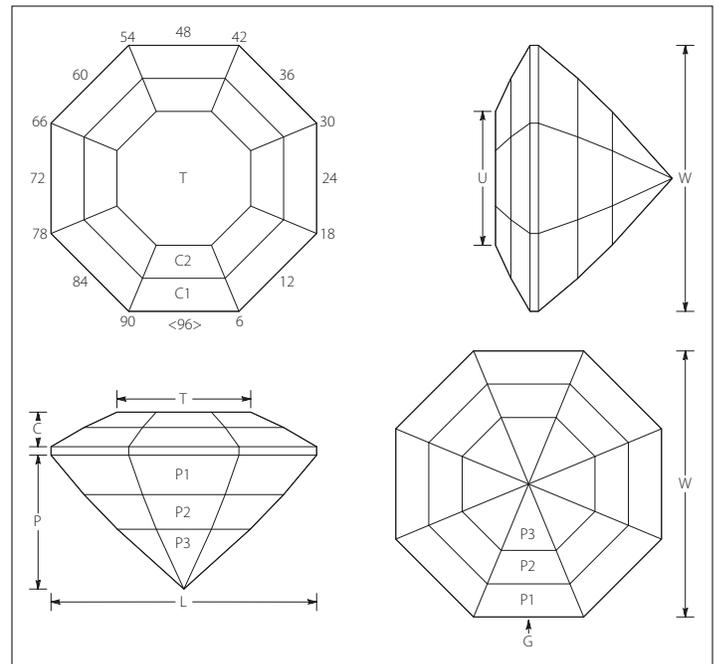
For the novice material it is cutters choice; my suggestion will always be if given a choice choose what you can polish the best!

One approach for this stone is seeing it as a basic octagon. Go ahead and preform one; using P1 angles is fine. Honestly spend some time here — the better you get the octagon the better things will come together later with respect to the transfer and cheating in any meets. If you are so bold and you have plenty of material it is possible to cut this pattern crown first, using C1 for the preform.

From there the puzzle becomes what to do about the floating facets?

With trying to cut to a diagram the goal is to make it end up looking like the printed pattern, i.e., maintain the 'plan view'. Also keep the table and tiers to the proper proportions like the picture. The next hint is to start thinking about ratios of the Width. From the pattern we are told the table width needs to be 0.503 W, so the table should be 6mm for a 12mm stone.

In a pinch you can scale the GemCad plan view. Personally I prefer to get a little more exact and use the lengths of the facet edges defined by GemCad. For the curious you do that by opening the pattern in GemCad then selection two points for cutting, e.g., meets. Next click on the Between 1, 2 button and all sorts of info will pop-up and about the selections, including the path between the points, i.e., length of the facet edge.



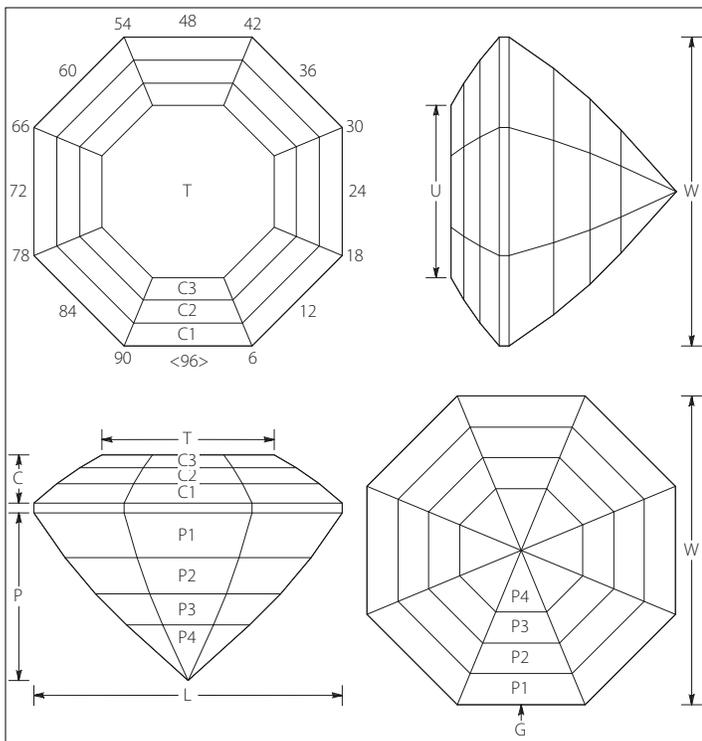
2013 USFG Single Stone Competition — Novice: Four View

PRE-MASTER ASH-ER

It is really just the Novice patter amplified, i.e., more tiers and meets. The requirement for CZ will present more of a challenge to get the perfect polish. In general Ash-er style patterns perform very well with higher RI materials.

Here are the edges to W ratios, but feel free to check my figures!

- P1 = 0.181W
- P2 = 0.159W
- P3 = 0.148W
- P4 = 0.281W
-
- C1 = 0.102W
- C2 = 0.096W
- C3 = 0.088W
-
- T = 0.558W

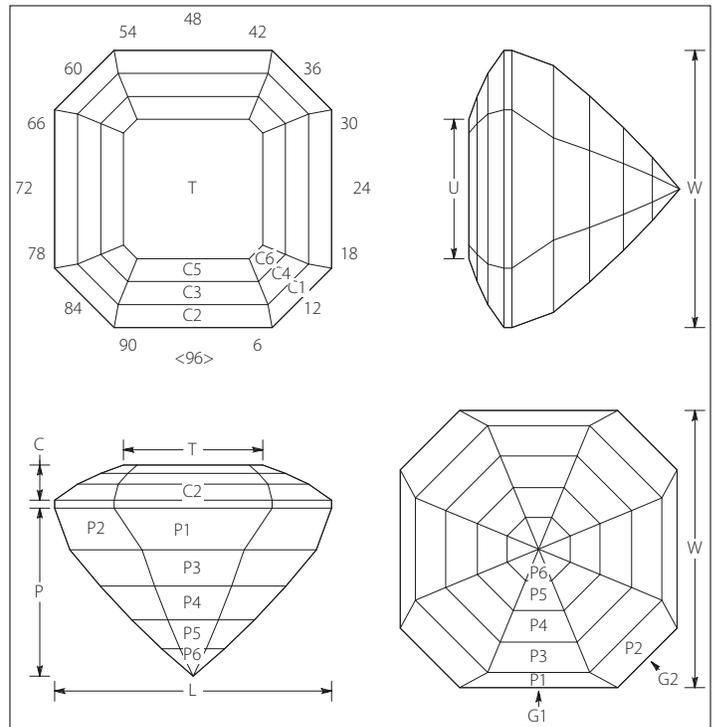


2013 USFG Single Stone Competition — Pre-Master: Four View

MASTER STONE: DPC ASH-ER

At the Masters Level cutters are really expected to start thinking on their feet. To help fill in the blanks here is how the stone was designed. Dale started with a basic octagon, for the W & L dimensions four sides of the stone were then cut down to 90% of the octagon. The logic being this presented an Ash-er outline with a full brilliant pavilion for increased performance over a standard Asscher design. The Asscher was designed for diamond. The DPC Ash-er was designed to increase performance for lower RI colored stones. Sizing for competition one might consider cutting a nearly perfect square then cutting the four sides down. The math is $1.0/0.9 = 1.11W$

The tiers were aesthetically placed along the X & Y axis. The corner P2 facets are transitional to the P3 bringing the pavilion back to an octagon pattern. On the crown the corner facets transition the pattern to keep the table the same shape as the girdle. Dale and I did toss around the angles and settled on the final pattern. GemRay was run on the pattern and WOW, then again it is really hard to cut a dull stone with CZ. Note there is no problem TR'ing the stone as you wish,,, just maintain that Plan View! ■



2013 USFG Single Stone Competition — Master: Four View