# United States Faceters Guild Newsletter

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*Montana sapphire, cut by Will Cunningham*


Volume 37

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***March 2026***

# President's Message

As of this writing, I have just returned from a very exciting and busy week in Tucson, AZ, at the Tucson Gem and Mineral Show and, of course, our own USFG Tucson Faceting Symposium. Our time together as a faceting community passed very quickly, but it was a week filled with great gem rough and great opportunities to learn. A BIG THANK YOU goes out to the team that worked so diligently to put together another tremendous Tucson Symposium. Recognizing *David Smith, Cari' Fifield, Dan Lynch, Barb Yost, Ron Snelling, Kell Hymer, Denny Fifield, Dennica Fifield, Tom Mitchell,* and *Dave Richardson* isn't enough, as they all contributed to the successful outcome that we all enjoyed.

If your desire was to improve your faceting skills, or to learn about setting jewelry, or to discover what is really going on on the surface of a stone during polishing, or to cut a fantasy design, or to learn more about how synthetics are making an impact on the industry, or simply to share information or knowledge, then this really was the place for you. And these were just a few of the topics that were touched on during the event.

If you missed it, then you missed out on a great opportunity to learn and increase your knowledge and skills, but don't worry. Our **2026 USFG Franklin Faceting Symposium** is already on the near horizon. It will take place on **July 23, 24, & 25, at The Factory in Franklin, NC**. Our Events Work Group, led by Cari' Fifield, our Vice President, is already diligently planning the event, and we already have a tremendous line-up scheduled. 2026 promises to be our biggest and best yet, so remember to stay tuned to our Facebook page for the latest information available as it unfolds.

I am also happy to report that we successfully raffled away another UltraTec V5 faceting machine while in Tucson. Our lucky winner was David Smith of Faceters Paradise. David, a few days later, presented the V-5 he won to an apprentice faceter, but I will certainly defer to David a little later in the newsletter to share his story. In the meantime, congratulations, David!

As far as our Single Stone Competition (SSC) for 2026, the designs for all four categories are being released this last week in February and will be available on the USFG website. You do have to be a USFG Member in order to participate. I encourage each of you to consider entering a stone in the competition. Not only will it challenge you to improve your skills, but it can also be a bit of competitive fun. Personally, I have kept all of my competition stones, as each one of them represents a milestone in my personal faceting journey. Some were successful, and some clearly were not, but they each moved me in a direction to get better and learn exactly what it takes to succeed in this challenge. It's not easy. In any case, I can truly say my meets and my polish are much better today than ever before. The entry form will become available the last week in February on the website. I wish you success in your faceting journey.

I could easily go on, but I will say that 2026 promises to be our most exciting year yet as we continue to discuss the different possibilities of how we can pay back, attract others, and give support to the art of faceting, which is one of our primary goals. I challenge each of you as members to reach out to me and the other directors, and offer your assistance as we pursue this direction of support. We truly do need you in order to be the most successful organization possible.

I look forward to seeing you in July in Franklin, and I wish for you the best in your efforts to become the best faceter you can be. May all of your meet points meet, and may all of your faceted surfaces be highly polished.

– Doug Augspurger, USFG President

# Welcome Members

We are pleased to welcome the following new and renewing members to our group. We are glad you have decided to join us!

Elsabe Allen....OK, US
Greg Atwell....WA, US
Jeffry Barnhouse....CA, US
Christian Benton....NC, US
Matt Bishop....OR, US
John Broadfoot....AU
Gail Bumala....OR, US
Christina Cardenas....SC, US
Zachary Casler....TX, US
Catherine Charles....OR, US
Keith Cler....IL, US
Rae Covington....TX, US
Diane Eames....OR, US
Uriah Eggers....MO, US
Chris Evans....IL, US
Kevin Fiedler....CO, US
Dennica Fifield....UT, US
Richard Finley....NV, US
Randy Fischer....WA, US
Jeff Fisher....OH, US
Jeremiah French....OH, US
Franz Haas....CH
Ed Harris....AL, US
Farooq Hashmi....NY, US
Bruce Henderson....AU
Joaquin Herrera....CL
Timothy Hilbert....VA, US
Roger Hill....OH, US
Jeffrey Hill....OR, US
Brad Hodges....OR, US
Sherri Houston....PA, US
Jordi Ibanez Pueyo....ES
Jacob Jackson....SC, US
Kevin Kane....CA
Steve Lateigne....CA
Allan Lindberg....OR, US
Andrew Litwin....CA, US
Chuck Lundstrom....AZ, US
Thomas Marcum....IN, US
Mike Maurer....WY, US
Edward Morton....CA
Sumi Patel....NC, US
Rod Powell....AU
Mary Rafferty....CA, US
Michael Roberts....AL, US
Christian Sasseville....CA
David Scribner....TX, US
Virginia Steele....IN, US
Daniel Stern....MI, US
Joanna Stroinska....GB
David Suber....SC, US
Alexandra Sundell....SE
John Sutter....CA, US
Benjamine Thibaut....FR
Alexandre Tonnaire....FR
Richard Vaile....TX, US
Reg Williams....MI, US
Glyn Witheyman....AU
Katherine Yates....LA, US
Aleksandar Zunic....RS
Talon Herbert....MT, US

## Editorial Board:

- Michael Holmes (Editor)
- Doug Augspurger
- Cari' Fifield
- Mark Oros
- Dan Lynch
- Maggie Klinedinst
- Barb Yost

# 2026 SSC Frequently Asked Questions

### Who can enter?

*This is a closed competition; cutters must be current members of the USFG. Membership application/fees/renewals may be submitted with the cutter's entry or online at https://usfacetersguild.org/become-a-member*

### Where's the entry form?

*Entry form will be published in the March issue of this newsletter and will be available to download on the USFG website at the same time.*

### How many stones may I submit?

*Cutters may only submit a single stone in a single class.*

### Can I go back a level?

*Cutters may not enter stones in a class or division below their prior certifications levels.*

### At which class can a Grand Master compete?

*Certified Grand Masters may only compete in the Grand Master class.*

### When can I submit my stone for this year's competition?

*This year, entries will not be accepted until after March 1, 2026. Stones must be received at the Stone Handler's location by August 1, 2026. Stones received after that date will be returned (if possible) and will not be accepted for the 2026 SSC.*

- This is a closed competition; cutters must be current members of the USFG. For non-members or former members, membership application/fees/renewals may be submitted or renewed at https://usfacetersguild.org.
- The fee for the competition may be submitted via check as listed in the application form (mailed with the stone to the stone handler) or can be paid via PayPal link found on the USFG website.
- This is a single stone event. Cutters may not enter multiple stones and they may not enter more than one class or division.
- Cutters may not enter stones in a class or division below their prior certification level.
- If you score 90 or above and place first in the Novice class, you must move up to the Pre-Master level.
- If you score 93 or above and placed first in the Pre-Master class, you must move up to the Master level.
- If you score 95 or above and placed first in the Master class, you must move up to the Grand Master level.
- If you are certified in the Grand Master Class, you must continue to compete in the Grand Master level.
- Entry deadline is August 1, 2026. Stones must be received by the Stone Handler no later than that date. Stones received after that date will be returned and will not be accepted for this year's contest.

# 2026 USFG SSC Designs

Over the following pages, you will find the designs for the 2026 SSC

### Novice

Snowfall

### Pre-Master

Old Mine All Mine

### Master

Snow Blossom

### Grandmaster

Superlative Star Blossom

# 2026 USFG SSC Entry Form

Entries Accepted March 1, 2026 – August 1, 2026

Entries must be received by the Stone Handler by August 1, 2026

To participate in this contest, you must be an active subscribed member of the United States Faceters Guild. If you have not joined the USFG or are not currently subscribed, you may enroll on our website at https://usfacetersguild.org/ .

Please include a signed copy of this form and the competition entry fee (check or PayPal Transaction ID) with your stone. Payment can be made via check or credit card (preferred). Credit card payments may be made via PayPal on the https://usfacetersguild.org/ site.

**Return postage and packaging are INCLUDED in your entry fee.**

- All returns in the United States will be sent by **Priority Mail** with tracking.
- All international returns will be sent by **Priority Mail International** with tracking. *(Note that while the USFG uses Priority Mail International with tracking, once the package leaves the United States, tracking may not be available, and it is possible the returned gemstone may be lost.)*

Please provide the following information and **PRINT CLEARLY USING ENGLISH CHARACTERS**:
*(Phone/email information is collected in case USFG needs to contact you for any reason about your entry.)*

**Name:**

First Name _____ Last Name_____

If you certify, please print how your wish your name to appear on the certificate:

_____

Phone Number: _____

Email Address**:** _____

**Return Address Label**:

Name: _____

Street Address: _____

City, State, Zip: _____

Country: _____

# Competition Class or Division

## DO NOT SEND CASH

**Please write checks to USFG or United States Faceters Guild. Credit Card payments can be completed through PayPal at** https://usfacetersguild.org/**.**

**USA entry fees include return handling and shipping by Priority Mail with tracking.*

***International Entry Fee includes return handling and shipping by Priority International Mail with tracking. Tracking will not be available once the package is no longer in the United States. There is some risk of your gemstone being lost.*

| **Division** (***CIRCLE ONE***): | Novice | Pre-Master | Master | Grand Master |
|---|---|---|---|---|
| **USA Entry Fee*:** | $15.00 | $40.00 | $40.00 | $40.00 |
| **International Entry Fees**:** | USD $50.00 | USD $65.00 | USD $65.00 | USD $65.00 |

**Write down your PayPal TRANSACTION ID NUMBER here if your fee was paid through PayPal:**

_____

**Stone Data:**

Stone Size _____ Stone Weight _____

Stone Species (type) _____ Stone Color_____

**Faceting Machine Used:**

_____

**Your current USFG certification level?** (***CIRCLE ONE***):

None Novice Pre-Master Master Grand Master

**Signature*: _____ Date: _____**

*****Your signature is required and it indicates that you accept the Rules and Conditions of the USFG competition, and that you hold harmless the USFG, Judges and Staff from any liability due to the loss of or damage to your stone and you also certify that you have cut and polished the submitted stone entirely on your own, without any help or instruction from another person, which includes having someone review the stone while it is still on the dop or while you are still working on it.*

*****Certificates and awards will only be sent to contestants that have achieved a score that qualifies for certification in their respective competition level.*

**Mail your stone to the Stone Handler:**

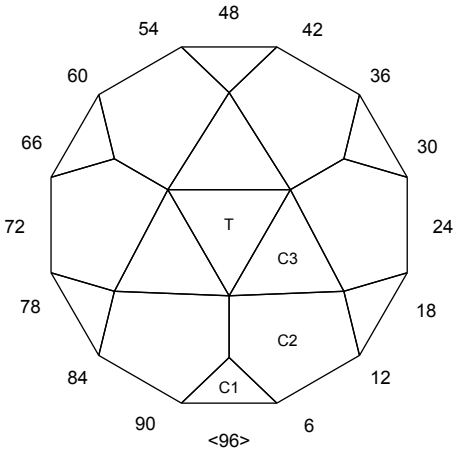
**Kyra Fifield**
**265 N MAIN ST, STE D #320**
**Kaysville, UT 84037**
**USA**
**Email: kyra@fifieldonline.com**

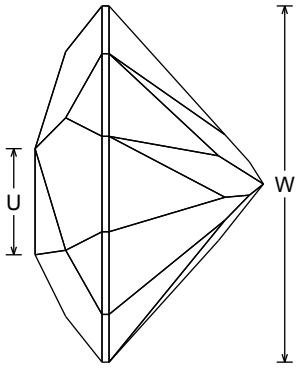
**The entry deadline is August 1, 2026. Stones must be received by the Stone Handler no later than that date. Stones received after that date and stones sent to the wrong address will be returned and will not be accepted for this year's contest.**

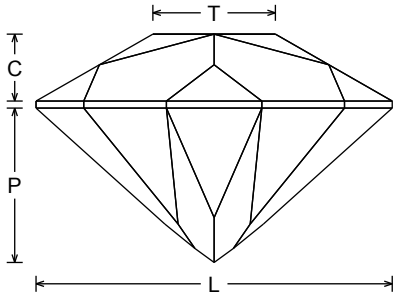
## The most common questions about the USFG Single Stone Competition:

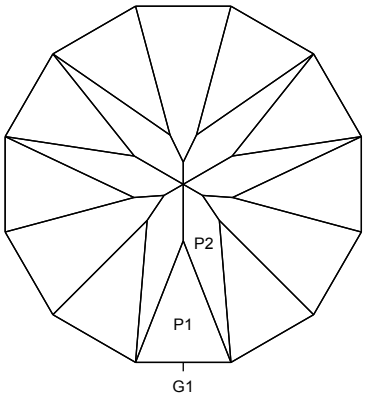
# Novice: **Snowfall**

Michael Holmes - February 2024
Design for USFG Novice category of the single stone competition




## Facet Data

| | | | |
|---|---|---|---|
| Pavilion facets | 18 | Pavilion tiers | 2 |
| Girdle facets | 12 | Girdle tiers | 1 |
| Crown facets | 15+1 | Crown tiers | 3+1 |
| **Total facets** | **46** | Total tiers | 7 |

## Size Data

| | | | |
|---|---|---|---|
| L/W | 1.000 | P/W | 0.433 |
| T/W | 0.344 | C/W | 0.188 |
| U/W | 0.298 | H/W | 0.641 |
| V/W^3 | 0.211 | P/C | 2.307 |

## Design Data

| | |
|---|---|
| R.I. range | 1.61 - 2.15 |
| Symmetry | 3-fold, mirror |
| Index gear | 96 |
| Shape | Round |

## Comments

Works with no changes in topaz > CZ. Looks great in spinel and sapphire
Material is Cutter's Choice
Width is 12.0 mm +/- 0.3 mm
Girdle WIdth 0.5 mm +/- 0.3 mm

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 42.00 | 96-08-16-24-32-40-48-56-64-72-80-88 | Cut to a center point |
| G1 | 90.00 | 96-08-16-24-32-40-48-56-64-72-80-88 | Set the stone shape and size |
| P2 | 40.00 | 05-27-37-59-69-91 | Meet girdle and P1, create final center point |

## Crown

| | | | |
|---|---|---|---|
| C1 | 38.50 | 96-16-32-48-64-80 | Set girdle height of 0.5mm |
| C2 | 29.80 | 08-24-40-56-72-88 | Level the girdle, meet P1 and G1 |
| C3 | 17.50 | 16-48-80 | Meet C1 |
| T | 0.00 | Table | Meet C2 at C3 |

# USFG 2026 Novice Design: Snowfall

Snowfall is a relatively easy design for the Novice division of the 2026 USFG Single Stone Competition. Written by Michael Holmes, the design utilizes a 96 Index Gear and it meets all of the design criteria for the Novice Competition. The novice competitor may choose any material to cut their stone. It can be natural, synthetic, or even glass. It is strictly up to the competitor to choose. It should be a material that the competitor can highly polish extremely well.

The competition is focused on precision cutting and polishing. Precision cutting includes cutting the stone to the required dimensions. The required width of this design is 12.0 mm, measured from flat to flat, with a variance of + or - 0.3 mm and the required girdle thickness is 0.5 mm with a variance of + or - 0.3 mm. All facets shown in the diagram as meeting at a single point (known as a meet point) must meet precisely at the designated meet point.

Good polishing involves removing all scratches, pitting and clouded or frosted area from the facets. Scratches and pitting are often the result of subsurface damage from prior laps that was not completely removed before proceeding to polish. Clouded or frosted areas are where the surface of the facet is not completely clear, which is most often the result of improper alignment of the stone to the polishing lap. In other words, it is not getting the facet to sit flat on the

polishing lap before starting to polish.

To accomplish the required precision and polish you will need good magnification, either by using a loupe or a hands-free magnifier of some sort. The judges will be using 10x magnification during judging. You will also need a light source that you can move around the stone, so you easily see the scratches, pitting or cloudiness that is not always visible if the light source is attached to your magnification source.

Cutting instructions: A recommendation is that you polish each tier before progressing to a new tier so that you can see what you are doing.

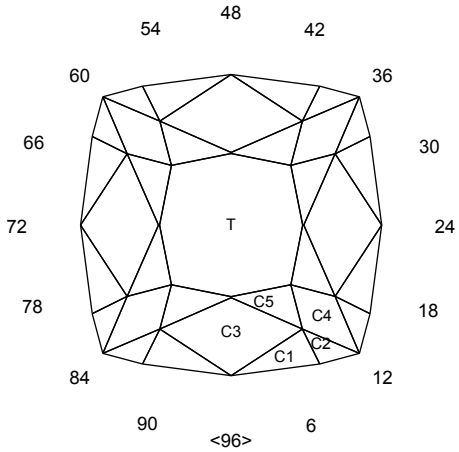
1. The first tier of facets (P1) needs to be cut to a single point at the center of the bottom of the stone. To accomplish this, set the angle at 42.0 degrees and the index gear at 96. Then gradually lower the stone a few millimeters at a time, each time cutting till the stone no longer touches the lap. When you reach what you believe is the center, then change the index position to 48 and without making any further downward adjustment cut till the stone is no longer cutting. If the 96 and 48 facets meet as a sharp edge, then you have found the center of the stone. If not continue the downward progression at 96 and then 48 till they both meet, and they are no longer touching the lap. Now you can cut in the rest of the positions on the index gear without making any further downward adjustments. This tier creates a temporary center point (TCP). It is critical that all facets in this tier come to the exact center point.
2. The next tier is the Girdle (G). This is where you set the stone size or in this case the Width of the stone which is 12 mm. For initial cutting with your coarse laps, I recommend that you start by cutting the stone to 14 mm. Then with successive laps, bring the width down to 12 mm. Make sure that all of these facets are level with each other.

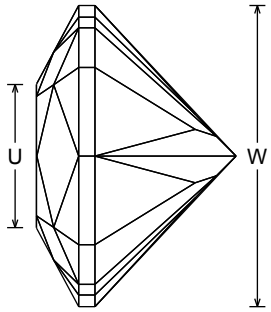
3. With the next tier (P2), the facets come in from the temporary center point toward the girdle. Approach the girdle slowly until you can polish the facets to meet the girdle. This tier creates a permanent center point (PCP). It is critical that all facets meet the exact center point.
4. Once you have completed the pavilion, you should pay close attention to successfully transfer the stone. Some cutters place a mark on the 48 or the 96 to indicate its position after the transfer. It is very very easy to make a mistake here and if you do make that mistake, your crown will not be aligned properly with your pavilion. At this point you start with tier C1. This tier will establish the girdle width. Approach the girdle width gradually. The required width is 0.5 mm. It you go to Staples or Office Depot you can find engineering pencils that have pencil leads that are either 0.5 mm or 0.7 mm. You can use these as guides to establishing the desired girdle width. This is a great tip and will really help you to see the proper girdle width.
5. Tiers C2 and C3 will cut in pretty quickly, so start them with your 600 (or 1200) grit lap and change the lap to higher grit as you approach the meet points until your final polish brings them into the necessary meet point.
6. The table also requires approaching slowly till you can achieve the final 3 meet points.

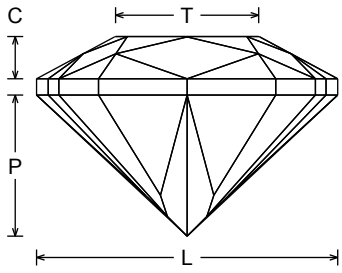
Good luck and happy faceting.

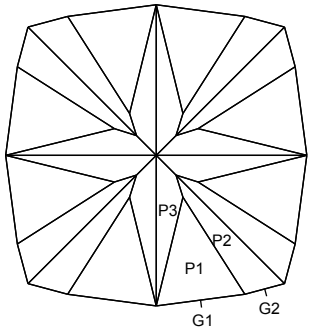
# Pre-Master: **Old Mine All Mine**

Arya Akhavan - July 2013




## Facet Data

| | | | |
|---|---|---|---|
| Pavilion facets | 24 | Pavilion tiers | 3 |
| Girdle facets | 16 | Girdle tiers | 2 |
| Crown facets | 32+1 | Crown tiers | 5+1 |
| **Total facets** | **73** | Total tiers | 11 |

## Size Data

| | | | |
|---|---|---|---|
| L/W | 1.000 | P/W | 0.469 |
| T/W | 0.475 | C/W | 0.140 |
| U/W | 0.475 | H/W | 0.663 |
| V/W^3 | 0.258 | P/C | 3.340 |

## Design Data

| | |
|---|---|
| R.I. range | 1.65 - 2.16 |
| Symmetry | 4-fold, mirror |
| Index gear | 96 |
| Shape | Cushion |

## Comments

Material is Spinel
Width is 12.0 mm +/- 0.2 mm
Girdle Width 0.5 mm +/- 0.2 mm

## Pavilion

| | | |
|---|---|---|
| P1 | 43.86 | 02-22-26-46-50-70-74-94 |
| P2 | 42.40 | 04-20-28-44-52-68-76-92 |
| G1 | 90.00 | 02-22-26-46-50-70-74-94 |
| G2 | 90.00 | 04-20-28-44-52-68-76-92 |
| P3 | 43.20 | 01-23-25-47-49-71-73-95 |

## Crown

| | | |
|---|---|---|
| C1 | 34.14 | 02-22-26-46-50-70-74-94 |
| C2 | 33.20 | 04-20-28-44-52-68-76-92 |
| C3 | 28.23 | 96-24-48-72 |
| C4 | 23.53 | 12-36-60-84 |
| C5 | 20.64 | 03-21-27-45-51-69-75-93 |
| T | 0.00 | Table |

# USFG 2026 Pre-Master Design: Old Mine All Mine

The Old Mine, All Mine is a pretty straightforward gem to cut and should be a good and achievable challenge for those aiming to compete at the pre-master level. The required material is spinel. Starting with the pavilion, the first key is cutting to a center point. This stage involves roughing in the gem with a lower-grit lap than my final cut – for me, I used a 600 sintered lap at this point, and after cutting P1 with it, I moved on to G1 and G2 facets, bringing the girdle within 1 mm of my final target of 12 mm. Next, I switched to a 1200 sintered lap and reworked my P1 facets. When shaping the P2 facets, they come in quite quickly, so it's important not to use too much pressure and to 'look a lot.' Once the P1 and P2 facets meet at the center, return to your girdle facets on the 1200 lap. Bring these into 12 mm within the desired tolerance. Then, move to the P3 facets, which come in very fast, so a light touch of the lap is all that's needed. It's easy to over cut here – if that happens, you'll just need to slightly adjust your P1 and P2 facets, which can be done during pre-polish if the adjustments are minor.

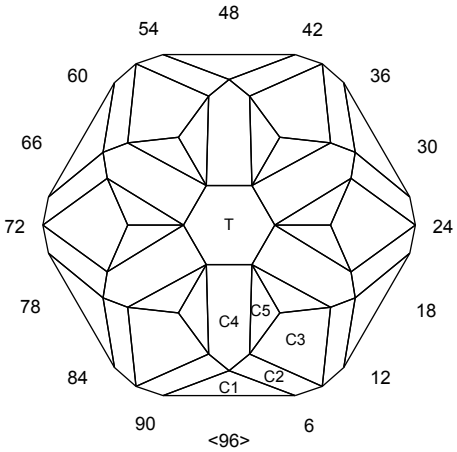
Pre-polish all the pavilion facets (I start with the P3s), then pre-polish your girdle facets. After that, go back over all of them, including the girdle for competition stones, with your chosen polish lap. For me, I used 8K on zinc for pre-polish and 60K on a Batt lap for the final polish. Check all your meets carefully and look for any pits or scratches that need to be polished out.

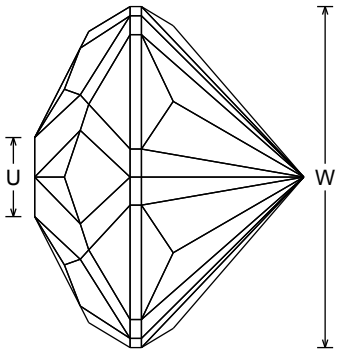
Transfer the stone and cut your C1 and C2 facets to bring your girdle width into tolerance based on the pattern description, then proceed to the other crown facets, which are all meet points and easy to see come in. When you reach the C5 facets, cut them very quickly with a gentle touch. Next, cut the table and go back through the entire sequence to pre-polish. Once pre-polish is complete, polish the table and generally polish facets in reverse order, although your approach may differ. Again, double-check all meet points – are they accurate? And ensure that the final polish is PERFECT.

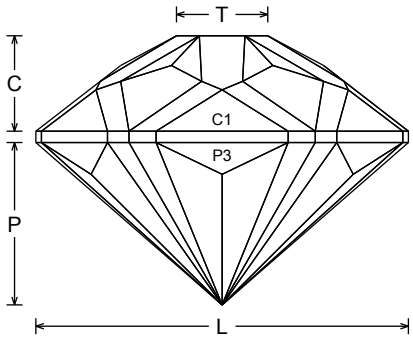
Good luck – you can qualify at the pre-master level on this stone – don't rush, take your time and go for perfection!

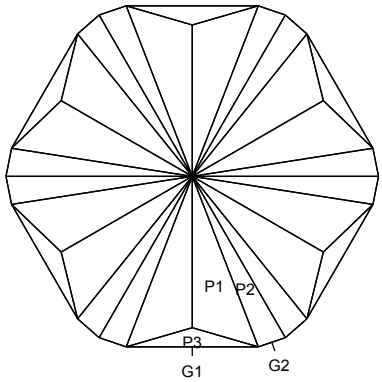
# Master: **Snow Blossom**

Arya Akhavan - January 2026




## Facet Data

| | | | |
|---|---|---|---|
| Pavilion facets | 30 | Pavilion tiers | 3 |
| Girdle facets | 18 | Girdle tiers | 2 |
| Crown facets | 42+1 | Crown tiers | 5+1 |
| **Total facets** | **91** | Total tiers | 11 |

## Size Data

| | | | |
|---|---|---|---|
| L/W | 1.092 | P/W | 0.476 |
| T/W | 0.268 | C/W | 0.280 |
| U/W | 0.232 | H/W | 0.789 |
| V/W^3 | 0.295 | P/C | 1.702 |

## Design Data

| | |
|---|---|
| R.I. range | 1.54 - 2.62 |
| Symmetry | 6-fold, mirror |
| Index gear | 96 |
| Shape | Hexagon |

## Comments

Material is Yag
Width is 12.0 mm +/- 0.1 mm
Girdle WIdth 0.5 mm +/- 0.1 mm

## Pavilion

| | | |
|---|---|---|
| P1 | 41.77 | 04-12-20-28-36-44-52-60-68-76-84-92 |
| P2 | 41.63 | 05-11-21-27-37-43-53-59-69-75-85-91 |
| G1 | 90.00 | 96-16-32-48-64-80 |
| G2 | 90.00 | 05-11-21-27-37-43-53-59-69-75-85-91 |
| P3 | 58.94 | 96-16-32-48-64-80 |

## Crown

| | | |
|---|---|---|
| C1 | 58.94 | 96-16-32-48-64-80 |
| C2 | 42.70 | 05-11-21-27-37-43-53-59-69-75-85-91 |
| C3 | 37.75 | 08-24-40-56-72-88 |
| C4 | 27.00 | 96-16-32-48-64-80 |
| C5 | 28.50 | 05-11-21-27-37-43-53-59-69-75-85-91 |
| T | 0.00 | Table |

# USFG 2026 Master Design: Snow Blossom

Snow Blossom is a straight forward, yet somewhat challenging meet point design for the Master division of the 2026 USFG Single Stone Competition. This competition focuses on precision faceting and polishing. The design is for a 96 index gear. The material that you are required to cut for this division is YAG (Yttrium Aluminum Garnet).

Precision faceting includes cutting the stone to the required dimensions. The required stone width is 12mm, with a variance of +/- 0.1mm. Pay close attention to this measurement.

All the facets shown in the design as meeting at a single point (known as a meet point) must meet precisely at the designated meet point. Good polish involves removing all scratches, pitting and clouded or frosted areas. Scratches and pitting are often the result of subsurface damage from prior laps that did not get completely removed before going to polish. Clouded or frosted areas are where the surface of the facet was not completely cleared of scratches from a prior lap while polishing.

To accomplish the required precision and polish you will need good magnification, either by using a loupe or a hands-free magnifying device of some sort. The Judges will be using 10x magnification during judging. You will also need a light source that you can move around the stone to easily see scratches, pitting or cloudy areas.

Cutting instructions:

1. I recommend that you polish each tier before you progress to the next tier.
2. When cutting the first tier, make sure that all facets come to the same temporary center point (TCP).
3. The stone width is 12.0 mm with a variance of + or – 0.1mm. When cutting the girdle facets, try to approach the desired stone width gradually, as you work through your various laps, so that when you finally get to polish you are at 12mm. Pay close attention to measuring the width and measure it per the diagram.
4. For tier P2, I recommend that you avoid using your coarse laps. These facets are very thin and will cut in quickly. They can also be difficult to see next to P1. It is recommended that you use your 1200 or 3000 lap to better see these facets so that you don't over cut the facets.
5. Once you have transferred you can again use your coarse laps to do the initial cutting and progress to the finer grit laps as you get closer to establishing the girdle thickness. The girdle must be 0.5mm +/- a variance of 0.1mm.
6. For tiers C2, C3, C4, and C5, I recommend using finer grit laps to cut these in. Coarse laps will cut way too quickly and you will over cut these facets.
7. For the Table I recommend using your finer grit laps to cut this in, because coarse laps will cut way too fast and you will over cut the table.
8. Finally, take your time cutting this stone. Precision takes patience and slow steady progress.

Good luck and I hope you do well.

# Grand Master:**Superlative Star Blossom**

Arya Akhavan - 2025-May-07

## Facet Data

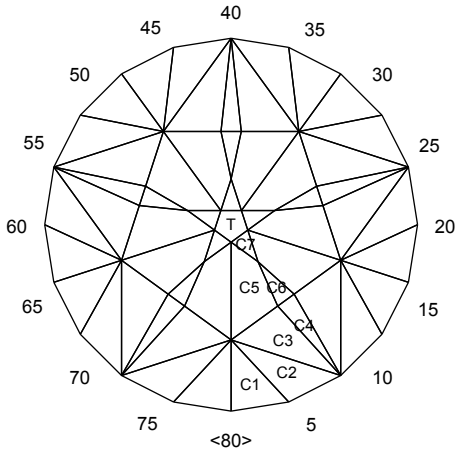
| | | | |
|---|---|---|---|
| Pavilion facets | 65 | Pavilion tiers | 6 |
| Girdle facets | 20 | Girdle tiers | 1 |
| Crown facets | 55+1 | Crown tiers | 7+1 |
| **Total facets** | **141** | Total tiers | 15 |

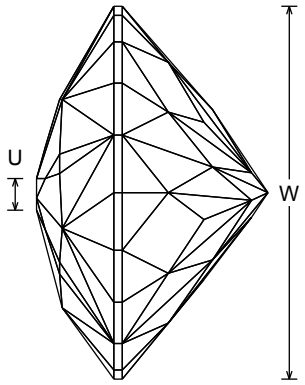
## Size Data

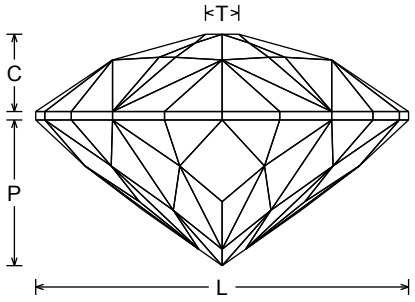
| | | | |
|---|---|---|---|
| L/W | 1.000 | P/W | 0.391 |
| T/W | 0.089 | C/W | 0.207 |
| U/W | 0.085 | H/W | 0.621 |
| V/W^3 | 0.201 | P/C | 1.884 |

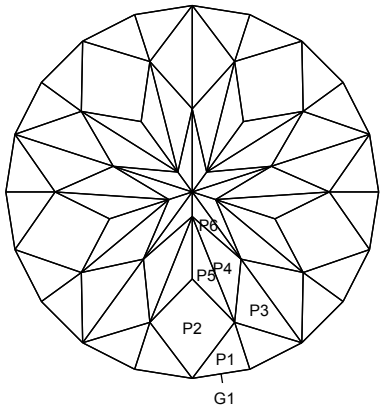
## Design Data

| | |
|---|---|
| Angles for R.I. | 1.72 |
| Symmetry | 5-fold, mirror |
| Index gear | 80 |




## Comments

Material is Moissanite
Width is 12.0 mm +/- 0.1 mm
Girdle Width 0.5 mm +/- 0.1 mm

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 43.38 | 02-06-10-14-18-22-26-30- 34-38-42-46-50-54-58-62- 66-70-74-78 | Cut to centerpoint. |
| G1 | 90.00 | 02-06-10-14-18-22-26-30- 34-38-42-46-50-54-58-62- 66-70-74-78 | Level girdle. |
| P2 | 39.40 | 80-16-32-48-64 | |
| P3 | 41.22 | 07-09-23-25-39-41-55-57-71-73 | |
| P4 | 36.44 | 03-13-19-29-35-45-51-61-67-77 | |
| P5 | 37.42 | 01-15-17-31-33-47-49-63-65-79 | |
| P6 | 35.05 | 04-12-20-28-36-44-52-60-68-76 | |

## Crown

| | | | |
|---|---|---|---|
| C1 | 36.26 | 02-14-18-30-34-46-50-62-66-78 | Set girdle width. |
| C2 | 32.35 | 06-10-22-26-38-42-54-58-70-74 | Level girdle. |
| C3 | 30.49 | 07-09-23-25-39-41-55-57-71-73 | Meet G1, C2 |
| C4 | 30.20 | 08-24-40-56-72 | Meet G1, C2, C34 |
| C5 | 16.45 | 06-10-22-26-38-42-54-58-70-74 | Meet C1. C2. C3 |
| C6 | 16.78 | 08-24-40-56-72 | Meet C3, C4, C5 |
| C7 | 15.47 | 08-24-40-56-72 | Meet 5, C6 |
| T | 0.00 | Table | Meet C5, C7 |

# USFG 2026 Grand Master Design: Superlative Star Blossom

Superlative Star Blossom is a relatively straight forward design for the Grand Master Single Stone competition level, and it will require a soft touch and a keen eye. With 141 facets on board, it will take great precision to successfully cut the stone. This competition focuses on precision faceting and polishing. The design is for an 80 index gear. The material that you are required to cut for this division is Moissanite.

Precision faceting includes cutting the stone to the required dimensions. The required stone width is 12 mm, with a variance of +/- 0.1mm. The required girdle thickness is 0.5mm with a variance of +/- 0.1mm. The L/W ratio is 1.0 with a variance of +/- 0.1mm. All the facets shown in the design that meet at a single point must meet precisely at the designated meet point.

Good polish involves removing all scratches, pitting and clouded or frosted areas. Scratches and pitting are often the result of subsurface damage from prior laps that did not get completely removed before going to polish. Clouded or frosted areas are where the surface of the facet was not completely cleared of scratches from a prior lap while polishing.

To accomplish the required precision and polish you will need good magnification, either by using a loupe or a hands-free magnifying device of some sort. The Judges will be using 10x magnification during judging. You will also need a light source that you can move around the stone to easily see scratches, pitting or cloudy areas.

Cutting instructions: At this level it is assumed that you are an experienced cutter and you understand how quickly or slowly facets come in based on the grit involved. So, detailed instructions will not be provided as they were in the Novice and Pre-Master divisions. Good luck and I hope you do well.

# Winning and Giving Away an Ultratec!

David Smith

TUCSON26, the USFG annual Tucson symposium, was a resounding success, thanks to you! I'd like to start out by thanking all the many volunteers that helped facilitate the event, the demonstrators that showed folks in real-time how to do things in the mornings, and all the presenters that came and brought their best information, tips, techniques, and humor to the symposium.

At the culmination of the symposium, we held the drawing for the Ultra Tec V5. As most of you know, I was shocked to win this prize. Standing up there like a deer in the headlights, two people crossed my mind that I could hand that machine off to, and in the pressure of being in the front of the room, I was unable to select one. So I explained the idea that had already been forming, about having apprentices learning faceting in the old, traditional guild style inside Faceters Paradise. Winning that machine was as awesome as it was torturous! Here I was, the guy that had been promoting the raffle for months, and not only that, I'm "the ULTRA TEC guy"! So even though our president Doug Augspurger assured me I won it "Fair and Square," and as all you saw, that was true, it still just didn't sit right with me.

When I went home and told my wife Jennifer, her immediate response was, "You cannot keep that machine." My wife is a nonprofit consultant, and this world is her world. And she told me (which I already knew) that it was inappropriate for me to keep that machine.

Well, I had somebody in mind for the machine, and it was one of those two folks that I just referred to at the symposium. This individual has shown a willingness to learn and work hard with no sense of entitlement. At 24 years of age, she's in the position that many of us have been, of working hard, paying bills, and driving a car that needs a quart of oil every so often. This individual had come down and taken the two-day class at Faceters Paradise about six weeks ago and done very well. She was excited, enthusiastic, and interested, but didn't have anywhere near the funds to afford a faceting machine.

When I went outside after winning the machine, I ran into her, and she asked, "May I come down and be an apprentice and work on the machine? I would even compensate you for the grit and laps, etc." "Of course!" I replied, "and no need to compensate for anything; that's the program for folks just like you."

In the days that followed, I hatched a plan, and that plan was, well, a bit of a test. Kiegan Lee is a very sincere young woman, and I wanted to give her the opportunity to not just receive the machine, but earn it. So I invited her to come down to the ULTRA TEC booth at the Tucson Gem and Mineral Society show and do demonstrations. I explained that I was asking her to drive down from Phoenix (a 2-hour drive) to do demonstrations on the faceting machines for social media content. I explained that it would be nice to have a young face on a machine, rather than just a bunch of old guys like myself and my colleagues. Her reply was a resounding, enthusiastic "Yes!"

Kiegan drove down, was crashed into by a Tesla that kept going (hit and run); the police sorted it out, and on she went. When she arrived, she explained the events from the drive down, and instantly got on the machine with Ron Snelling watching over her. She began demonstrating how to facet; folks gathered around her, and her young, shining

face was like a beacon to those interested in learning gem cutting.

The test wasn't over. I asked if she could return the next day. Now, remember, she's driving down from Phoenix, 110 miles each way. And again, her reply was a resounding, enthusiastic "Yes!" "But may I leave early because I take a ceramics class with my boyfriend Jose on Friday nights," she added. "Of course," I replied.

The next morning, I was a little nervous that something might happen, that things wouldn't work out. I texted her early because it was raining and I said, "Take your time in the rain to come down, and you don't have to be here early." I didn't receive a reply. I texted her again with a picture of her badge so that she knew she could come in on our badge and not have to pay the entry fee. A few minutes later, I received a reply from her saying, "I'm already here. I'm just about to walk in." And boy, was I relieved!

Again, remember she had no idea what was about to happen, nor did most of the folks at the booth. I only enlisted Robert Mendoza of ULTRA TEC and Mark Oros of Hashnu stones to help me prepare the surprise. Kiegan came in as enthusiastic and as bright-eyed as the day before, ready to work with no compensation. She got on the Ultra Tec VL and began demonstrating on Friday morning, which is when many, many small children come from schools all over Tucson to visit the show. She was surrounded by a gaggle of 5- to 7-year-olds, asking questions, oohing and ahhing. She took all this in stride, answering their questions, explaining on their level what she was doing, and did a great job!

Well, about an hour and a half later, we had discussed a plan to prepare the surprise. We told her that we needed to shoot a social media video on the V5. She was familiar with the V5 because that's the machine she learned on in Faceters Paradise weeks prior. We positioned her where she wouldn't see what Mark Oros was doing behind her. We stood next to each other, flanking the V5 while our volunteer, Steven, filmed with my phone, and Robert Mendoza filmed with his camera. We discussed the features of the V5 and the things that she liked about it.

I had pre-positioned a loupe in front of the machine, and I saw that Mark Oros had displayed the V5 from the USFG give away and the additional items that Faceters Paradise had donated, including three Gearloose laps, PCD Diamond, a flashlight for rough examination, and she is even getting one of Dan Lynch's books, The Gem Cutters Handbook.

So, knowing the surprise was ready, out of the corner of my eye, I reached around the machine and picked up the loupe. Now, this was no fancy loupe; it was a cheap 5-dollar loupe. I told Kiegan, "You've come down here, and you've worked hard, and you've demonstrated. You've done everything that we expect of a true apprentice. You came at this with no sense of entitlement and just came down to learn and participate and share. This is what it's all about." I said, "To thank you, I've got this loupe for you because I noticed you didn't have one."

You should've seen how excited she was to get that 5-dollar loupe. Little did she know what was about to happen. So I launched into my presentation again, without her seeing what was behind her. And I said, "Well, in addition to the loupe, Faceters Paradise has given you a 600 sintered lap. Now, after you cut a stone, what are you gonna do? Well, you also get a Gearloose Zinc plus lap so that you can polish that stone at 8000. Now, having polished it at 8000, you have to go to a final polish, so Faceters Paradise is throwing in a

Gearloose BATT lap and a Gearloose Darkside lap."

Her eyes just continued to grow wider and wider and wider. Now, remember she had not turned around, and she had not a clue that that V5 was on that table along with all these goodies! So I continued on, just extending the suspense. "We've also included the PCD Diamond and a few extras to get you started, Kiegan, because of your great attitude, your hard work ethic, and your compelling story."

Continuing, I said, "We have something else for you. Kiegan, turn around, the V5 from the United States Faceters Guild raffle is yours! You've got a full faceting setup. Congratulations!" I think she was afraid to turn around! Those dinner plate eyes became even wider. When I finally got her to turn around and look at the spread, she gave me the hardest hug that I may have ever gotten in my life. Then she began jumping up and down and, just as you can imagine, being blown away.

So then I stepped back and I said, "Well, Kiegan, it's time for you to give a speech!" And she did.

After that, we went over to the table and took a look at all the items (including the bottle of Martinelli's apple cider). Once she calmed down, she said, "I need to call my boyfriend." A few minutes later, she called her Dad and Granddad. She had to share this amazing news with her loved ones.

Kiegan stayed for a few more hours and continued to demonstrate and show folks what fun faceting is. Later that day, we helped her load the machine and all the goodies into her car, and when we went to hug, I told her, "not so hard this time." She laughed and said, "Yeah, one time I gave my dad a rib contusion cause I hugged him so hard!"

So, it is truly with great joy that I see this Ultra Tec V5, and all the goodies, all the laps, everything she needs, go to a fantastic forever home to Kiegan Lee in Phoenix, Arizona. I told her at that time, "I have now become your faceting dad." So I will be watching her, cheering her on, correcting her when necessary, and I couldn't be more proud. Thank you to the United States Faceters Guild, to Ultra Tec, to my wife, and to Kiegan, for passing the test and earning the machine.

# USFG Tucson Faceting Symposium 2026

## Cari' Fifield

This year's Tucson USFG Faceting Symposium was another amazing success. More people attended daily than in any previous year. David Smith organized a fantastic event with top talent, faceters, and gemologists. Tom Mitchell and David Richardson taught a two-day faceting class for two days prior to the symposium. This class was full, and students walked away with an increase in knowledge and a finished gemstone.

Wonderful door prizes and raffles were held. An Ultra Tec V5 was raffled away! The winner was none other than David Smith, a surprise for all, especially David Smith. David won the V5 fair and square, and he was shocked and amazed at the win. After the symposium events were over, David took the opportunity to pass his win to Kiegan Lee, an amazing apprentice who had been learning in his shop. David shares his store about the win and his apprentice in another article in this newsletter

The Hob Nob party on Saturday evening, which was held by the Old Pueblo Lapidary Club, was once again a success. It was a delightful opportunity to mingle with faceters, gem rough vendors, build networks, and enjoy great food.

A shout out and a big thank you to the presenters and sponsors who helped make the event possible.

- Diane Eames shared her knowledge about the Texas topaz and why it is a rare gem. She had an opportunity to share her journey with topaz and had some Texas topaz rough to show and share with attendees.
- Tom Mitchell provided demonstrations on multiple dopping techniques and explained when dopping changes may be helpful. Tom also gave a presentation on altering old faceting patterns to change them and make them easier to read and use when faceting.
- Ron Snelling did a dopping demo on using UV glue for faceting. He also gave a presentation on maintaining an Ultra Tec V5 or VL Classic mast. Ron also gave a presentation on the many things he learned when he set up his own faceting school and gave suggestions to others about that process.
- Walter Green provided a demonstration on how diamond works on laps. He also shared some updates on new products being developed with his work for Crystalite to improve the diamond imbedding on laps and for diamond powder used on laps.
- Arya Ahkavan gave an update on the project he has been working on to develop synthetic gem rough. He talked about the different colors achieved through doping with various chemical compositions.
- Dan Delano shared information about pricing gems and by type of gem, source, size, and other factors. He taught about getting information about the most popular stones for selling. He provided tables that can be supportive for gemstone pricing.

- Mark Oros demonstrated cutting “doorknob” size quartz. Mark always leaves his audience in amazement with the shape and variety of his elegant cutting. He gives good suggestions and support to inspire other faceters to try cutting large quartz.
- Scott Sucher spoke about the tour he and Vter Young arranged to Africa. They shared information about the mining experience, working with gem traders, and about some of the extracurricular activities such as touring wildlife parks.
- A panel discussion with Peter Torraca, Michael Holmes, Justin Prim, and Mark Oros was a hit. These experts were able to answer questions from the audience to support them in getting knowledge related to faceting and working in the faceting industry.
- Justin Prim gave a wonderful presentation about the history and lost gem cuts of the past. He discussed and shared historical images and details about how the shape of gems changed over time.
- Mark Sirota shared how he built his own fantasy cutting machine. He discussed some of the challenges, things he learned and shared his finished project, and some gems he had cut.
- Jeffrey Morrison gave an intriguing presentation about running the Havey Tourmaline Mine. He shared the complexity of the work, how they find veins of tourmaline, how it is mined, and how challenging it can be to keep equipment necessary. He had exquisite pictures of many glorious tourmaline crystals.
- Cari’ Fifield demonstrated gemstone-setting and the importance of faceters understanding angles and girdle size. Attendees had a chance to review different pattern samples and non-commercial cuts that can add challenge to setting gems and dialogue how the non-traditional gems may need to be set.
- Tayyab Suratwala once again demonstrated his fantastic skills regarding the molecular level of gems and what happens on the surface of gems in the faceting/polishing process. Tayyab had intriguing graphs that helped illustrate concepts that impact cutting and polishing based upon gem hardness, refractive index, and other concepts. He spoke about using the knowledge of gemstones to reduce edge chipping.
- Dan Lynch gave an update on his book he has just completed. “The Gem Cutters Handbook” is an elegant book with detailed information and a beautiful design to help faceters have a ready reference to carry when looking at gem rough. He has also included a pocket to help carry things in the back of the book.
- Sam Baar, the new owner of Gearloose LLC, shared information about the change of ownership from John Rolfe. He spoke of how the Gearloose logo will honor John. Sam also taught about the different types of laps, some of the best ways to use them, and he spoke about plans for the Battstiks.

also wish to thank the Old Pueblo Lapidary Club and all the sponsors who donated to the event with time, supplies for door prizes and raffles and gem rough. This event would not be the same without their help.

Ultra Tec

Gearloose LLC

Roger Dery

Justin Prim

Dan Lynch

Farooq Hashmi

Monica Stevenson/Anza Gems

Allan Lindberg

Faceters Paradise

Obsessed Over Sapphires

Double Eagle Sunstone Mine

Phoenix Gems

Toms Box of Rocks

Silverhill Lapidary

Unlimited Gems

Vter Young

Facette/Facetron

John Garsow

Lewis & Clark Sapphires

New Era Gems

TMS Gems

Jason Brim

Jenna Sloane

Gems of Science

Daniel Hu

Vincent Pardieu

# The Reality of the Hunt: 46 Trips into the Heart of the Gem Trade

By Michael Holmes

Many people see the photos of Roger Dery standing at a mine in East Africa and imagine a life of high-stakes adventures, cinematic landscapes, and bags full of beautiful treasures. They see the "score" but rarely the months of logistical planning, 24-hours of flights, or the hours spent searching for a misplaced government stamp in a dark office.

I sat down with Roger to peel back the romanticism and conduct a reality check for anyone convinced they can simply hop on a plane and "hit it big" in the gemstone world. What follows is a deep dive into the grit, the ethics, and the hard-won wisdom of a man who has made 46 excursions into Africa.

Michael: Roger, before we get into the grit, how would you describe the "average" day on a buying trip? What is the reality of this life?

*Roger: There's probably three parts to it. It's getting there and getting back as one of many flights and logistics to go with that. Secondly, arranging for people to work with you—that all has to be done ahead of time. This is one of the pitfalls of people just showing up; you'll end up with the lowest-tier quality of dealer to work with because nobody else wants to work with them.*

*Third is the actual on-the-ground travel to visit mines. We can't actually buy at mines anymore; that was 15 years ago. In today's market, especially in Tanzania and Kenya, you can't actually go to a mine to buy. You can review things that they found, but then they have to meet you at a government-sanctioned Gem Centre, and then you can actually buy in person there. I appreciate the fact that the developing countries are creating ways to have dealers facilitate sales of their merchandise and to do it in a legal sense of comfort, knowing that there's overwatch with the government.*

Michael: What is the biggest misconception people have about what you do when you step off a plane in a country like Malawi or Sri Lanka?

*Roger: I think thinking that you can just wing it and you're gonna hit it big. It's never happened for me, and I've made 46 trips into Africa. That's never worked out. All the planning happens starting about three months out, and most of what happens in the final two or three weeks is the logistics of making sure you've got a driver lined up, a vehicle, and places to stay. If you don't arrange ahead of time, you end up with the "low-hanging fruit" people because nobody else wants to work with them.*

*For example, our particular driver that we use now, we have used him on 28 excursions. He knows us, we know him, we know his family. There's no hidden stuff in the background, and this guy looks out for us like we're family. That happens because you make enough trips that you can develop that kind of a relationship.*

*Sri Lanka is a completely different buying environment. You really can't buy rough there; they don't legally allow the export of rough out of Sri Lanka. So you're buying goods that are already cut, usually with a purpose to recut them—at least we do. My total focus is making and selling gems that have been done just for our market. People come to me because they want something cut specifically to have the most liveliness and the best color range. I try to buy stones in Sri Lanka that are 95% there and I'm just finishing up what they didn't do.*

**Michael: Let's talk about the days that don't make your highlight reel. What is the most physically demanding or harrowing situation you've found yourself in?**

*Roger: Well, we rent Land Cruisers. They seat eight people and sometimes we have to drive in regions that you wouldn't even take a motorbike through, but you have to take the Land Cruiser through there. From time to time, there's—I don't want to say harrowing experiences—just uncomfortable, a lot of bouncing in the vehicle.*

*I'm going to try to pick a set of mines that's a little bit easier on the body if we can. I have people on the ground, especially on the Kenyan side, who go and scout the mines before we even get into Kenya. They go there in the previous two weeks to make sure it's a producing mine and not a mine with any built-in issues. Then they meet with the Mining Director from the Gem Centre—a Ministry of Mines official. They give him a list of mines they visited and then he tells them which ones we're allowed to visit. It isn't like you can just walk up anymore; everything has been pre-secured.*

*On the first day in Kenya, in the Voi area where the mining takes place, we actually have to go visit with the Mining Director. Spend a half hour with him, have a cup of tea, and talk about business in general. It's a time to schmooze. He wants to reinvigorate our relationship because he's somebody that we know. Then he gives us his wave of permission, and then we convey that to the guys that we're working with.*

**Michael: Have you had any security issues on your trips over the decades?**

*Roger: We have learned over all these trips that you don't enter the country when they're having an election. There's always some kind of small amount of unrest. I've seen it where someone was upset because their property was taken from them for the greater good—like building a road for public access. As we're driving along some of the highways, we'll see a red X placed on each building that will be demolished.*

*As far as security issues, there was a period of time in 2015–2017 in Kenya where we were expected to have security officers—off-duty policemen that we hire for the day. They basically are in their own car with firearms, usually handguns, and they're traveling with us because we're going to a mining site. They're actually there to ensure that nothing happens to us. But out of all the remote places we've traveled to, we've never had an incident where I felt threatened. The only time that happened was driving through Arusha when they were having an election, and that was my fault for picking a time when there was an election. We were thinking, "Well, we probably shouldn't be here today."*

**Michael: In the gem world, the "sting" is almost a rite of passage. Have you ever truly been taken by a scam?**

*Roger: There was one time I was buying in Arusha from people I didn't know. This would've been probably 2010 or 2011. I ended up buying a piece of blue spinel. It was man-made blue spinel, but I was out maybe 200 bucks. They shaped it in a way and roughed it up on some kind of machine and made it look like it was a naturally occurring thing. They might've heated it to bring it close to a melting point so it looked naturalized. It*

*wasn't a big stone—maybe 2 grams—but still, how often do you see 2-gram blue spinel? I thought it was something, and the fact that it was only 200 bucks should've been my "tell" right there. That was my mistake.*

*Since then, we have worked a scenario both on the Kenyan and the Tanzanian side so that any dealer that comes to us that ever tries to pull off a fraud of any kind is ostracized for future events. Their local brethren will look at them like, "You idiot, here's our money trail and you're gonna ruin it for 200 bucks." They have kind of weeded out the problem-makers. If somebody shows up that is a known issue, trusted locals will give a nod of their head or they'll point with their eyes like "they shouldn't be here." I have one of my local guys politely ask him to leave.*

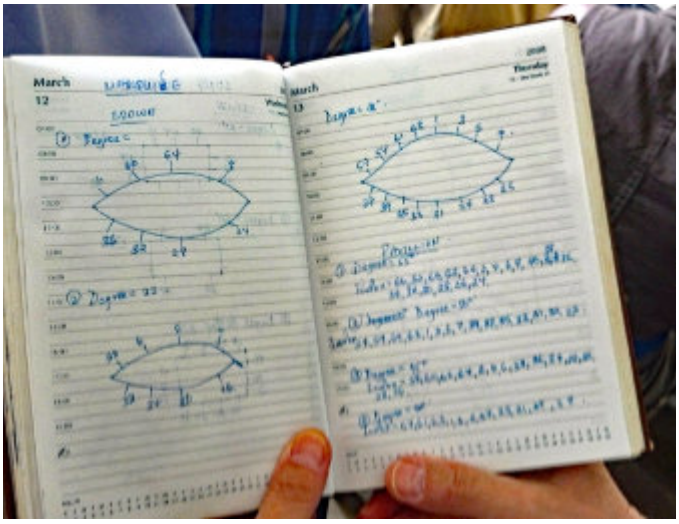
**Michael: Sourcing rough involves a lot of waiting. What has been your most frustrating experience with bureaucracy?**

*Roger: I would say probably border crossings are the things that historically have been frustrating. In 2013, we were crossing from Tanzania into Kenya. This is before they built an actual real facility; the building was probably built by the British in the 1950's. We arrived and the power goes out. We're the only ones going through immigration and customs. Our handler, Okeno, said they don't actually want you to go through after it's dark—as a foreign national, you wouldn't know that.*

*We get inside and we're filling out our forms and the power goes out. We've all got our flashlights out, handing them to the immigration people through a fenced area so they can do the stamps. I'm looking for Okeno, and he somehow managed to get into the back room and he's behind the gate working with these guys. Then he leaves that area and goes to another office with the lights out and he's sitting there schmoozing with a guy—turns out the two of them went to high school together. He was slipping him like 20 bucks in local currency to allow the Americans to come through after dark. Just one of those crazy circumstances.*

*Then there was Malawi. This was our third trip there and on the last day, our flight was at 11:00 PM. We're in the Ministry of Mines office at nine in the morning to pay the duty and seal the package. One employee says, "I'll process this for you today, but we have misplaced our stamp." I'm not kidding. They had misplaced the stamp used to stamp the documents.*

*I said, "How can we be helpful?" There were five of us. We went through every desk drawer, every cabinet space. Paperwork was stacked everywhere. Finally, an hour and a half into it, we lift up all the stacks of paper—I'm talking like 12 or 13 inches thick—and the stamp was underneath one of those stacks. He goes through the process, we pay the duty next door, and then he had to seal the package because the guy that seals the package was on vacation. He said, "I haven't done this in a long time," but they take tin and fold it into a box, put string around it, and then they drip wax on all the joints of the string and stamp it.*



**Michael: You are very vocal about supporting mining communities. How do you navigate the line between a fair price and ensuring the miner benefits?**

*Roger: I don't know that I've been in a situation where I walked away from a buying opportunity because the ethics didn't sit right, mostly because we don't take risks anymore. Every dealer we work with, we know them and they are registered with the government. Our handlers have pre-arranged all these scenarios and screened away anybody that is going to do some kind of "weird deal" or people with mental or emotional issues or money problems.*

*But I have to go back and face those guys again, so I don't want to leave there with a bad taste in their mouth thinking, "Yeah, there's that schmuck Roger, he's just gonna take advantage of us." Sometimes we'll have one of my handlers take someone aside and say, "How about we loan you money?" because of desperation.*

*One time, an elephant damaged a guy's home during the dry season. They basically crushed the side of his house. The next day, we were visiting mines near his place, so we stopped by his home because I thought, "Sure, an elephant damaged your home, right buddy." I didn't really believe it. But we went there and visited his place. We ended up giving him a couple hundred bucks in cash to help out—maybe buy some bricks and some mortar.*

*Okeno's wife, Esther, once jointly operated a mine where they hit water. Elephants came the following day because they could smell the water. They literally completely damaged their mining area to get to the water. This was less than a mile from the center of the village.*

**Michael: For the person reading this and thinking, "I want to go to Africa and find my own rough," what is the "cold water" you need to throw on that dream?**

*Roger: If you're anticipating making this part of your business plan, the first thing I would do is set up a trip during the dry season—June, July, August, September is ideal. Spend about 10 days there. Go visit local dealers, walk around, look at the mines, but **don't expect to buy**. This is strictly a fact-finding mission. You'll spend probably $5,000 or $6,000 to figure out how to do this. You still need to develop an export broker, which may take some time. Learn your way around.*

*You'll need a yellow fever shot and antimalarials. Take notes on everything. Collect phone numbers and email addresses. If you go to the Voi area, stay one night at three or four different places so you figure out what kind of a place you like. Introduce yourself to the Ministry of Mines office; they like to hear from us. Figure out the local restaurants and what you can and can't eat if you have allergies.*

**Michael: Beyond a loupe and a flashlight, what are the most important tools a traveler must bring?**

*Roger: First and foremost, have the knowledge to figure out what's the most you're willing to pay in the US versus East Africa. Over there, they only work in grams, so you need to be thinking in grams. You'll have a larger range of selection—you might have 400 pieces to pick from instead of 40—but you need to know your prices.*

*As for physical tools: bring a scoop. They don't have scoops, so having one makes you*

*the "bonus guy." Bring your own plastic bags with the writing space on them. They have to be resealable; if they aren't, they could get rejected by the government. And you can't bring plastic shopping bags into Kenya or Tanzania—those are illegal and they'll confiscate them.*

*I find loupes to be not as helpful on rough because of the rough surfaces. I use a 3 1/2 power Optivisor. We also bring heavy-gauge white cardstock so people can place the rough on it for the "white paper test." I also carry a white 12x18" hand towel to lay in front of me so the rough doesn't roll off easily. Some people bring water to coat the surface of the mineral—it raises the refractive index to 1.33 so what's inside is more visible. Don't bring oil; they'll complain you "oiled the rough."*

### Michael: What are your "never" rules?

*Roger: Never do this by yourself. At a minimum, a team of two. When you have more people, you start making better decisions because you're scrutinizing each other's work. Also, don't carry more than $10,000 in cash; it's raising a red flag. In Kenya, you're not supposed to enter with more than $5,000.*

*After you make your first trip, develop a relationship with someone whose account you can wire money into. Most banking in the US can be done on your phone now. You want to be able to wire money while you've finished your transaction. You don't want to have 15 individual dealers write up invoices; you make one commercial invoice at the end of the trip and wire the money to one key point person, and then that guy wires the money to each individual dealer he owes.*

### Michael: How do you develop the "eye" for rough? How do you mitigate the risk of buying junk stones?

*Roger: You need to practice in the United States first. Make an appointment with a rough dealer and practice—obviously, you've got to spend some money. Going to Tucson before going to Africa is the wisest decision you could make because you have a chance to practice on hundreds of dealers. Or go to Franklin—John Garsow is there every year and he is a great teacher. If you spend two hours with him and a couple thousand dollars, you're gonna come away with more lessons than you planned on.*

### Michael: Despite the mosquitoes, bad roads, and enormous plane trips, what keeps you going back?

*Roger: I probably would say the thrill of the hunt. I love the African people, the countryside, and the back roads. My one singular moment of excitement: we were staying at a lodge on the side of Mount Kilimanjaro called Marangu. In the morning, they bring a coffee pot to your cottage. Around 6:45 AM, the moisture in the air burns off, and you look up and there is Mount Kilimanjaro right where you were sleeping the night before. What are the chances you'd ever think you could do that?*

### Michael: If you could go back to your very first buying trip, what advice would you give a younger Roger Dery?

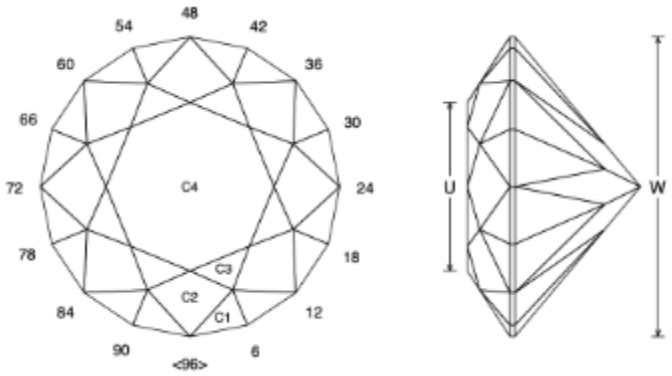
*Roger: Well, my very first buying trip was a disaster. We were in Madagascar and had not developed an export process. I left my goods in an attorney's safe for a year before I got them out. My advice would be: go there as a search process first. Investigate what needs to happen on the ground legally and what needs to happen to get it into the United States legally. Once you have figured out the process, it simplifies itself over time.*

*If you're thinking that going to Africa is the way, find your way to Nairobi and Arusha, spend a week or 10 days, and bring somebody with you. There are people who organize trips—Jason Brim, Vter Young and then Hubert Heldner—who do this sort of thing correctly.*

# Helter Skelter

Mark Oros

Gemstone faceting is a craft that demands extreme precision in order to attain maximum gemstone performance. That precision is based on following the instructions and symmetry from our faceting designs. We break the rules on this design and have a little fun by disregarding traditional symmetry of meet point design.




What happens when you break the rules of symmetry and design? Do randomness and chaos have their own beauty and wonder?

The symmetry where the facets align are called “meet points” in the gem cutting world. Their importance can not be underestimated when creating a performance-based gemstone. In fact, there are gemstone faceting guilds all over the world that hold gemstone faceting competitions and one of the most critical attributes of the judging is the exactness of the meet points. It is this exactness and symmetry that we dismiss in this Faceting Focus design.

A faceted gemstone’s grading and cost analysis is based on what the industry calls the four C’s. The four C’s are color, carat weight, clarity, and cut. These C’s are rated by gemologists and appraisers in order to determine the quality and value of a finished gemstone. Here, the focus is on the cut.

The cut has its own attributes for meeting the professional criteria of a well-faceted gemstone. These include the girdle width, polish level, meet points, and other attributes. The meet points are used in a design as a guide for cutting the gemstone. In the meet point illustration, all the facets touch each other in order to create perfect symmetry. This symmetry has two functions. First, it is a guide for the gemstone faceter to replicate the design in his gemstone cutting. Second, the exact symmetry is the basis for the gemstone’s performance, including light return, scintillation, and calibrated size. The symmetry is driven by the index gear selected for the gemstones design.

I created this design in 2016 as an April Fool’s Day joke. The idea was to ignore the design symmetry and meet points. I wanted to challenge the norm and try something different just for fun. The result was the design Helter Skelter. The meaning of helter skelter is disorderly haste or confusion. This is the opposite of meet point faceting. The Helter Skelter design produces a stunning gemstone that captures your attention. When looking at a finished Helter Skelter gemstone, my mind and eyes bounce between the beauty of the gemstone and the chaos of the missing symmetry.

The design is made for quartz. Lighter color quartz material works best. Please keep the following in mind when faceting this design.

There are no meet points or identical facets.

The directions, “Cut to look correct,” infers to cutting the first index of each tier (angle) to look as close as possible to the design diagram. After cutting the first facet of a tier, cut the remaining facets to the same depth.

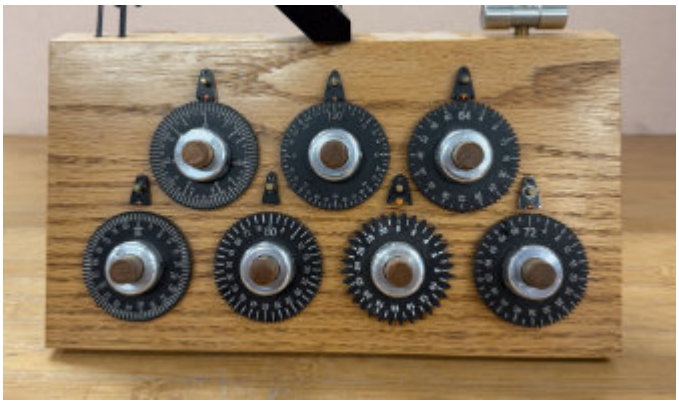
I know it’s hard, but do not worry about everything aligning because it will not.

Due to the asymmetry of the design, you will need to reverse the orientation of the gemstone after the transfer. Put it back in your mast upside down so your 96 index cuts even on C1-96.

Once you start to cut the crown, the chaos really starts. Because of the design asymmetry and the CAD program interaction, the crown facets will not look exactly like the design. I encourage you to be creative with the chaos at this juncture.

Please keep in mind that this design is for breaking the rules and enjoying yourself.

I would like to thank Andrew Brown for converting my original Helter Skelter design from a 72 index to a 96 index while retaining the gemstone’s random chaos, beauty, and wonder.



Photos

Design = Gemstone design

Gems Photo = Finished Gemstone Photo - Oro Verde Quartz

Index Gears = Selection of index gears for different gemstone symmetries

Meet Points = Example of a normal gemstone design illustrating meet points

# Helter Skelter

by Randome' Nomeets

### Facet Data

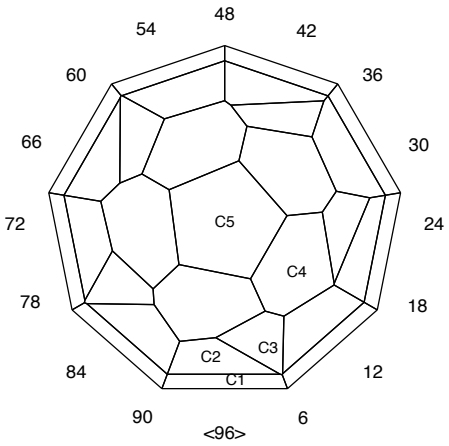
| | | | |
|---|---|---|---|
| Pavilion facets | 19 | Pavilion tiers | 3 |
| Girdle facets | 9 | Girdle tiers | 1 |
| Crown facets | 28+1 | Crown tiers | 4+1 |
| **Total facets** | **57** | Total tiers | 9 |

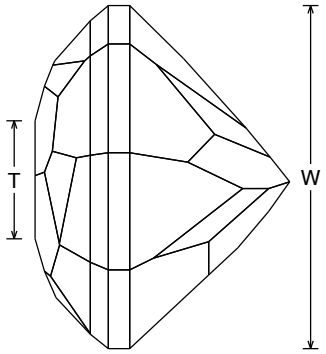
### Size Data

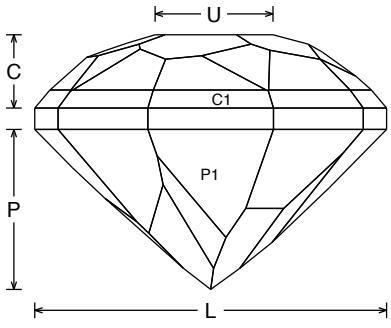
| | | | |
|---|---|---|---|
| L/W | 1.025 | P/W | 0.466 |
| T/W | 0.344 | C/W | 0.214 |
| U/W | 0.344 | H/W | 0.742 |
| V/W^3 | 0.279 | P/C | 2.184 |

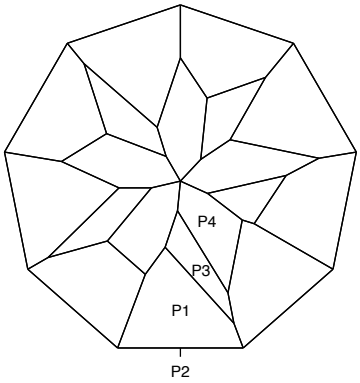
### Design Data

| | |
|---|---|
| Angles for R.I. | 1.54 |
| Index gear | 96 |




### Comments

Recommended for quartz
This was designed for April 1, 2016

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 47.00 | 96-11-21-32-43-53-64-75-85 | Cut to center point |
| P2 | 90.00 | 96-11-21-32-43-53-64-75-85 | Set stone size |
| P3 | 42.82 | 03-22-41-61-80 | Cut to look correct |
| P4 | 41.00 | 08-27-46-66-85 | Cut to look correct |

## Crown

| | | | |
|---|---|---|---|
| C1 | 51.36 | 96-11-21-32-43-53-64-75-85 | Set girdle height |
| C2 | 43.14 | 96-11-21-32-43-53-64-75-85 | Cut to look correct |
| C3 | 35.28 | 03-22-41-61-80 | Cut to look correct |
| C4 | 18.00 | 16-35-54-74-93 | Cut to look correct |
| C5 | 0.00 | Table | Cut to look correct |

# USFG Member profile: Justin Prim

## Interview by Mark Oros

### Introducing:

*Justin K Prim, Magus Gems.*

### How long have you been faceting?

*For 11 years*

### What do you do with your faceted gemstones?

*I sell them and I also use them for teaching and books.*

### What is your favorite material to facet and why?

*My favorite material is emerald. I love the color of emeralds and I love the challenges that they present with their inclusions, shape, and colors.*

### What is your least favorite material to facet and why?

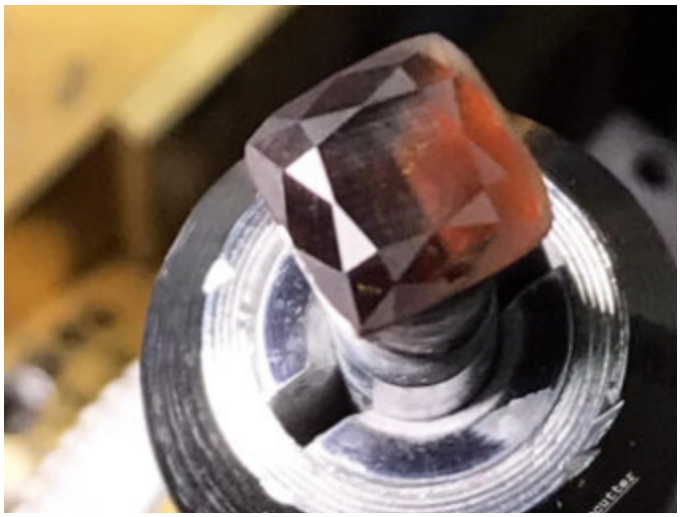
*Anything with two directions of cleavage. Kunzite, Diaspore, etc. Diaspore has caused my worst professional horror so far.*

### Who has been the biggest influence on your gemstone faceting journey?

*It sounds cheesy, but my wife Victoria Raynaud has been my biggest influence. She started cutting professionally through an apprenticeship in Geneva when she was 14. She has been cutting for over 16 years and she has truly mastered the art of faceting and is a repository of knowledge and most materials. She is a great person to have around when I was needing to upgrade my skillset to a professional level or when I was writing my various classes and books.*

### What is the best faceting advice that you have received?

*Listen to the stone*



### What is your favorite faceting tip to give?

*Don't give up. If you make a mistake, learn how to fix it. If the stone falls off the dop, learn how to put it back on. If you get discouraged, take a break and keep going. Only then can we improve and grow.*

### Are there encouraging words you would like to share with your fellow USFG members?

*I started learning how to cut on the French-style jambpeg machine two years ago. The last two years have been a humbling experience that has put me back in the student seat and forced me to relearn all of the faceting skills that I take for granted these days. Because of this, I am painfully aware of the beginner's experience because despite my decade of experience I am a beginner again. I am making mistakes, extra facets, and having to learn new skills that are uncomfortable. I am having frustrations and embarrassing mistakes and I keep telling myself the same thing that I said about. Fix the mistake and don't give up. That is the only way to attain mastery.*

### What is the secret to a great polish (optional)?

*For me, the true secret is a lead/tin lap. They have gone out of fashion, but they polish better than any other lap I've ever tried for almost all stones from quartz to emerald to sapphire. I set mine up with two bands (8k and 60k) so I don't need two polishing laps. I do the two bands back to back on each facet so I only go around the stone once and I make any angle adjustments as I do it. This way, polishing is really fast and (usually) easy. Don't fear the lead, but don't eat it either!*

# An Interview with Ian Loska: Winning a Spectrum Award as a relative beginner!

## Interview by Maggie Klinedinst

USFG member, and avid newsletter reader and fan, Ian Loska was awarded first place in the 2025 AGTA Cutting Edge Innovative Faceting category. This category is "open to any gemstone featuring innovative faceting and lapidary techniques." Ian's award-winning gem was a concave-cut, 3.67 ct. color-zoned tsavorite garnet that he named "Grassbright and Gilded Light." I sat down with Ian to discuss the win, his faceting journey of just over two years, the importance of experimentation and failure, how the winning stone was not the original plan, and what the faceting community means to him.

**How did you first discover faceting? I remember at Tucson 2024 you were looking for a gigantic sapphire.**

*I stumbled into faceting completely by accident while shopping for an engagement ring for my then-girlfriend. I went to a local gem show looking for a stone and ended up meeting a faceter named Bill Vance. He captivated me with stories of hunting gems in Africa in the '70s and '80s. He had a beautiful tsavorite I hoped to buy for the ring, but when I got home I looked him up on YouTube, watched him facet, and thought, "Maybe I can do that."*

*I had never touched a faceting machine in my life, but I was instantly hooked. There was something about the craft that felt so esoteric and exotic.*

*Somehow I got connected with Dave Smith out in Tucson, who generously let me drive out my van and camp behind his shop while I took a two-day class with Dave Richardson. They're two of the nicest guys ever, and I owe them a lot!*

*A month later, the Tucson show was happening, so I drove back out and soaked up everything I could at the USFG Symposium. I went on a rough tour with Scott Sucher and basically turned into a wild animal, hunting for the perfect piece of rough for that ring. I never found the giant sapphire I imagined — mostly because what I was looking for didn't exist, at least not on my budget. I have so many stories from that pursuit. Most were heartbreaking at the time but are hilarious in hindsight.*

**So your award winning stone. Did you set out with the idea of cutting something to submit to AGTA?**

*I did, but not with the stone that ended up winning.*

*I had actually competed the year before, and right after submitting that piece, I listened to an interview with Justin Prim and David Nassi. David talked about how critical material and color are for winning a Spectrum Award. I immediately realized I wasn't going to win. I had sent in a brown tourmaline.*

*So this year, I decided I needed something truly special. Thanks to Paul at East African Gems, I purchased the most expensive piece of rough I'd ever bought, a gorgeous tanzanite. It got stuck in customs because of new tariffs. It took over a month and at least a dozen hours on hold to get it released. I finally received it two days before the entry deadline, which was not enough time to*

*orient and cut it. As if by total miracle, they extended the deadline, so I hunkered down in my garage and spent sooo many hours working on that thing. Every time I nearly finished the pavilion, I'd get a scratch on a concave facet that I just couldn't chase out no matter what I did. I recut the entire pavilion three times. It was so frustrating. I wasn't having any fun. I eventually ended up just doing flat facets on it and not submitting it.*

*Meanwhile, I had a small color-zoned grossular that my wife kept insisting was the prettiest stone I'd ever cut. I thought it was far too small to ever have a chance. But I did submit it.*

*That's the one that won.*

**So how did your award-winning gem come to be?**

*To be honest, it was mostly luck. I bought a mint garnet from Vter Young. After staring at it for a long time, I noticed it was darker along one axis. I submerged it in RI fluid and discovered it was essentially a leuco garnet with two razor-blade-thin planes of very dark green running straight through the middle. I was able to place them directly in the culet.*

*As far as orienting it properly, I owe a lot to Tom Herbst's book and to Peter Torraca's USFG Symposium talk, "Orienting for Color." I can't help but think of Einstein's quote about standing on the shoulders of giants because everything I know about faceting came through others who went out of their way to share what they've learned. I really love that about this hobby.*

**I think now we have so many people, like a lot of the names that you've mentioned, and Roger Dery, Mark Oros, Arya, you have a lot of people that are really generous with their knowledge.**

*Absolutely, and I'm so grateful. Everything I know is because of them. The fact that they go out of their way to share their knowledge is amazing.*

*One interview that really stands out to me is Justin Prim talking with Mark Oros. Justin asked him if there was anything proprietary or that he didn't want to talk about. Mark said no, that he wanted to share everything, because if you keep something a secret, you're kind of stuck doing that one thing forever.*

*That guy has so much wisdom.*

**Is there anything else that you want to add about your experience faceting. You're in your first three years of it!**

*Probably like most faceters, I love it because it's the most fun, frustrating, creative, and sometimes destructive hobby in the world. With every stone, I learn more about patience and about not getting discouraged when I make a mistake.*

*I sometimes get messages on Instagram from people who think I'm an expert. I laugh every time because I pretty much make mistakes on every stone, and a lot of times it's the same mistake I've already made. I'm still learning. I don't feel like I'm in any position to be giving advice.*

*That said, there are a few things that have helped me a lot. I often share Arya's video on optimizing gemstones in Gem Cut Studio. It's excellent. Justin Prim's interviews and podcasts have also been incredibly helpful. And Dalan Hargrave's explanation for conditioning a lap was invaluable to me. He takes 400-grit sandpaper on a block and lightly sands the lap clean, explaining that the grit particles are too large to embed in the surface. Without hearing that from him, I never would have had the confidence to try it.*

*One thing I've learned on my own is that, regardless of what you read or hear, you eventually have to experiment. Speed up,*

*slow down, reverse, try less diamond, try more. Sometimes there's no clear reason why something works. Other times you just have to walk away and try again tomorrow. That has literally worked for me. I've had days where I couldn't get a polish no matter what I did, walked away frustrated, and then the next day, without changing anything, it polished perfectly. Makes no sense.*

*Another huge lesson is that mistakes can actually be good. I'm getting better at not being devastated by them. Most of my favorite designs came from trying to fix something I messed up. James Joyce said mistakes are the portals of discovery, and I think that's true. It doesn't always take the sting out of a mistake, but it helps.guess.*

I know I remember early on, you were prototyping so much, you know, to get the look that you wanted. And I'm sure there were lots of tragedies during that period.

*Ha! Endless tragedies. I've cut way more stones than the ones I've posted on Instagram. There were plenty of terrible ones. But I had to cut those and work through the steps to figure out the correct angles and such.*

*The prototyping usually came from not being able to afford the right tool or not being able to find one. There's something really satisfying about having an idea and having to figure out a way to create it.*

*Cutting is always a bit of a treasure hunt. Sometimes it's frustrating not knowing what the stone will look like until it's finished, but that's also the exciting part. Each time is like a Christmas present you have to wait to unwrap.*

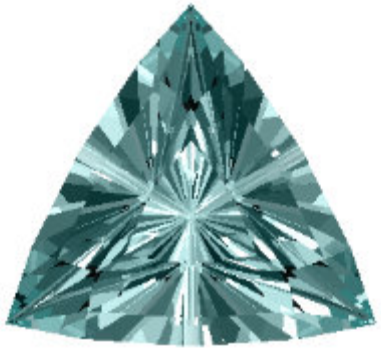
*In the end, it always comes back to having fun. Faceting has been such a wonderful thing for me. There are so many negative things to think or worry about as you get older, and it's nice to have something productive and creative to occupy your thoughts.*

# New Faceting Diagrams

These designs were submitted by members of the Faceting Discord community as their favorite designs of the past few months

1

2



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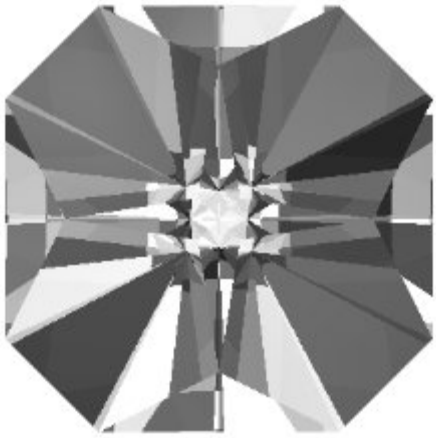

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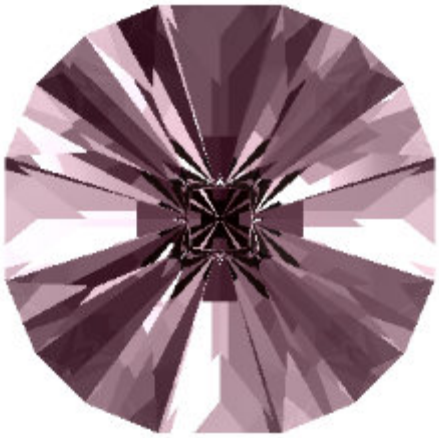


# New Year Scissors

Rime/Shifter55 - January 2026

### Facet Data

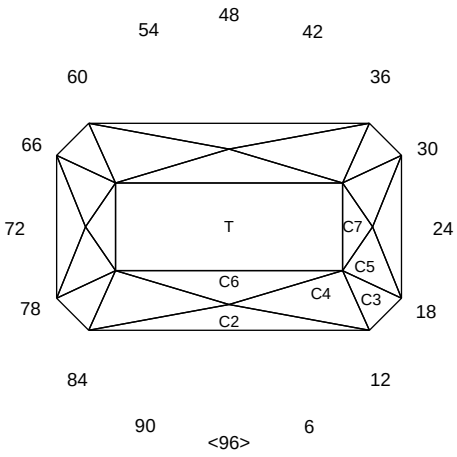
| | | | |
|---|---|---|---|
| Pavilion facets | 14 | Pavilion tiers | 4 |
| Girdle facets | 8 | Girdle tiers | 2 |
| Crown facets | 24+1 | Crown tiers | 7+1 |
| **Total facets** | **47** | Total tiers | 14 |

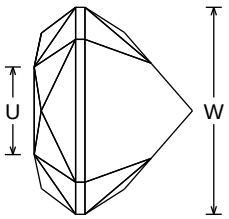
### Size Data

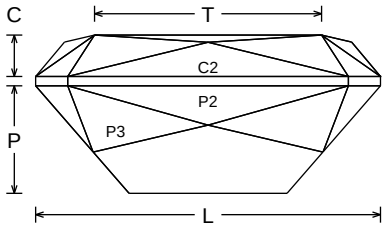
| | | | |
|---|---|---|---|
| L/W | 1.666 | P/W | 0.519 |
| T/W | 1.097 | C/W | 0.200 |
| U/W | 0.423 | H/W | 0.765 |
| V/W^3 | 0.681 | P/C | 2.596 |

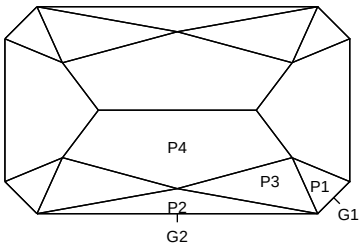
### Design Data

| | |
|---|---|
| R.I. range | 1.72 - 2.14 |
| Symmetry | 2-fold, mirror |
| Index gear | 96 |




### Comments

This is a successor to my "180GarnetScissor" design, with shorter length, improved crown, and deeper mains angles. The scissor flash should be impressive in more dispersive materials, but be aware that below garnet, the X axis will have as good tilt performance as the deeper mains angles would suggest.

## Pavilion

| | | | |
|---|---|---|---|
| G1 | 90.00 | 12-24-36-60-72-84 | ECED Girdle |
| G2 | 90.00 | 96-48 | Cut to L/W 1.66 |
| P1 | 49.00 | 12-24-36-60-72-84 | Level Girdle |
| P2 | 57.50 | 96-48 | Level Girdle |
| P3 | 49.00 | 01-47-49-95 | Meet Girdle |
| P4 | 41.00 | 96-48 | Meet P2. P1 meet optional but confirms L/W |

## Crown

| | | | |
|---|---|---|---|
| C1 | 50.00 | {12-24-36-60-72-84} | Level Girdle. Girdle thickness of 5% |
| C2 | 53.00 | 96-48 | Level Girdle |
| C3 | 34.10 | 12-36-60-84 | Cut out C1 corners |
| C4 | 33.00 | 03-45-51-93 | Meet Girdle. Scissor mains |
| C5 | 32.50 | 18-30-66-78 | Meet Girdle. Scissor mains |
| C6 | 12.00 | 96-48 | Meet C2. This meetpoint is critical to the pattern. |
| C7 | 13.12 | 24-72 | Meet C1. Cheat in C3 meet. |
| T | 0.00 | Table | Meet C3,C4,C5 at corners |

# Fantasy Trillion Concave

Jeffrey Hill - February 2026
Easy Concave Design, Only 9 Concaves

### Facet Data

| | | | |
|---|---|---|---|
| Pavilion facets | 15 | Pavilion tiers | 3 |
| Girdle facets | 12 | Girdle tiers | 2 |
| Crown facets | 31 | Crown tiers | 6 |
| **Total facets** | **58** | Total tiers | 11 |

### Size Data

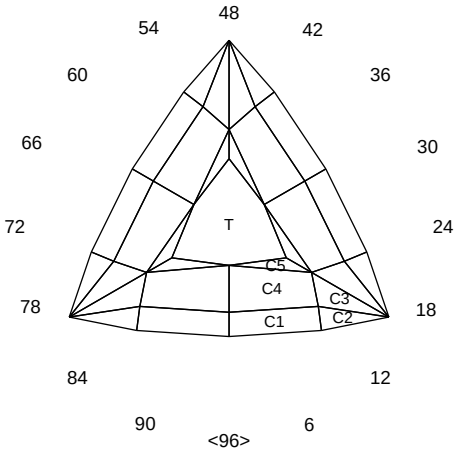
| | | | |
|---|---|---|---|
| L/W | 1.079 | P/W | 0.452 |
| T/W | 0.000 | C/W | 0.155 |
| U/W | 0.000 | H/W | 0.627 |
| V/W^3 | 0.163 | P/C | 2.915 |

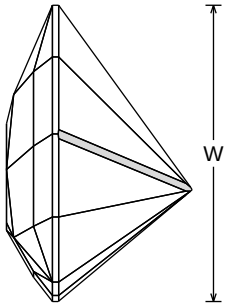
### Design Data

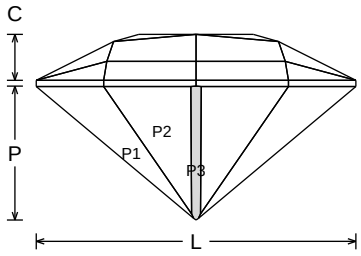
| | |
|---|---|
| R.I. range | 1.54 - 2.15 |
| Size range | 6 - 15 mm |
| Symmetry | 3-fold, mirror |
| Index gear | 96 |
| Shape | Triangle |

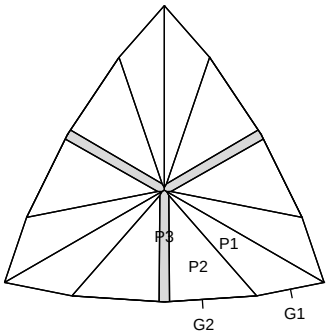
### Comments

Center first concave on the centerline of each P2 pair
Cut each of 3 concaves 1/3 width of each P2 pair
So you concave away P1 entirely by meeting P2/P1




## Pavilion

| | | | |
|---|---|---|---|
| P1 | 47.73 | 03-29-35-61-67-93 | Cut to a Centerpoint |
| P2 | 50.20 | 01-31-33-63-65-95 | Meet Centerpoint |
| G1 | 90.00 | 03-29-35-61-67-93 | Set Size |
| G2 | 90.00 | 01-31-33-63-65-95 | Complete Girdle |
| P3 | 50.16 | 96-32-64 | Three parallel Concave Cuts side by side 1/3 width each |

## Crown

| | | | |
|---|---|---|---|
| C1 | 38.00 | 01-31-33-63-65-95 | Set Girdle Thickness |
| C2 | 38.00 | 03-29-35-61-67-93 | Complete Girdle |
| C3 | 30.00 | 05-27-37-59-69-91 | Meet Girdle at C2/G1 |
| C4 | 30.00 | 01-31-33-63-65-95 | Meet Tip of C2 |
| C5 | 22.00 | 02-30-34-62-66-94 | Meet Tip of C3 |
| T | 0.00 | Table | Meet C4C5 |

# Fluorospar Conqueror

Arya Akhavan - 2026-Jan-26

## Facet Data

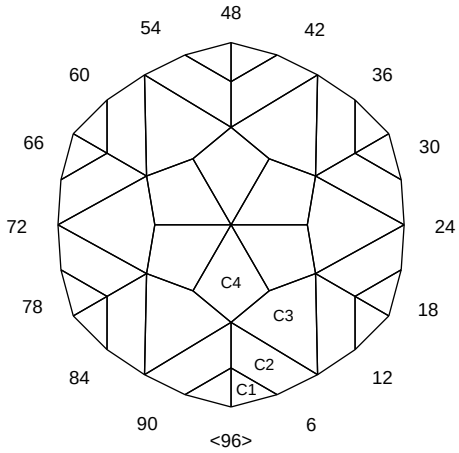
| | | | |
|---|---|---|---|
| Pavilion facets | 66 | Pavilion tiers | 8 |
| Girdle facets | 0 | Girdle tiers | 0 |
| Crown facets | 36 | Crown tiers | 4 |
| **Total facets** | **102** | Total tiers | 12 |

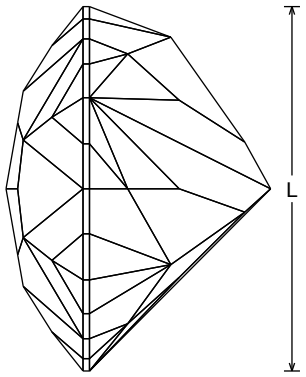
## Size Data

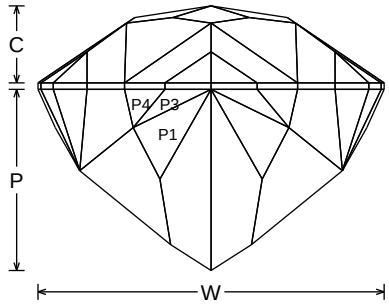
| | | | |
|---|---|---|---|
| L/W | 1.053 | P/W | 0.523 |
| T/W | 0.000 | C/W | 0.222 |
| U/W | 0.000 | H/W | 0.764 |
| V/W^3 | 0.278 | P/C | 2.353 |

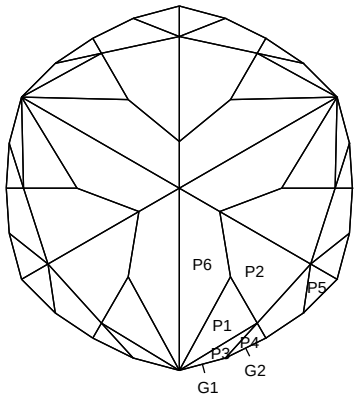
## Design Data

| | |
|---|---|
| R.I. range | 1.43 - 2.03 |
| Symmetry | 3-fold, mirror |
| Index gear | 96 |
| Shape | Hexagon |




## Comments

This design was written for an absolutely enormous pink fluorite that I cut on commission for a friend of mine. It was designed with retroreflector principles, an apex crown, and a deep pavilion to try and maximize colour saturation and minimize tilt windowing. Always a challenge in fluorite, but it turned out exceptionally nicely! Works in materials from fluorite to zincite (RI = 1.43 - 2.03) with no changes, but can be optimized for high RI.

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 46.18 | 02-30-34-62-66-94 | Cut to centerpoint. |
| P2 | 44.90 | 04-28-36-60-68-92 | Meet at culet. |
| G1 | 90.00 | 04-12-20-28-36-44-52-60-68-76-84-92 | Set stone size. |
| P3 | 56.30 | 04-28-36-60-68-92 | Level girdle. |
| P4 | 65.72 | 07-09-23-25-39-41-55-57-71-73-87-89 | Meet P1, P2, P3 |
| P5 | 70.07 | 12-20-44-52-76-84 | Meet P2, P4 |
| G2 | 90.00 | 07-09-23-25-39-41-55-57-71-73-87-89 | Level girdle. |
| P6 | 44.90 | 01-31-33-63-65-95 | Meet P1, G1, P3 |

## Crown

| | | | |
|---|---|---|---|
| C1 | 39.51 | 04-12-20-28-36-44-52-60-68-76-84-92 | Set girdle width. |
| C2 | 35.05 | 07-09-23-25-39-41-55-57-71-73-87-89 | Level girdle. |
| C3 | 34.01 | 08-24-40-56-72-88 | Meet G1, C2; C1, C2 |
| C4 | 10.00 | 96-16-32-48-64-80 | Meet C1, C2, C3 |

# Paired Drop

Rime - February 2026

## Facet Data

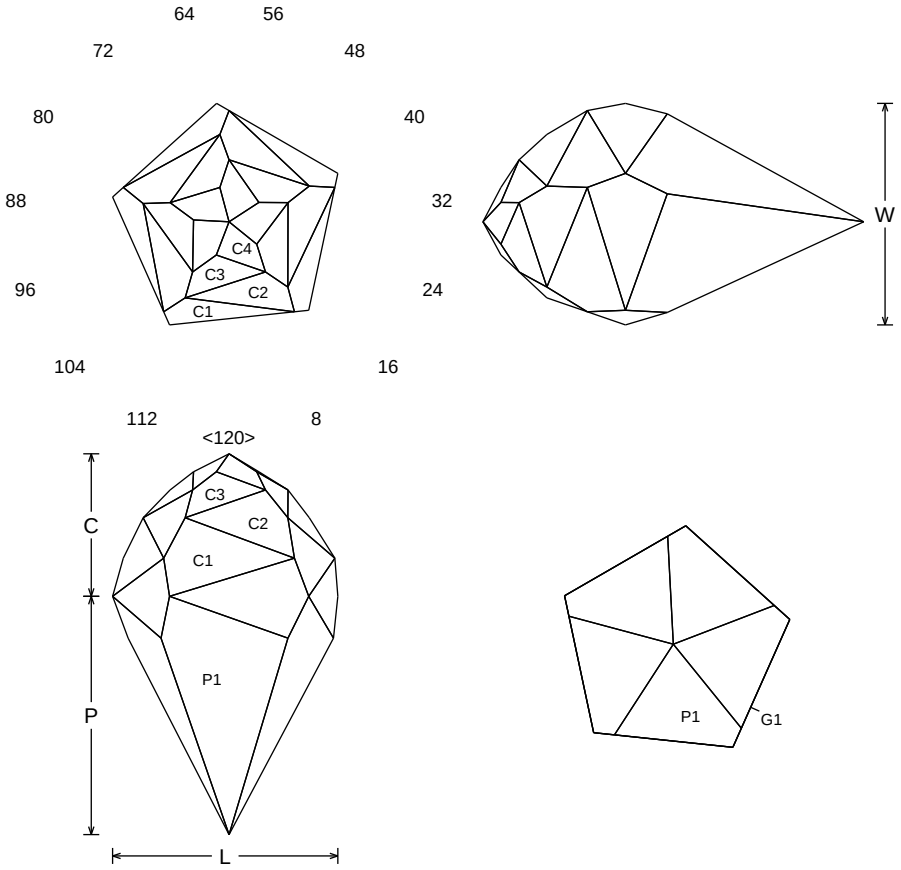
| | | | |
|---|---|---|---|
| Pavilion facets | 5 | Pavilion tiers | 1 |
| Girdle facets | 5 | Girdle tiers | 1 |
| Crown facets | 20 | Crown tiers | 4 |
| **Total facets** | **30** | Total tiers | 6 |

## Size Data

| | | | |
|---|---|---|---|
| L/W | 1.017 | P/W | 1.076 |
| T/W | 0.000 | C/W | 0.643 |
| U/W | 0.000 | H/W | 1.719 |
| V/W^3 | 0.540 | P/C | 1.672 |

## Design Data

| | |
|---|---|
| R.I. range | 2.15 - 2.65 |
| Symmetry | 5-fold, radial |
| Index gear | 120 |




## Comments

This is a 120 gear design for cutting as a matched pair, after transfer the girdle can be cut on the same setting without interfering with the meet. Works from CZ to Moissanite, and will darken the material considerably. When transferring, I recommend UV resin or very strong wax bond, do not skimp on the amount of adhesive.

## Pavilion

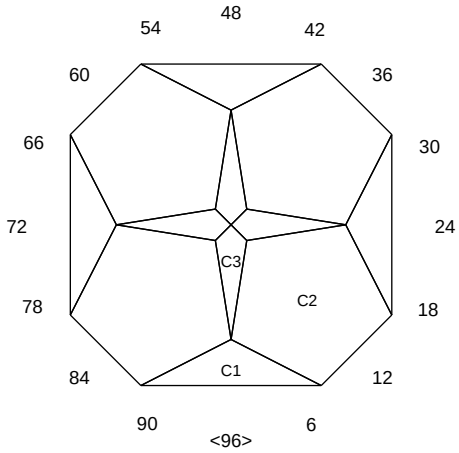
| | | | |
|---|---|---|---|
| P1 | 66.00 | 001-025-049-073-097 | Cut to Centerpoint |
| G1 | 90.00 | 022-046-070-094-118 | Define stone height. can be cut after transfer. |

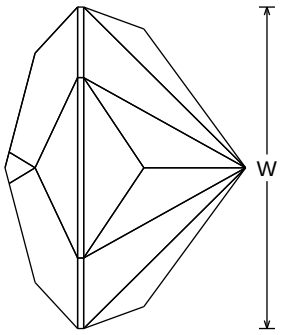
## Crown

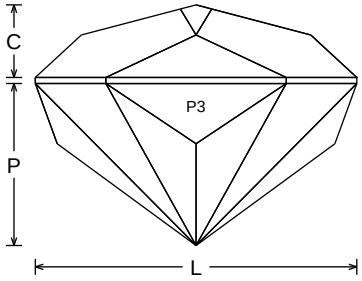
| | | | |
|---|---|---|---|
| C1 | 71.00 | 120-024-048-072-096 | Meet P1,G1 |
| C2 | 58.00 | 002-026-050-074-098 | Meet G1,C1 |
| C3 | 47.00 | 120-024-048-072-096 | Meet C1,C2 |
| C4 | 32.00 | 005-029-053-077-101 | Meet C2,C3 |

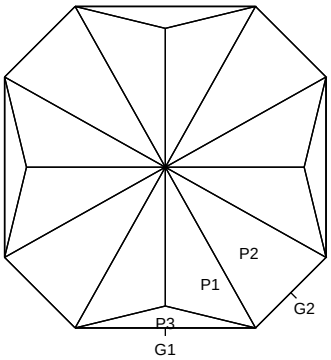
# Tessellation 55

Arya Andre Akhavan - 2025-Dec-06
Suite: Tessellation Party!




## Facet Data

| | | | |
|---|---|---|---|
| Pavilion facets | 16 | Pavilion tiers | 3 |
| Girdle facets | 8 | Girdle tiers | 2 |
| Crown facets | 12 | Crown tiers | 3 |
| **Total facets** | **36** | Total tiers | 8 |

## Size Data

| | | | |
|---|---|---|---|
| L/W | 1.000 | P/W | 0.504 |
| T/W | 0.000 | C/W | 0.226 |
| U/W | 0.000 | H/W | 0.749 |
| V/W^3 | 0.276 | P/C | 2.232 |

## Design Data

| | |
|---|---|
| R.I. range | 1.54 - 2.01 |
| Symmetry | 4-fold, mirror |
| Index gear | 96 |
| Shape | Square |

## Comments

I’m honestly surprised it took me this long to start making some of the other pentagon-based Tessellation designs. This is the simplest "squared pentagons" layout - four pentagons arranged around two overlapping super-thin rhombi. This design is fast, easy to cut, and can work in super-small sizes as flashy earrings or giant stones meant for pendants. Works in materials from quartz to zincite (RI = 1.54 - 2.01) with no changes.

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 41.40 | 09-15-33-39-57-63-81-87 | Cut to centerpoint. |
| P2 | 42.40 | 12-36-60-84 | Meet temporary culet. |
| G1 | 90.00 | 96-24-48-72 | Set stone size. |
| G2 | 90.00 | 12-36-60-84 | Level girdle. |
| P3 | 70.00 | 96-24-48-72 | Level girdle. |

## Crown

| | | | |
|---|---|---|---|
| C1 | 42.70 | 96-24-48-72 | Set girdle width. |
| C2 | 23.80 | 12-36-60-84 | Level girdle. |
| C3 | 14.70 | 96-24-48-72 | Meet C1, C2 |

# Vela II

Jim Bertin - January 2026

## Facet Data

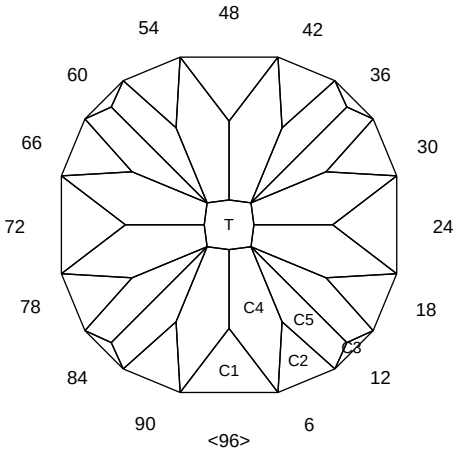
| | | | |
|---|---|---|---|
| Pavilion facets | 16 | Pavilion tiers | 3 |
| Girdle facets | 16 | Girdle tiers | 3 |
| Crown facets | 33 | Crown tiers | 6 |
| **Total facets** | **65** | Total tiers | 12 |

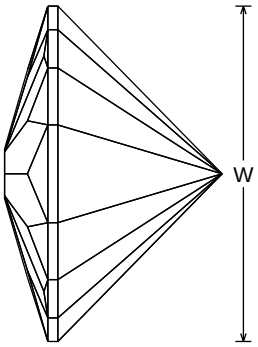
## Size Data

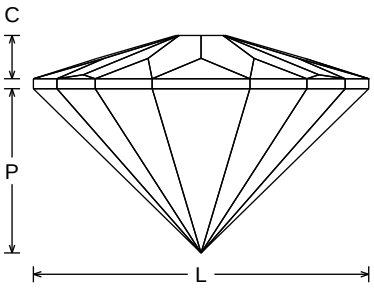
| | | | |
|---|---|---|---|
| L/W | 1.000 | P/W | 0.490 |
| T/W | 0.000 | C/W | 0.129 |
| U/W | 0.000 | H/W | 0.649 |
| V/W^3 | 0.206 | P/C | 3.794 |

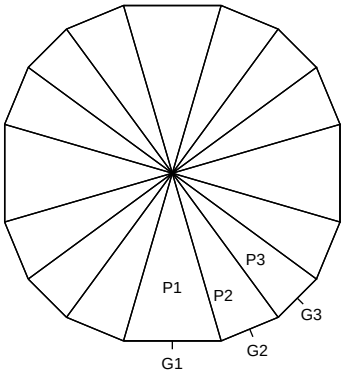
## Design Data

| | |
|---|---|
| R.I. range | 1.76 - 2.65 |
| Symmetry | 4-fold, mirror |
| Index gear | 96 |
| Shape | Round |




## Comments

I designed this while sailing on a top-masted schooner, the Vela, in the Caribbean.
Works with YAG or higher RI, but would need some optimizing above corundum.

## Pavilion

| | | | |
|---|---|---|---|
| P1 | 44.40 | 96-24-48-72 | Cut to PCP |
| P2 | 43.40 | 06-18-30-42-54-66-78-90 | Meet at PCP |
| P3 | 42.90 | 12-36-60-84 | Meet at PCP |
| G1 | 90.00 | 96-24-48-72 | Set size |
| G2 | 90.00 | 06-18-30-42-54-66-78-90 | Level girdle |
| G3 | 90.00 | 12-36-60-84 | Level girdle |

## Crown

| | | | |
|---|---|---|---|
| C1 | 17.70 | 96-24-48-72 | Set girdle depth |
| C2 | 17.70 | 06-18-30-42-54-66-78-90 | Level girdle |
| C3 | 21.40 | 12-36-60-84 | Level girdle |
| C4 | 16.30 | 02-22-26-46-50-70-74-94 | Meet girdle |
| C5 | 16.30 | 10-14-34-38-58-62-82-86 | Meet girdle |
| T | 0.00 | Table | Meet C5 |

# Resources for Gems, Faceting, Design and Materials

## Organizations

US Faceters Guild

Accredited Gemologists Association

American Gem Trade Association

## Education & Information

- US Faceters Guild video library: https://usfacetersguild.org/teaching-videos-2/
- Amateur Gemstone Faceting: Faceting books and designs: http://www.facetingbook.com/index.html
- The Gemmological Association of Great Britain: https://gem-a.com/
- GRS (Gem Research in Switzerland): http://gemresearch.ch/
- Gemological Institute of America (GIA): https://www.gia.edu/
- Gemology Information Videos: Gemlogic - https://www.youtube.com/user/gemlogicorg
- Gemology Project: https://www.gemologyproject.com/
- "Cutting Gemstones: Then and Now" by Justin K Prim: https://youtu.be/plsHQ-94Z8A
- International Gem Society gemology resources: https://www.gemsociety.org/gemology/
- PHYS.Org: For a wide variety of technical news including Optics: https://phys.org/physics-news/optics-photonics/

## Faceting Lessons available from:

- Boyd Fox https://www.foxhopjewelry.com/faceting-classes
- Dan Lynch: Contact at dlynchtngems@gmail.com
- Faceters Paradise: http://facetersparadise.com/
- John Bailey: https://facetingacademy.com/
- Justin K Prim: https://www.facetingapprentice.com/
- King Custom Cut Gemstones: https://www.facebook.com/kingscustomcutgemstoness
- Mark Oros: https://www.hashnustones.com/learn-to-facet.html
- Oak & Stone School of American Gemcutting: https://www.oakandstoneschool.com
- Randy Carlson, Huntsville Texas rlcarlson01@gmail.com
- Ron Snelling, Denver Colorado ron.snelling22@icloud.com
- Tom Mitchell: http://www.mitchelljewelrystudio.com

## Software for Gemstone Design

- Gem Cut Studio: https://gemcutstudio.com/
- GemCad and GemRay: https://www.gemcad.com/

## Facet Rough*

- Dan Lynch Gems: http://DanLynchGems.com/
- Intimate Gems: https://www.facebook.com/minedirect/
- Jeffrey Hill: https://silverhillrockshop.com/collections/facet-rough
- Joe Henley Rough: https://joehenleyrough.com/
- John Garsow: https://johngarsow.com/
- RG Crystals: https://store.rgcrystals.com/
- Milstead Gemstones: https://www.milsteadgemstones.com/
- Mine Direct: www.minedirect.com
- New Era Gems: https://www.neweragems.com/
- Storied Gemstones: http://www.storiedgemstones.com/
- Tom Schneider: https://tmsgems.com/
- Unlimited Gems: https://www.unlimited-gems.com/
- Hashnu Stones & Gems: https://www.hashnustones.com
- Creative Gems – Warren Harris: http://creativegems.com/

## Diagrams

- Gemology project: https://www.gemologyproject.com/wiki/index.php?title=Faceting_Designs
- Facet Diagrams: https://www.facetdiagrams.org/
- USFG: https://usfacetersguild.org/faceting-diagrams/
- A few of Tom Herbst's designs: http://www.boghome.com/TomsPages/MyDesigns/index.html

## Lapidary Supplies*

- Gearloose, LLC: Faceting Laps and Services: https://gearloose.co/
- Kingsley North: https://kingsleynorth.com/books.html
- The Rock Peddler (One can purchase Jeff Graham's designs here): https://www.rockpeddler.com/
- Sunstone Japan: https://sunstonejapan.com/tools-other/
- Wood Lap LLC: https://woodlapllc.com/
- Hyper-Edge: https://hyper-edge.com/
- Lightning Lap: https://lightninglap.com/

## Lap Resurfacing

- Allan Lindberg: able2allan@gmail.com
- Garrett Simard garretts@impulsegems.com
- Facetron https://facetron.com/product/lap-resurfacing/

*USFG does not receive any renumeration from these vendors. They are listed as potential resources for things you may need, based on the experience of some of our members. As with any purchase however, you assume all risk. There is no warranty implied. All resources are listed in alphabetic order.*

*If you would like a link to be considered for inclusion in this list, please send it to editor@usfacetersguild.org.*

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## Member Dues, Application & Renewal

Please help us grow by encouraging your fellow faceters to join the USFG. Membership dues are an incredibly reasonable $24 per year (USD) and are be paid via PayPal or a check made out to the USFG Treasurer.

- New Members – Become a new member by going to: https:// usfacetersguild. org/become-a-member. Once there, if you prefer not to use PayPal, you may scroll down the page and print a membership form, enclose a check, and send it to our Treasurer at the address listed. The advantage to using PayPal is instant access to the member sections of our website.
- Renewing Members – Using your email or user ID and password, login to our website. Your membership expiration date and the renewal button can be found at the My Account/Subscriptions page. You will receive an email reminder to renew one week before your membership expires.

Please be sure to keep your email current. Email changes are especially important—that is our primary means of contacting our members.

Questions about your membership should be sent to: membership@usfacetersguild.org

## Newsletter Policy

The USFG Newsletter is published quarterly in March, June, September and December. It is available on the USFG website to all paid members of the Guild. A notice will be posted to the website when the newsletter is uploaded.

Submissions or correspondence concerning content should be sent to the editor at editor@usfacetersguild.org

We are always looking for new ideas and contributions. If you would like to make a suggestion or submit an article for publication, please e-mail the editor. Just remember, we are ALL volunteers, so to allow sufficient time articles should be submitted 30 days prior to publication dates if possible.

Share your knowledge with your fellow members! We are all here to learn!

On the following page are format descriptions for contributions for use by the USFG in all articles and publications that are desired for use by the USFG.

Specific text for protection of the USFG and other organizations sharing the information from the USFG in their publications:

*The USFG welcomes and encourages contributions to its newsletter and other published documents. We are always looking for interesting and new contributions to share. Any contributions from other published sources must be acknowledged by a declaration to the USFG that specific permission is granted from the authors to use their material. The information written by USFG member contributors is copywritten by the USFG but is released to the public.*

*Contributions should be submitted electronically to* editor@usfacetersguild.org.

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# Officers, Board of Directors and Staff

Elections were held in January 2024, at our Annual Membership Meeting, for new Officers and Board Members. Two year positions are Secretary, Treasurer and three Board Members.

## Officers

President: Doug Augspurger

Vice President: Cari Fifield

Secretary: Josef Weiss

Treasurer: Dan Lynch

## Board of Directors

David Smith

Michael Holmes

Jason Delk

John Campbell

Randy Carlson

Tom Mitchell

Barbara Yost

Ron Snelling

Paul Armbruster

## Appointed Staff

Historian: Jeff Theesfeld

Editor: Michael Holmes

Web Master: Noah Trapper

SSC Judge: John Lee

SSC Judge: Casey Trump

SSC Judge: Dan Lynch

SSC Judge: Tom Mitchell

SSC Judge: Daniel Hu

SSC Judge: Pavane Liu

Stone Handler: Kyra Fifield

Museum Project: Don Price

Franklin NC Chair: Cari Fifield

Tucson Chair: David Smith

## USFG Lifetime Members

John Bayer

William Wilkie

Dr. Vincent Bishop

John Cassity

Juris Peterson

Cal Thomas

Everett G. Brake

Jenny Clark

Jerry Newman

Jack B. Lewis

John Maine

Verner Tovrea

Ralph Mathewson

Jack Gross

Richard Golden

Brian Maxwell

James Clarke

Robert Long

Jean A. Marr

Al Balmer

Dennis Anderson

Henry Isern