

THE MIDWEST FACETER



The Official Newsletter of the Midwest Faceter's Guild
March 2026

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On the Front Cover:

Laura Acosta cut this blue Spinel without a cutting diagram. It was inspired by Boyd Fox style and by the "Heart in a Heart" of Robert H. Long. The stone is 21 x 19 x 12.5 mm, and 32.05 ct.



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About the Guild

The Guild began in 1979. Its missions are to promote faceting education and recreation.

Developing the art of faceting is its most important responsibility. The Guild also creates an environment of shared information related to faceting via meetings for those of like interests and encourages the achievement of individuals.



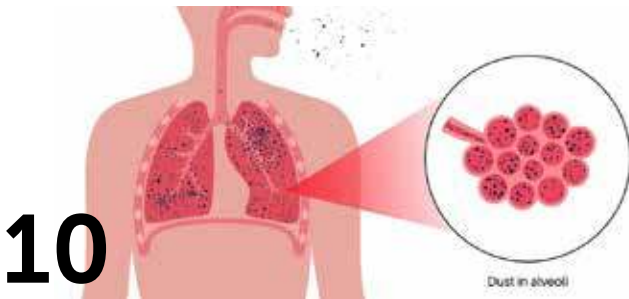
The Midwest Faceter Features

A Cut Above



We love receiving photos from Guild members showcasing gemstones they've recently cut! Each submission is a testament to the remarkable talent within our Guild. Don't be shy—send your latest masterpiece to the Editor and let us celebrate your craftsmanship together.

Cough: Hazards of Faceting?



Faceting may not seem hazardous, but a few cautionary tips are worth considering. Curious about the unexpected risks—like a persistent cough? Read on to see what can happen and how to stay safe.

Twisted and Not Quite Right



Graham Sherar and Tony Collins strike again, sharing unusual and intriguing cutting patterns.

Feeling adventurous? You may find it both fun and rewarding to try one of their designs on your next stone!

Interview: Justin Prim



Justin Prim has made outstanding contributions to the faceting world, creating 470 instructional videos since 2016. In this exclusive interview, Justin takes us on a journey from his early interest in faceting to authoring two books, exploring the history of faceting machines, and even founding a faceting school and museum in France. His story is captivating—you won't want to miss it!

A Paradigm Shift



Graham Sherer brings another insightful article to The Midwest Faceter, detailing the restoration of an older Australian-manufactured faceting machine. He shares his step-by-step process, which can be adapted to machines right here in the U.S. Whether you love tinkering or treasure history, this article offers inspiration and practical advice.

President's Message

By Chester Kiernicki



Image created by Microsoft Copilot

It's almost March and we have survived a really cold stretch of weather. Spring is not too far away, hopefully. I managed to start cutting 3 stones, finished 2 and one is wandering around the floor of my work area. It decided that I was too mean to it and popped off the dop. Silly sapphire!

While searching for the sapphire, I ran across a note that said it's that time of year to renew my Guild membership. Our membership is a calendar year membership, from January 1st to December 31st 2026. It's \$20 for an individual and \$30 for a family membership. You get a lot for the small membership fee.

To those of you who have renewed your membership already, a big thank you. I appreciate your commitment to the Guild. For those members who are procrastinating renewing please consider renewing today. You can do it online on our website, <https://midwestfaceters.org/join-or-renew-membership>. Scroll down a bit

and you will see a section that says:

Yes, we still take renewals through the USPS mail system. Download the form and send it in with a check.

Why should you renew? These are still great reasons. Here's what you will have access to:

- Zoom Workshops with guest speakers that are leaders and movers in our hobby.
- Access to our private section of our website.
- Access to our Resources page. Guild members who are volunteering their time and knowledge in answering questions about almost anything faceting related. Our Resource page also has information on joining a Discord faceting group hosted by Michael Holmes.
- Our Quarterly Guild newsletter, *The Midwest Faceter*.
- Our Newsletters archive.
- Technical manuals library (we are looking to expand our collection)
- Our Annual Faceting Seminar.
- Members have priority in registering for the Intermediate Session.

Here's your call to action: Renew today!

Sincerely,

Chester Kiernicki

President Midwest Faceter's Guild

ckiernicki@midwestfaceters.org

Editor's Gem

By Dr. Reg Williams



Image created by Microsoft Copilot

I can hardly believe I've been Editor of *The Midwest Faceter* for seven years—time really does fly when you're having fun! Producing the newsletter has been a rewarding experience, though admittedly, it's also a demanding one. As soon as I finish and publish an issue, I immediately start on the next. It's a continuous cycle that leaves little room for pause. One thing I noticed is that I don't receive much feedback from members, so it has gotten me thinking. It is always dangerous when I get thinking! This has led me to reflect on the role and future of our Newsletter.

Many faceting guilds and rockhound clubs have a newsletter they put out monthly or quarterly, such as ours. However, with the rise of social media platforms, Discord, and other communication tools, I find myself wondering:

- Has the traditional newsletter run its course?
- Would you prefer updates through social media or digital platforms (like Discord), instead of –

or in addition to—the newsletter?

- Do you read *The Midwest Faceter*, or when you get it in your e-mail, you just delete it? (Hint: if you just delete it then you won't see these questions!)
- What types of articles or content do you most enjoy? What would you like to see more (or less) of?
- Are there features (like the Jokes page or interviews) you especially like or dislike?
- Does the format of the newsletter (it is done in Adobe InDesign) appeal to you?
- Should the newsletter contain different information that it has not included before?
- Any other comments, suggestions, or concerns?

I could ask additional questions, but you get the idea. Would you please just take a few moments to email me (rawill@umich.edu) your thoughts—on any or all of these questions? Your feedback will be shared with the Guild's Board (anonymously), and it will help us make *The Midwest Faceter* as valuable and enjoyable as possible.

Chester, the President of the Guild, has offered to send a piece of rough CZ to any members that respond to this request for feedback. So, do respond and cut away!

Special thanks to Michael Holmes (Adobe InDesign expert), Caroline Peterson, and Cristine Grimm (proofreading gems!)

May all your facets sparkle!

Dr. Reg

"If cats could text you back, they would not."

--*Unknown*

Membership Chair Connection

By Chester Kiernicki



Image created by Microsoft Copilot

What a start to the New Year! Record cold across the U.S., snow in places where snow is a myth. Lizards falling out of trees, Yikes! But Spring is not far off, and a sure sign of Spring is the Tucson Gem Show. We had Guild members at the Quartzite show. Check out our Facebook page to see some of the pictures.

Closer to home, registration for the Annual Seminar kicked off on January 15th, earlier than usual due to the high level of interest, and within a few hours we had 4 registrations. By the end of February, we have 13 registrations for the Beginner's class and 3 for the Intermediate session. This year's Seminar will be another sell out by the looks of it. We had very positive feedback from all the participants. Check out our website and see the video review one of beginner students sent us:

<https://midwestfaceters.org/seminar>

<https://www.youtube.com/watch?v=TVsE0NZ9Mtc> (direct link)

Any Guild member that is interested in experiencing the excitement of the annual Seminar, consider becoming an instructor or just stopping in and volunteering for a few hours. We will be sending out an email with additional information in March.

Our Education Committee is working on lining up guest speakers for our Zoom workshops. We have a speaker lined up already for March! We're just working out the details and date. How can you help the Guild out with the workshops? Do you know someone in the hobby? Do they have an interesting skill or talent? Consider asking them if they would be interested in sharing their talents with like-minded faceters. Reach out to me or any of the Guild officers, and we can assist with closing the deal.

Something else that we as a Guild are seeing is an interest in local meet ups. We have a group in Ann Arbor, MI that meets about once a month and talks all things faceting. In the Chicago area, we had a meet up with five local Guild members who came together, and then a follow up Meet Up with several additional folks meeting at a local restaurant. There's talk of a full blown Meetpoint Meet Up in the works. More details to follow.

If you are interested in starting a local group, send an email to ckiernicki@midwestfaceters.org and I can provide you with a list of members in your general area.

Speaking of members, it's that time of year again. Our annual membership drive is going on. Midwest Faceter's Guild membership is from January 1st to December 31st, one calendar year. Please visit the website at: <https://midwestfaceters.org/join-or-renew-membership/> and renew your

membership. It's \$20 for an individual and \$30 for a family membership. Your membership fee has a ton of benefits. Access to talented individuals that share their experience answering questions about a variety of things. From refining your polishing technique to machine maintenance, to anything to do with the hobby and beyond, to getting this great newsletter, to having a shoulder to cry on when you've popped your almost finished stone for the third time. Yes, it happens to the best of us.

I've been a member of the Midwest Faceter's Guild for a long time, and I still think this is one of the best memberships I have.

Again, I've mentioned this before and I'll mention it again. This is Our Guild, not my Guild, not his Guild, not her Guild, "OUR Guild." Thank you to the Guild members that have already volunteered to help with the many jobs that we have. If you have a talent or skill that you've spent time in developing, please consider reaching out. Let's talk! Don't be bashful!

Sincerely,
Chester Kiernicki
President and Membership Chair
Midwest Faceter's Guild

"You have to set goals that are almost out of reach. If you set a goal that is attainable without much work or thought you are stuck with something below your true talent and potential."

--Steve Garvey

Membership

Welcome to these new members!

Stephen Shimatzki

Stephen resides in Woodville, OH and has an older Ultra Tec V2 he acquired from an estate sale. He said, "I have been cutting/cabbing rocks for years (2020-2021?). I got an old Utra Tec a few years back but have been afraid to cut. I had to replace the bowl and cone because the rubber had gone 'bad' from it sitting so long, but it works great. So now I'm trying to learn it. I have access to a fair amount of beryl material so I mostly will be learning while trying to facet Aquamarine, morganite, heliodor, etc."

Scott Medlin

Scott is from Homer, IL and has an Ultra Tec V2 and a Facetron. He said that he is "new to faceting."

Phyllis Cox

Phyllis is from Westmont, IL. She and her husband have already signed up for the Annual Seminar in August as beginners. She did not indicated if she had a faceting machine but stated, "I am an artist who has recently retired."

Ron Shelling

Ron lives in Broomfield, Colorado and has all the Ultra Tec machines! He also uses GCS. Ron said, "I live in the Denver area, an Ultra Tec rep for Colorado, and I run a faceting school." He serves on the Board of the United State Faceting Guild.

Don Pentico

Don is a faceter from Fowlerville, MI and owns a Sapphire, Frankenstein, and Facetron faceting machine. He uses both GemCad and Gem Cut Studio. Don said, "I have been in lapidary for 30 plus years as a cutter of opal and cabs."

"Gratitude is not only the greatest of virtues, but the parent of all others."

--Cicero

"Be yourself; everyone else is already taken."

--Oscar Wilde

Answer key for the Puzzle on page 35:

Sapphire, Tourmaline, Rock Opal, Fluorite, Sunstone, topaz, Kunzite, Citrine. Hidden word is HEURISTIC (involves learning, discovery, or problem-solving by experimental and expecially trial-and-error methods).

A Cut Above

Daniel Peisach

Dan cut this lab grown ruby using Will Cunningham's old mine cut design he did in GCS.



Created ruby, 10.5 mm, 7.5 ct.

Maria Riolo

Maria cut this quartz a few years ago. She is not sure the carat weight since her "kitchen scale needs a new battery!"



Quartz Portuguese Cut, 19 mm

Jonathon Raffensperger

This is the very first stone that Jon cut on his new Ultra Tec VL. The stone is the Gem 101 cutting diagram from Tom Herbst's book.



Nanosital, 8.48 mm, 2.55 ct.

Jon didn't stop there! He faceted his second stone by challenging himself with a Portuguese cut.



Portuguese YAG, 41.3 mm, 17.95 ct.

Will Cunningham

Will faceted this sapphire using the cutting diagram by Andrew Brown called Trisparkle 12.



Madagascar sapphire, 5 mm, 0.71 ct.

Danny Stern

This is Danny's sapphire using Arya Akhavan's Tessellation 18 (A).



Aquamarine Czochralski pulled sapphire, 10.5 mm, 6.36 ct.

Dr. Reg

While busy with *The Midwest Faceter* newsletter, he took time to facet this Spinel using Arya Akhavan's Aperture Science. He placed concave cuts using the Ultra Tec Fantasy Machine where P3 would have been placed.



Spinel, 8.01x10.94 mm, 4.46 ct.

In addition, he made a marble maze with his 3D printer for his nephew, so he bought some marbles for the toy from Amazon, possibly borosilicate glass. Curiosity got the better of him and he cut a glass marble just to test the cut using Light House

by Jeff Graham. Amazing, the glass marble did not get chips while cutting, polished quickly, and came in three colors: green, blue, and clear. This is a nice way of testing a particular never-tried-before cutting pattern. It can save the anguish of cutting an expensive piece of rough to find the pattern does not work well. Been there, done that!



Glass (Borosilicate?) Marble, 9.55 mm, 3.83 ct.

Thomas Prangley

Thomas just finished this round brilliant and sent it in before the newsletter went to press!



CZ, 10 mm, 6.5 ct.

Cough: Hazards of Faceting?

By Dr. Reg Williams

Is Faceting a Hazardous Hobby?

When we think about faceting gemstones, we rarely consider it a hazardous pastime. But is it truly risk-free? The major health hazard in faceting comes from dust—through inhalation, ingestion, eye exposure, and skin irritation.

Understanding Dust Exposure

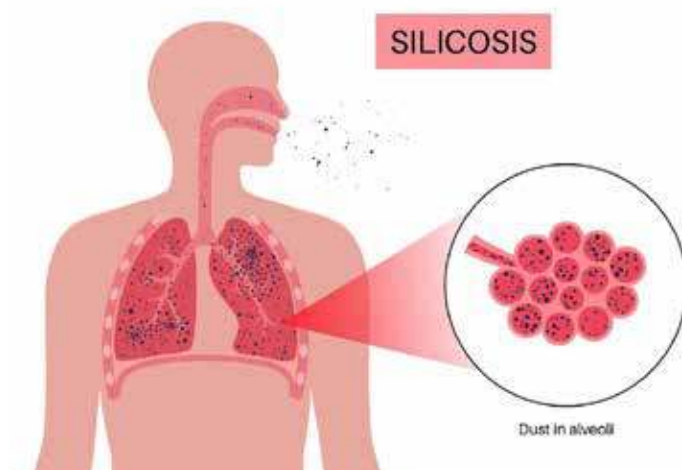
Dust generated during faceting is typically measured in microns (1 micron = 0.001 mm or 0.00003937 inches). The size of quartz dust, for example, depends on the diamond grit used on faceting laps, which can range from less than a micron up to 20 microns. Most commonly, laps use grit in the 8-to-10-micron range (International Gem Society). **One significant hazard from dust exposure is silicosis.**

Silicosis: A Hidden Danger

Many of my uncles worked in coal mines and developed silicosis, often referred to as “Black Lung Disease.” I remember, as a child, going with my aunt to pick up my uncle after his shift. He would emerge with his face and hands completely black; only the whites of his eyes stood out. If you’ve ever heard Tennessee Ernie Ford’s “Sixteen Tons,” its lyrics touch on the hardships miners faced—“You load sixteen tons, what do you get? Another day older and deeper in debt... I owe my soul to the company store.” The song didn’t exaggerate: for years, mine bosses neglected worker safety, leaving miners exposed to coal dust as fine as face powder. Many developed emphysema from silicosis as a result.

According to the Cleveland Clinic, silicosis is an interstitial lung disease caused by inhaling tiny silicon dioxide (silica) particles. These particles damage immune cells in the alveolar macrophages—the tiny air sacs in the lungs.

Symptoms are usually not apparent immediately and may take up to 10 years of repeated exposure to emerge.



Picture from [Lens.monash.edu](https://lens.monash.edu)

Unfortunately, silicosis cannot be reversed or cured. Main symptoms include:

1. Persistent cough, often with phlegm
2. Inflammation of lung tissue
3. Scarring of lung tissue (pulmonary fibrosis)
4. Long-term effects of silicosis
5. People with silicosis are at increased risk for:
 - Autoimmune diseases (such as scleroderma, rheumatoid arthritis, and lupus)
 - Chronic bronchitis
 - Chronic kidney disease
 - Lung cancer
 - Tuberculosis and other lung infections

There is no cure for silicosis, but it’s highly recommended to quit smoking, vaping, and using tobacco products, as these worsen lung damage.

Other Faceting Hazards

Another less common hazard is cutting radioactive gemstones. Most gemstones are not radioactive, but if you encounter one, either

avoid cutting it or take all necessary precautions. Consult reliable sources for data on gemstone radioactivity before proceeding.

What Can Faceters Do to Stay Safe?

Reading about medical hazards can cause undue anxiety, but most hobbyist faceters are at low risk if sensible precautions are followed:

- Work in a well-ventilated area.
- Use a steady drip of water while cutting to minimize dust and fumes.
- Never facet on a dry diamond lap; this creates airborne dust.
- Consider wearing an N95 protective mask: These mask filter out 95% of particles larger than 0.3 microns.
- Wear nitrile disposable gloves to protect your skin from chemicals and abrasives.



N95 masks can be purchased from Amazon.com, a box of 25 masks for approximately \$25.



Nitrile disposable gloves can be purchased from Amazon.com or HarborFreight.com

Conclusion

Fortunately, most gemstone faceters do not develop silicosis. Just as we don't worry about developing silicosis from a day at the beach—despite silica being a main component of sand—faceting isn't high-risk when proper precautions are taken. I hope this article sheds some light on the potential hazards and encourages you to facet safely and confidently.

May all your facets sparkle!

Twisted and Not Quite Right

By Graham Sherar and Tony Collins

“My mind isn’t twisted, it’s just strategically bent in several places.” – Unknown

Not long after I started faceting, a family friend asked me to look at a piece of rough she had found during a trip away to see if it would be worth faceting; it was a light-colored Citrine the bulk of which was very flawed aside from a pointed tip at one end of the piece.

The entire piece weighed 153 Carats and when I removed the eye clean tip it weighed 31 Carats. When removed from the bulk of the piece I noticed that the eye-clean piece of rough had lost some of its color.

I offered to facet the piece for our long-time friend and searched for a suitable design to highlight the light color of the piece and to achieve maximum yield from the piece. I settled on Marco Voltolini’s “TROTOLA.”

This design has a spiral crown design, which is said to enhance and darken the color of lighter materials. The square Barion design also suited the shape of my rough.

In his Discussion Notes, Voltolini describes the design as follows:

“This is a simple square Barion design. I’ve been enjoying and cutting a design like this but with a conventional step crown, and performing especially for small stones. Then I got bored and I wanted something different so I thought about a simple crown, with a few facets, but a little different from what you can usually find around. So this design was born. I test-cut the “Trottola” on a fluorite piece, using 45 degree mains to account for the very low RI. I like the results, there’s a nice reflections pattern, and now I’m ready to cut this again; I see a good potential for

my small and “short” tourmaline crystals with a light color. Or an amethyst matched pair...

Just pay attention to the E tier, if you are not very precise in cutting the previous facets you’ll need to slightly change the angle to get perfect meets. This is also why I left this tier as last, except for the table, in the cutting sequence.”

TROTOLA has been used as a design for Australian competitions in the past, usually in the Novice category, so it’s not considered a difficult design to cut.

I dopped the stone and set to work. The pavilion was straightforward, but I found the crown a bit different from the more conventional designs which I had cut previously. It was a bit of a challenge at the time. However, I took my time with the crown angles and table and finished the stone.

When I showed my wife, Heather, the finished stone she commented that the crown “is twisted.” She grabbed the design sheet in an effort to discover where I had made my mistake with the cut!

I told her there was no mistake, it’s supposed to be like that! TROTOLA offended Heather’s sense of order! She examined it more closely in the natural light coming through a window. When she tilted the stone from left to right and top to bottom, it sparked and appeared darker than the rough it was produced from suggested. The concept started to appeal to Heather in the daylight accompanied by my explanation of Marco Voltolini’s rationale for the spiral facets/design.

“The law is like rope..... useful, necessary, strong, but it can be bent and twisted into all kinds of shapes depending on the occasion.” – W. P. Kinsella

For our friend, it became a special stone. It was

presented to her for her 60th birthday. The stone has become a very special and much valued 60th birthday present and a souvenir of the place where she found the rough piece. She has since had the cut stone mounted in a bespoke gold ring setting.

Designs, like TROTTOLA, have rotated facets on the crown only, whilst others have the facets on the pavilion and crown rotated. Voltolini is not alone in the production of these designs.

The diagram for Marco Voltolini's "TROTTOLA" for quartz (R.I. 1.540) is attached to this Edition of *The Midwest Faceter*.

If you decide to have a go at cutting this design, don't be surprised if the facets on your stone rotate in the opposite direction to those in the diagram. Some machines will do this! The direction of the spiral does not change the qualities and features of the finished stone; the spirals just rotate in the opposite direction!

"It's strange how memory gets twisted and pulled like taffy in its retelling, how a single event can mean something different to everyone present."

--Lisa Unger

I asked Tony Collins, designer and faceter, for his thoughts on Twisted and Not Quite Right (NQR) Designs, and he offered the following comments:

"Hi Graham,

I have a lot of twisted designs, in various meanings of the word "twisted."

Twisted designs are common and vary from the simple like Voltolini's Trottola, to Arya Akhavan's Tumbling Star to extremes like my NQR series; my NQR Round design is included in this Edition of *The Midwest Faceter*.



Tony Collins' NQR Round Design cut in CZ.

Anyway, the twist is done for several reasons:

1. To give a twirl to the design, because it looks good.
2. To increase sparkle.
3. To create a more challenging to cut.

The first reason is that there are many twisted designs out there. The 'Pinwheel' name is quite common. There are simple ones in rounds, but also in briolette, tablet, triangular, hexagonal and pentagonal designs, etc.

The second reason, sparkle, is the result of the rotated facets causing the light rays to bounce off in different directions than just the normal 'in, bounce across, bounce out'. It becomes 'in, bounce off to the twist direction, bounce off in another direction then out'. This can generate what I call 'quasi-randomness', flashes of sparkle that look randomly generated. The arrangement of the facets causes this random sparkle. The twist makes the bounces three directional, rather than two directional bounces like you see in a plain step design or even numbered symmetry. This causes the quasi-randomness. This is also why sometimes we have mixed symmetry in some designs. For example, threefold on the pavilion, or fourfold on the crown, has the same effect of increasing sparkle.

Alternatively - Increasing the complexity and/

or the number of facets can achieve the same effect. An example of this is my “Ass Kicking Circle” design which is included in this edition of *The Midwest Faceter*.

The 3rd reason --Challenging-- this is related to complexity, but also the mind-bending caused by the twisting, and in my case, pure evil. It is related to the issue your wife Heather had with Trottola. My NQR series is based on the twisting, but the facet pattern also causes the eye to be misled.

You want to turn the design to make it seem “straight”, but that will not happen because of the twisting of the facets, and in my case twisting of the facet meetpoints. The “NQR Round” design attached to this edition of *The Midwest Faceter* is an extreme example.

This also causes more “quasi-randomness” due to the increased bounces and their direction. My “Ass Kicking Circle” design also has an abundance of this feature in the crown, even though it is just twisted facets.

Both complexity and quasi-randomness also increase the light path lengths, which can cause the finished stone to appear darker than the piece of rough it was derived from (as you mentioned above, Graham).

Graham, you also mentioned the twist direction/index direction thing above. What I call the “Handedness”. That subject confuses people easily; they get confused when they start cutting the spirals and they are rotating in the opposite direction from the spirals illustrated on the design sheet. It is basically due to the index wheel numbers going one way, and the design software going the other way. The cutter needs to have faith and keep cutting, it will

turn out OK in the end! It just rotates in the opposite direction than the way it is illustrated on the design sheet.

The “Handedness” doesn’t matter, unless it is a competition design; if the design is associated with a competition, check the conditions within the Competition Schedule, they will often state that the direction of rotation doesn’t matter as they are aware of the “Handedness” issue with these designs and our machines. It’s a quirky feature of most machines.

That’s a quick look at the subject.

Tony”

Happy faceting!

Graham Sherar & Tony Collins

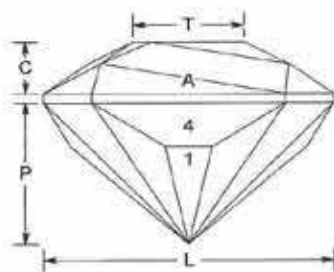
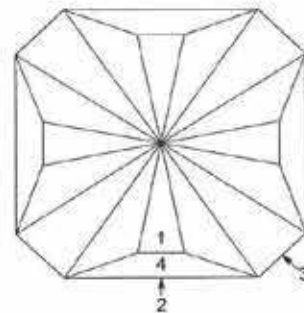
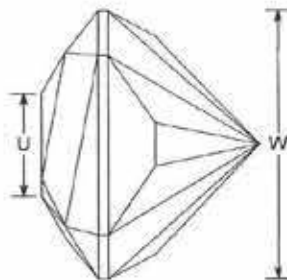
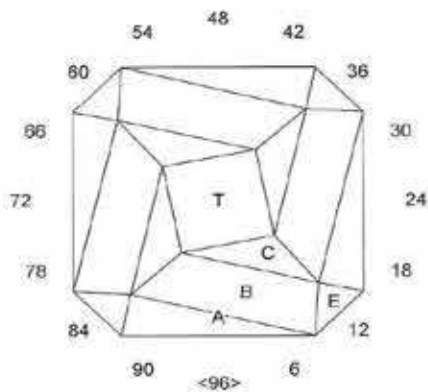
NOTE:

Tony currently has 22 designs on the www.gemologyproject.com Website.

Tony’s YouTube site can be found at: <https://www.youtube.com/TonysGemDesignswithGCS>

Tony recently wrote an article about the setting-up of Gem Cut Studio (GCS). The article will be of particular interest to faceters who are new to the program. Rej Poirier, the designer of GCS, has placed Tony’s article on the GCS Website at: <https://gemcutstudio.com/documentation/>

Tony’s designs have been featured in Newsletters and Competition Schedules for the Australian Faceters’ Guild (AFG), United Kingdom Faceters’ Guild (UKFG), Columbia-Willamette Faceters’ Guild (CWFG), Midwest Faceters’ Guild (MWFG), NE1 Faceters Newsletter (United Kingdom), and the United States Faceters’ Guild (USFG). G.S.



Trottole

Marco Voltolini

Angles for R.I. = 1.540

37 + 8 girdles = 45 facets

4-fold radial symmetry

96 index

$L/W = 1.000$ $T/W = 0.384$ $U/W = 0.384$

$P/W = 0.522$ $C/W = 0.195$

$Vol./W^3 = 0.312$

PAVILION

1	41.50°	96-06-12-18-24-30-36-42-48-54-60-66-72-78-84-90	Cut to centerpoint
2	90.00°	96-24-48-72	Set stone size
3	90.00°	12-36-60-84	
4	60.00°	96-24-48-72	

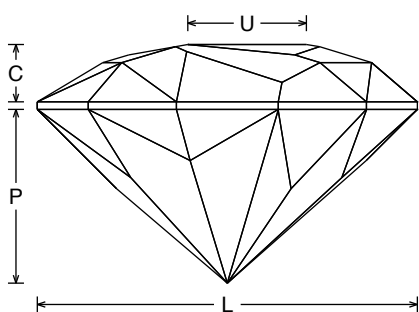
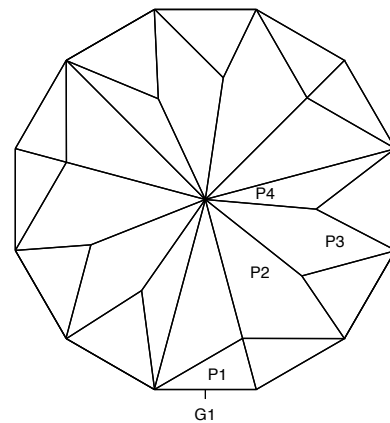
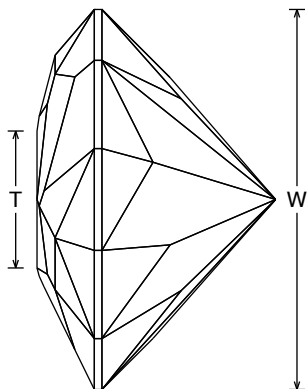
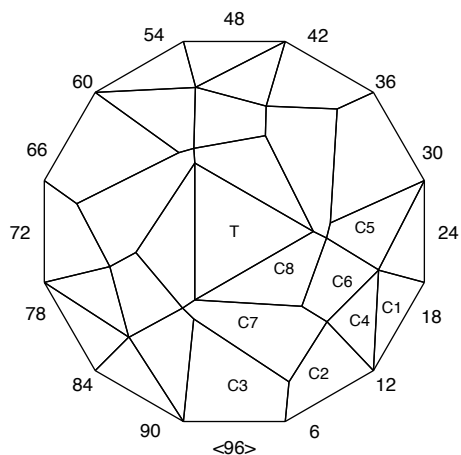
CROWN

A	36.19°	96-24-48-72	Set girdle thickness
B	30.00°	01-25-49-73	Meet girdle
C	22.13°	03-27-51-75	Meet A, B
E	40.72°	12-36-60-84	Meet A, B, C, girdle
T	0.00°	Table	Meet B, C

If you have been not too precise E tier will require a little angle adjustment.

An easy to cut square barion design a little different from the usual ones. Works on quartz, but should work well also with higher RI's.

C:\Users\Grash\Downloads\Trottole.gem



NQR Round

A, Collins VFG - August 2021

Means Not Quite Right.

Angles for R.I. = 1.610

52 + 12 girdles = 64 facets

96 index

$L/W = 1.000$ $T/W = 0.360$ $U/W = 0.312$

$P/W = 0.457$ $C/W = 0.151$

$Vol./W^3 = 0.210$

Pavilion

P1	45.00	96-08-16-24-32-40-48-56-64-72-80-88	TCP
G1	90.00	96-08-16-24-32-40-48-56-64-72-80-88	Set Size
P2	42.00	09-31-41-63-73-95	Set PCP and G1G1P1P1
P3	41.70	18-50-82	Meet PCP Meet G1G1
P4	41.50	27-59-91	Meet PCP Meet G1G1

Crown

C1	40.60	16-24-48-56-80-88	Level Girdle
C2	30.90	08-40-72	Level Girdle
C3	26.10	96-32-64	Level Girdle
C4	30.20	12-44-76	Meet G1G1 and C1C2
C5	26.00	31-63-95	Meet G1G1 and C1C3
C6	15.00	12-44-76	Meet C1C1C4C5
C7	21.00	03-35-67	Meet C2C4C6
C8	10.00	08-40-72	Meet C3C5C7
T	0.00	Table	

Works for quartz to CZ but better in higher RI

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Ass Kicking Circle r

A.Collins VFG - February 2022
Rounded

Facet Data

Pavilion facets	88	Pavilion tiers	11
Girdle facets	8	Girdle tiers	1
Crown facets	81	Crown tiers	10
Total facets	177	Total tiers	22

Size Data

L/W	1.000	P/W	0.491
T/W	0.000	C/W	0.172
U/W	0.000	H/W	0.683
V/W^3	0.259	P/C	2.853

Design Data

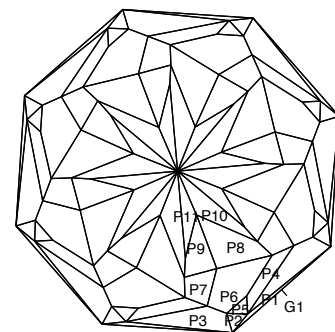
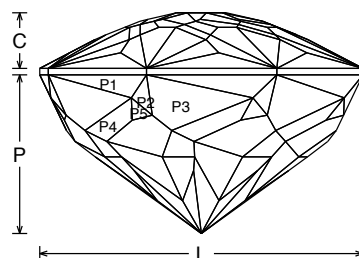
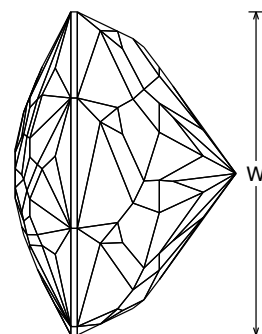
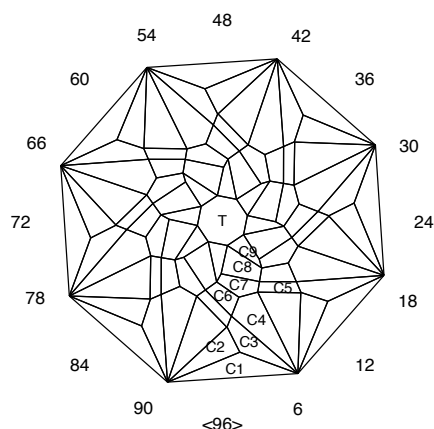
R.I. range	1.72 - 2.15
Symmetry	8-fold, radial
Index gear	96
Shape	Round

Comments

Good for Tanzanite and above

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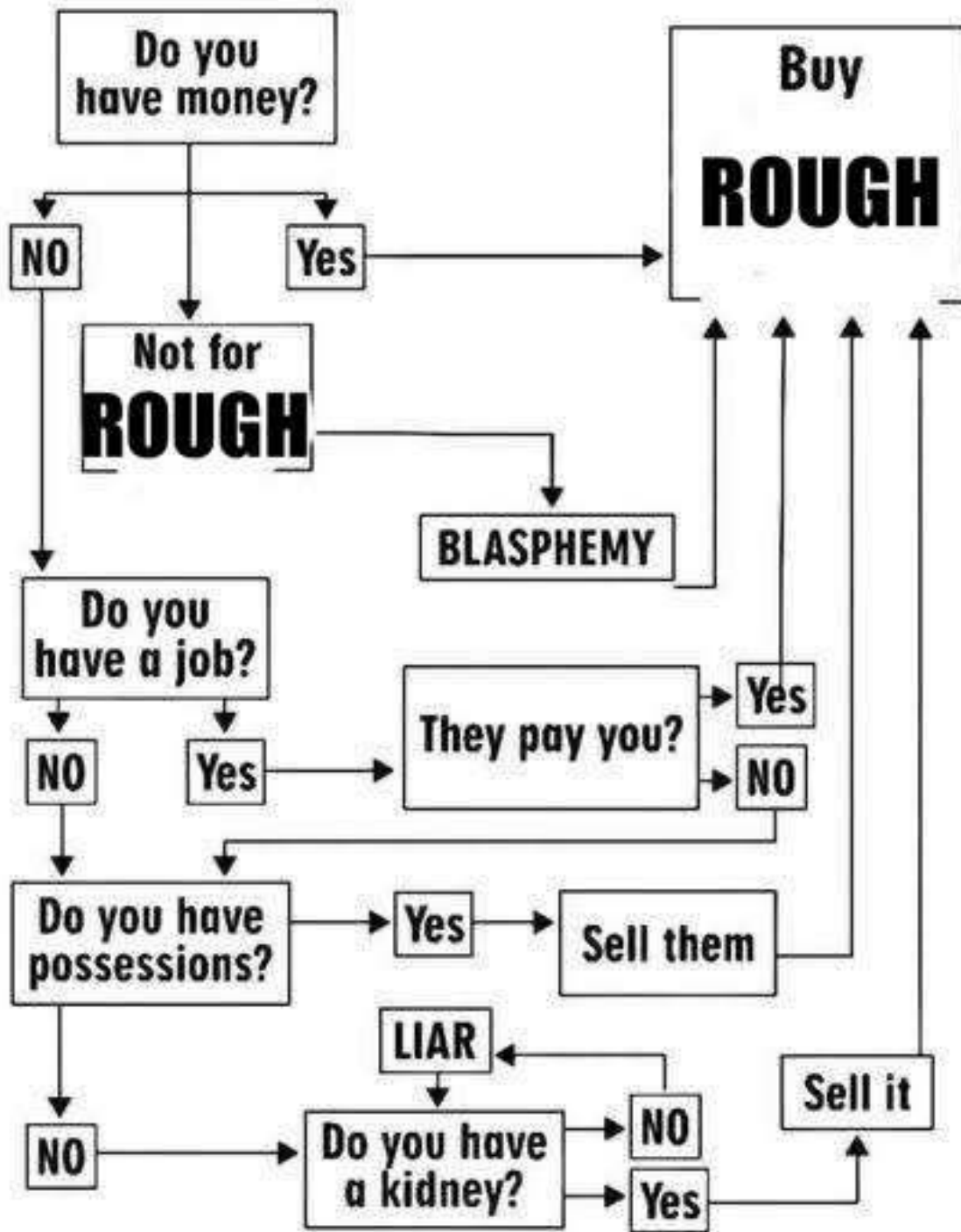
Pavilion

P1	80.00	11-23-35-47-59-71-83-95	Cut to even depth
G1	90.00	11-23-35-47-59-71-83-95	Cut to size
P2	63.50	06-18-30-42-54-66-78-90	Meet P1G1
P3	64.35	96-12-24-36-48-60-72-84	Meet P1P2G1
P4	57.30	11-23-35-47-59-71-83-95	Meet P1P2P3G1
P5	54.90	09-21-33-45-57-69-81-93	Meet P1P2P3P4
P6	43.60	08-20-32-44-56-68-80-92	Meet P2P3P5
P7	38.00	04-16-28-40-52-64-76-88	Meet P3P4P6
P8	38.00	09-21-33-45-57-69-81-93	Meet P4P6P7
P9	37.40	04-16-28-40-52-64-76-88	Meet P7P8 and P6P7
P10	36.00	11-23-35-47-59-71-83-95	Meet P7P8P9, PCP
P11	35.70	02-14-26-38-50-62-74-86	Meet PCP and P8P9

Crown

C1	31.85	01-13-25-37-49-61-73-85	Level Girdle
C2	27.55	96-12-24-36-48-60-72-84	Meet G1C1
C3	25.80	03-15-27-39-51-63-75-87	Meet G1C1
C4	24.75	04-10-16-22-28-34-40-46-52-58-64-70-76-82-88-94	Meet G1C2C3
C5	23.10	11-23-35-47-59-71-83-95	Meet C2C3C4
C6	21.70	96-12-24-36-48-60-72-84	Meet C3C4C5
C7	16.50	04-16-28-40-52-64-76-88	Meet C4C4C5
C8	14.70	05-17-29-41-53-65-77-89	Meet C5C6C7
C9	12.65	09-21-33-45-57-69-81-93	Meet C6C7C8
T	0.00	Table	Meet C8C9

Buy Rough?



Interview: Justin Prim



Photographs by Justin Prim

Tell us about yourself.

My name is Justin K. Prim. I grew up right outside of Chicago and I was, I guess, a science and rock lover ever since I was a little kid. I had a rock collection, probably one of my first collections I ever had, as an elementary school kid. My grandfather even built me a special chest with a tray that would hold my rock collection in it. I had a tumbler when I was a kid, but other than that, I didn't know anything about lapidary or gem cutting, I never saw it. I didn't know anything about the jewelry trade. In my high school and college era, I ditched the rocks and moved into rock and roll, and I forgot all about my childhood dream of being a scientist. I started with the bass guitar, but eventually played about everything on stage from guitar to keyboard and even sometime drums. I moved to Central Indiana for college. Through the world of rock and roll, I discovered a love of travel. Through most of my 20s, I traveled around, sometimes in a touring band and then later because I wanted to see the world and see other countries as well as other parts of America. Eventually, that led me to California. I moved to San Francisco when I was about 30, I think. When I moved West, I decided, "Okay, I've been doing music for 15 years as a serious, artistic pursuit, and I'm going to stop doing that now, because

I want to open up my time and creative energy to new avenues."

How did you get into faceting?

I don't know if it was a coincidence or not, but that was exactly the same year that I discovered the world of lapidary clubs and the art of the gem cutter. I had never seen it until I went to California. Then, because of someone that I worked with, I went to my first gem and mineral show, outside of San Francisco. When I saw the faceted stone, I wondered how it's possible that you could cut such tiny beautiful stones. I discovered that there were things called lapidary clubs. I was very lucky because there was a lapidary club just two blocks from my house in San Francisco. That's where my story really begins in the gem cutting world, The San Francisco Gem and Mineral Society.



Justin at the lapidary club

How did music and art shape your career?

I started studying graphic design in college. I wanted to be a web designer coming out of high

school, and then after a year of college, I was so deep into the world of rock and roll that I dropped out of school so that I could go to audio engineering school. I moved to Ohio for a summer and did audio engineering school. Afterward, I moved back to central Indiana. I was working in the music world, sometimes recording bands, sometimes I was in the bands, and pretty much until I was in my 30s, that's what I was doing every day. Every decision in my life was based around music. I took a part-time job so that I could go on tour, or I took a part-time job so that I had extra hours in the day to work on my music projects, band practice, or whatever. But, looking back now, as a teacher and a public speaker, I think that my experience in bands really shaped me. I was always the band manager, which has really helped me in my being a business owner. The audio engineering has really helped me as a video editor, because I make a lot of YouTube videos and online classes, and I'm editing all those videos. I was always a singer and used to being on stage and those are the same skills needed to give a talk about gem cutting history. All the skills from my rock and roll life have completely helped me. Plus, the creativity of the musician is now the creativity of the gem cutter, so it's all sort of in a line for me.



Public presentation

It's really funny how it seems that you've got so many choices ahead of you when you're young, or even as an older person, I was facing those choices at 30: Should I go to gemology school or should I go back to university? There are always so many choices, but, everything that you do compounds. Even now, I'm renovating this new school, but the only reason I know how to do this is because I helped an ex-girlfriend renovate a house in Scotland, and then later Victoria and I renovated our house in Bangkok. I never thought I was going to be a teacher when I was younger. It was never for me at all. I thought about historical studies when I was younger. You find yourself on a path, and you're have to acknowledge "Okay, this is my path. It's for a reason."

You have created many YouTube videos. How did this happen?

Even for me, that is crazy. The whole YouTube journey for me started during the pandemic. I had a small series that I had done before the pandemic called World of Faceting Machines. It was a small series of short videos about all the different types of faceting machines, because I had started collecting them. I hadn't thought about YouTube as a means of education, or even as a means of income, until the pandemic hit. Then I decided that I had the time to do this thing, and a lot of experience from teaching in the school for a few years, so I had a lot of different ideas for videos. We started to film a few videos for our old school, but that company wasn't mine, so the videos were on their YouTube channel. I got a little bit of experience shooting and editing videos during my time in Bangkok, and then once the pandemic hit, I just said, okay, let me just give it a go, and I'll see if this is worth the time that it takes, because it definitely takes a lot of time!

Some of the videos I have on YouTube are short, only a few minutes long. It maybe takes an hour total to shoot, edit, and upload them. But some of the historical ones are 20-30 minute long and

I need to travel to film them, plus edit, and also record other people for the story I'm trying to tell. Sometimes it takes days or weeks to shoot those videos. It's been really rewarding though, because I think so many people have been introduced to me through social media videos, whether it's YouTube or Instagram videos, and then, even if I don't make very much money directly from the videos, we have people that will end up buying our books, or becoming students, or doing one of our online classes. Plus, I do get some money from the YouTube ad revenue. It basically covers my software costs. It has been such a fun way of sharing what I've learned. Since 2016, I've done **470 videos**, which is hard for me to believe.

I've been on this historical research and teaching journey for more than 7 years, and I've been on the gem cutting journey now for 12 years. I'm accumulating so much information and knowledge that it would be impossible for me to sum it up and share it as one package. Through social media, I am able to share the things I've learned over weeks, months, and years. It's a digestible way that I can share what I'm learning and communicate the knowledge that I've been privileged to. I mean, of course we're doing books and articles, too, but there's no way I can write a book that will summarize the last 12 years. There's just too much.

Did historical research on gemstone faceting just become natural for you?

Well, I can pinpoint the moment when that started for me, because it started with a book, Glenn Klein's *Faceting History: Cutting Diamonds & Colored Stones*. I read that book, probably in the first year that I was learning to cut. I read it because I wanted to have some context for what I was doing. I'm going to say this with all respect to Glenn Klein, but it is not a very good book. It's like a Wikipedia article. It gets your appetite wet, and it got my appetite wet, but it left me with so many questions after reading it. Sadly, there

are no easy to find answers. If you want to read a faceting history book, Klein's book is the only one that there is. My historical research was originally just a way to try to answer the questions that I still had about how this art form evolved.



Justin's historical research in faceting machines

I was in Bangkok at that point, so I was already feeling like I had access to a bunch of information that the normal American gem cutters didn't have access to. The gem cutting factory world of Bangkok is still very mysterious to the world of the American lapidary. I decided, I would try to write a more complete faceting history book that would involve going to all the localities and writing a complete tale. I started that project 7 or 8 years ago. I haven't written the book yet, because there's so much research to do. I've started by writing articles. I did a very nice big article about the history of gem cutting in England, and I did one about the Czech Republic, and now I'm working on one about France, and the France article has already taken me 2 and a half years. The source material is all in French, so I must translate it into English to comprehend it. So far, my research file for what I want to be a 30-page history article is about 400 pages long, in a Word file. That's 400 pages of extracts from all the hundreds of historical documents that I've collected. France has a big, big story. It's one of the biggest faceting stories that there is, so it takes a long time. Hopefully, I can finally write the French article this year. Then there is the American faceting story. That one is big enough

to be its own book.

The next book I hope to write is the story of American gem cutting. It is so interesting. After the pandemic ended, Victoria and I bought a car and we traveled across America for a year. We went from Maine to Florida, to Chicago, to Seattle, to L.A., to Tucson, to Denver, and back to Chicago, like a big figure-eight around the whole country. We visited dozens and dozens of lapidary clubs, and mines, and gem cutters' offices, and museums. We interviewed people all along the way on video, and it's this huge project that I haven't had time to sit down and work on, because as soon as I finished that research, we moved to France, and now it's been over 2 years. In March, my collection of machines and books from America is going to arrive in France for the new museum that we're opening. For the first time, I'm going to have all of my reference and research material in one place. I am so excited to write the history of American gem cutting. I'm looking at the early history, like 1880 to 1940. How did it start? Nobody knows this history. It's never been written down but only exists in sentences in paragraphs spread across hundreds of documents that have been written over the last hundred years. It's like a puzzle that exists through time and I get to put it together. It's really rewarding.

To get back to your original question, it started with Glenn Klein, and then I just started this ball rolling, and it's never stopped rolling. I started going to France a lot because I married a French gem cutter named Victoria, who I met in Bangkok. She opened the door for me to France, because France is kind of hard when you don't speak French. It's not an easy place to uncover. The places where gem cutters were at is up in the mountains where no one speaks English. Without her, I could never have parsed the French story, but now that we live here, I've been able to dive deep and find old machines, old cutters, and interview a lot of people. Eventually it's going to be an awesome story. The story of Europe, that's

another book that I want to do after the story of America. Then if I still have energy after that, there's Asia. I don't know if I'll do that. There's a lot of languages that you must be able to read. That might be for another person that comes after me, but America and Europe, these are my big projects right now, and I'm 7 years into the research, and I'm getting close to the end, I think. Give me a couple more years, and I'll be regurgitating some of this narrative in book form.

Tell us a bit about your wife that you met in Thailand.

Her name's Victoria Raynaud. Let me give you a little backstory about her, because it's quite interesting. She started cutting professionally when she was 14 years old. She grew up next to an area of France that historically was a gem cutting region. One hundred years ago, the biggest gem cutting capital of the world was in France and it was up in the mountains, near Switzerland. Today, when you go up there, you won't really understand that the tradition used to be there, because it's mostly gone now, but there are a couple of really nice museums. In the wintertime, her family used to go up there for skiing, but she had also a childhood interest in rocks and minerals, and so they'd go to a rock shop that was also a museum about the local faceting tradition. She got to see gem cutters doing faceting demonstrations when she was 12 years old, and she was fascinated by the experience.

In France, when you're about to go to high school, it's a little bit different there than it is for us in America. They have the option of doing a trade or going to high school. Her mom was asking her what she wanted to do. She didn't know, and her mom suggested, "you were really interested in the gem cutting stuff. Should we look into that?" She said, "oh yeah definitely." Because they were so close to Switzerland, the closest place for her to go and do an apprenticeship was in Geneva. When she was 14, instead of going to high school,

she started working in a gem cutting factory, and then one day a week, she would go to, a kind of apprenticeship school program, so she could get an equivalent high school degree. She started cutting when she was 14 and has now been cutting for 19 years. For more than half of her life, she's been a gem cutter!

When I met her in Bangkok, she was working at GIA, in their research department, fabricating gemstones for them. She had worked in the Swiss cutting factory, and done her gemology training, and learned English, and then went back to the factory, and eventually found this opportunity to get this job in Bangkok when she was 21. I met some years later. I was applying to work in her department, because I knew her boss. She and I ended up hitting it off. We're both very like-minded, we're both gem cutters, we're both left-handed, we're both vegetarians, and we're both kind of into yoga and traveling. When we met each other, it was kind of just like, oh wow, another gem cutter! We got married a couple years later. Then after the pandemic ended, we decided that we didn't want to live in Bangkok anymore. So, we said, "Okay, should we move to America or France?" Moving to America as a foreigner is so complicated with the green card and everything. This was in between the two Trump presidencies, so immigration wasn't as hot of a topic as it is now, but it was already complicated, and it was really expensive. It was going to take years before she was able to legally work plus thousands of dollars. So, we said, "No, this is too much, we can't manage this financially. Let's move to France."

For me, France is difficult because of the language barrier, but in every other way, France is great. Their immigration policy has been very kind to me. They gave me a couple hundred hours of French classes for free, just to help me. I was easily able to open my own company. As far as being a gem cutter in France, we could not be in a better country. Paris is the epicenter of the entire world of jewelry. The closer we are to Paris,

the better it is for our business, and we're only two hours away.

When I first met Victoria, I was still very much a newbie faceter. I'd only been cutting for a couple of years and I wasn't very good yet. Victoria helped me to upgrade my skill set quickly. She had that apprenticeship training behind her, and because she had been taught properly, she knew how to teach me. So yeah, that's Victoria in a nutshell.

It seems you have lived in a few places. Can you take us on that journey?

I've not lived in too many countries, really. I've lived in the US, obviously. I lived in the UK for a couple of summers as I was doing my GIA gemology school, and then I moved to Bangkok to finish my gemology school. I stayed there for 7 years, and I've been in France for the last two and a half years. This summer in 2026, it will be my 10-year anniversary of leaving America, which blows my mind. Time really moves fast.

How did you become a faceting instructor?

I can also pinpoint almost the exact moment when I got the idea to do a gem cutting school. As I mentioned, I went to Bangkok to do my gemology training. In the lapidary club, I was getting good at doing cabs, and I was starting to do faceting. I just sort of realized, I don't really know anything about these stones. I'm cutting them, but I don't know what they are. I was doing it just as a hobby at that point. I knew that I needed gemology school, because I didn't know anything about gemology and it felt like a necessary next step. I eventually moved to Bangkok to do gemology school, because that was the cheapest place that I could do it. I knew that Bangkok was a gem cutting hub, and I thought they probably would have a gem cutting school in Bangkok. I figured that while I was doing my gemology classes, maybe I could learn gem cutting from Thai cutters on the nights and weekends.

I was so shocked when I got there to discover that such a school did not exist. Bangkok is humongous. I mean, Bangkok is bigger, exponentially bigger, than any American city. There are thousands of people there that are in the gem trade in one neighborhood, and I couldn't believe that there was no gem cutting schools. It seemed absurd that we're in one of the biggest gem cutting hubs in the world, and you couldn't learn how to cut there.



Finding a star sapphire at a Thai mine

After I finished gemology school, I needed to figure out what I was going to do in Bangkok. It came into my mind that there was a hole in the market, which is a gem cutting school. I thought there must be other people that want to learn cutting, too. I started to have the idea. I had met Victoria already by then, so I kind of knew that I had access to the knowledge that she had. Even though I wasn't the best cutter yet, I was good enough to teach the basics. I started to outline a course. I pitched that course to the gemology school in Bangkok, the Asian Institute of Gemological Sciences (AIGS), and they hired me with that idea in mind.

While we were building up the class, I started to teach gemology classes. There were so many questions I had to answer about my new class idea. What would it be like? How long would it need to be? What would the class projects be? These are the kind of key bullet points that you need to start writing a course. I planned the whole thing out; we would use hand piece machines, and it

would be two-weeks long, and that we would do four projects. I also did a survey of all the other gem cutting programs in the world. As part of my research, I wanted to see how much they cost and how long they run.

I pitched my outline to AIGS and they were very excited. They started making flyers, telling people about it, putting it on social media, and then I was like, "okay, guys, well, we need \$5,000 so we can get the machines, and we'll set it up in this room over here." Then they stopped getting excited about it, and they stopped putting it on social media, and my boss stopped talking to me about it, and I was like, "Hey what's going on?" Nobody would answer my emails. I then asked, "Is this about the \$5,000?" My boss was kind of like, yeah. "How are we going to make the class without the machines? It doesn't make any sense." \$5,000 is not very much for a 40-year-old school. Anyone can get an investment of \$5,000. You can get a loan for that. For whatever reason, that was a stopping point for them. That was when I had to quit. I didn't want to be a gemology teacher, and these guys weren't as serious as I thought they were.

It was so strange and fortuitous, because at that exact moment these other guys contacted Victoria about doing a gem cutting school in Bangkok, and she said, you guys need to talk to Justin, he's already trying to do this with another school. So right when I was getting disillusioned with the gemology school, these other guys approached me, and I pitched them my same class. I said, "Here's my idea." They said, "Okay, we're going to hire you, and you're going to make that for us," and so we built the school.

They helped me flesh out all the rest of what I needed to know about, what the class should be like, and they had their own ideas, too, because all three of those guys were gem traders and gem brokers. They had their own gem cutting factories and lots of cutting and trading experience. They

knew about cutting, they knew about dealing, and they knew about trading. We called the school the Institute of Gem Trading, because we thought it was going to be about the cutting business, as well as rough buying, CAD design, and the whole gamut of knowledge needed to become a gem trader or a gem buyer. The idea was that you could learn all the different skills at our school. It's a complementary school to gemology.



Teaching at the IGT

We wrote the faceting class, and it was very successful. I was very lucky in that way. I was working with my co-teacher, a Sri Lankan master cutter every day, which was an amazing opportunity, continuously learning the Sri Lankan technique from a seasoned professional. At night, I was getting training from Victoria, with the Swiss technique. These two influences helped me to become a competent professional cutter in just a couple of years, which is faster than most Americans have the chance to develop.



Justin with his Sri Lankan mentor

We ran that cutting school for 4 or so years. I was teaching class every month until the pandemic hit and that sort of crashed the whole project, because those guys ran out of money. After that, we switched to online classes during the lockdown, but then the school completely closed. Halfway through the pandemic, Victoria and I decided to start our own school, because we knew how to do it at that point. These guys had hired me to write and teach the faceting course, but I was essentially running the school. My bosses paid for my real-world education in running a gem cutting school. They did a lot of things wrong and the school eventually failed, and they paid for me to see them make their mistakes, so when it was time for me to open my school, I knew all the mistakes, and I also knew how not to repeat those mistakes. Luckily, we've had our school, Faceting Apprentice Institute, running now for about 5 years and it's going well.

We started very small, traveling around and doing classes in other people's spaces, and then eventually renting an office here in France. We also got invited to present the course in New York in a jewelry school called Brooklyn Metal Works and that turned into a twice a year thing. Now we've gotten big enough to rent a dedicated space for the school. We've never gotten out of control financially, which is what they did in Bangkok; trying to get too big too fast. I've done everything step-by-step with no loans, no credit cards, and everything safely. We haven't stumbled yet, fingers crossed. I just took on a lease last month. I think it's very safe because we know our financial trends now. It's very exciting. I've also got this huge collection of faceting machines so we're opening up a museum inside the school. We have 125 machines so far. That's crazy! It's going to be something that the world has not seen; a faceting museum mixed with a research center, a school, and a faceting video studio. It's my dream come true.

The whole experience in Bangkok allowed me to

discover that I love teaching. I love sharing the art of cutting. I love having an excuse to go around the world meeting gem cutters so that I can learn more, and so that I can teach my students more. Over the years, we've added new things to the course. As I've learned new techniques, I've incorporated them into the course, and when we opened our own school during the pandemic, I had a chance to redo everything. I rewrote the whole course, and I added a whole bunch of new knowledge that I had learned from my historical research.

Now the course has become this really cool experience, where you not only learn how to do gem cutting, but you also learn about the business aspects of gem cutting as well as some history. If you want to be a professional one-person studio, you can do that. If you want to be a gem buyer, there's enough information in the course to learn how to do that. We're presenting a lot about the business side of cutting, as well as a bit of the gemology side of it. We also teach about what the different cutting markets are, like the French cutting market, the Swiss cutting market, the Asian market; the actual cutting centers and what their specialties are. When people finish this two-week course, they can decide where they want to be in the trade, and we've given them a little taste of all the different directions they can take. Of course, where they come from plays a big part of it. If you're living in rural Missouri, the Swiss watch industry is probably not your direction unless you want to move to Switzerland! You at least know that specific markets exists, which is powerful.

Now that we have a full-time school space in France, we're starting to have all kinds of new ideas. Victoria and I are brainstorming for 2026 and what do we want to do. We'd love to have guest teachers come and teach other classes, like a gemology weekend workshop and a carving week. I'd love to teach a rough gems weekend workshop. I'd also like to do a gemstone photography class. There are a lot of things that we've never been

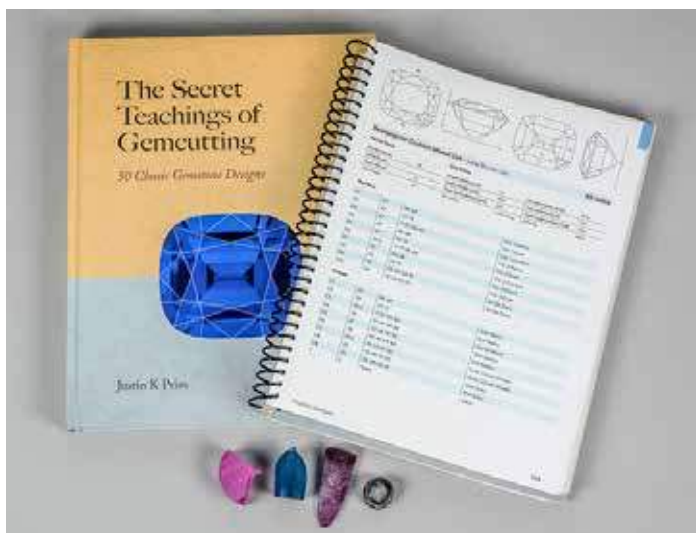
able to do, because you need space. We've never had the space. Now we have space and we plan to use it well.

For me, teaching has become even more important than cutting. When we moved to France, we decided that the gem cutting half of the business will be Victoria's half, because that's always been her thing, and the teaching part of it will be my half. If I get customers for cutting, I send them to her. If she gets customers who want to learn how to cut, she sends them to me. I still cut for customers, but mostly just emeralds now, because I love emeralds, and Victoria doesn't really like them. Also, if we get really big stones, something like a 200-carat stone, she doesn't like cutting them. Usually, I do the really big stones and emeralds, she does everything else. She likes doing really small stones, too, because that was the focus of her training for the Swiss watch industry, which is what she did in Geneva. She's trained to do tiny stones, so she loves doing small stones for watches and jewelry. That's her bread and butter. We make a good team. We don't conflict with each other. We try not to, at least.

Where do you see the next horizon for you and Victoria?

Well, that's a good question. Obviously, it's going to be rooted in education, it's going to be rooted in sharing. I definitely have at least 3 books or 4 books in my mind right now. Over the last couple years, we've done two design books, *The Secret Teachings of Gemcutting* and *The Historic Teachings of Gemcutting*. As a hobby gem cutter, or as an American gem cutter, there are all these designs that we can find on the internet, at least 6,000 designs on FacetDiagrams.org. But when you look at the 6,000 designs, the ones that the professional jewelry trade wants are not really there. If you want to cut the most commonly used cut of the trade, which is the oval mixed cut, you will not find that on the internet for some reason. What I consider to be the classic essential cuts have

mostly never been made into diagrams, because the American cutting lapidary community doesn't really use them. So, we started to accumulate these diagrams from different cutting centers around the world that we were visiting; that was our first book, *The Secret Teachings of Gemcutting*. It contains 50 designs, in two different depths, so if you're doing sapphires or quartz, you don't have to change the angles, we've already done it for you. If you want to become a professional cutter, you need these 50 designs. These are the real designs that the industry asks for and aren't available online.



Our second book just came out, *The Historic Teachings of Gemcutting*, and it's a study of the history of design and highlights some of the most interesting designs of the last 500 years and shows you how to cut them. The third book of the trilogy is going to be about the modern designs that have been trending in the last 20 years, since the 2000s. I'm not really thinking about that one yet, but it will come out eventually.



Justin and Vincent Pardieu and their books

The next book is, as I said, is the American history book. I'm really excited about this. I spent a year researching at home and then another year going around to the lapidary clubs all across America, as well as doing presentations about the history of American cutting and digging into their archives. I love this story and I'm very excited to tell it in book form. I want it to be like a scrapbook with lots of photos; photos of machines, photos of old advertisements, and lapidary products. It will be a colorful book, not just a textbook, but a scrapbook of the history of American cutting that tells the entire story.

But maybe the next book that I will actually write is something else. Something small, like an 80-page book that presents the art of faceting for the layman. Not a technical book, not a history book, kind of like an overarching look at the craft. The kind of book that you'd find in the gift shop of a museum. Like, any random person who loves jewelry, or has a small interest in jewelry, or even art, could pick this up and just get a little overview with lots of pictures and lots of colors and drawings. What is gem cutting? How is gem cutting? Nothing too deep, just a very light guide. Something that you could pick up for \$15 in the gift store of your art museum, or your art bookstore, something like that. That's what I'm envisioning for that book project.

I also want to write the history of European gem cutting, which is the origins of faceting. It's the total history of faceting starting in the 1400s. I need to finish the French story, then I need to do the Germany story, which is another really big one, and then I need to go to Italy. Italy doesn't have a huge story, but it's the beginning. The early, early stuff is in Venice. My goals, my next horizon is just more of the same. More videos, more books, more classes, more sharing, more travels.

One of the things that I'm very aware of right now in the world of amateur cutting is the lack of entry-level faceting machines. There used to be Graves, which was the entry-level machine if you wanted to start faceting. Today, getting started is extremely difficult because the cheapest good machine is about \$4,500. Some people are getting the Chinese-made \$500 Amazon machine and then modifying it, but it's a discouraging way to go because the machines are so bad. One of the projects I'm hoping to do this year is to launch some kind of product, whether it's a mod for a cheap machine, or an entry-level machine. I'm trying to work with some other people to put an entry-level machine onto the market where people can get it for not \$500, because that's not realistic, but let's say \$1000 or \$1,500.

We need people to have a stepping stone into buying a \$5,000 machine. It's unrealistic to buy something like that at the beginning of your faceting journey. If you can start with a \$500 machine, and then modify it with another \$500, and then add something else, and then maybe over the course of 2 years, you've spent \$1,500, not all at once, because it's difficult, then you have acquired a machine where you can actually cut on pretty reliably. Then later, maybe you're making a little bit of money off that, or you've saved some more money, and then you can decide, okay, now I want to get a \$3,000 or a \$5,000 machine. I'm trying to come out with a couple different products in collaboration with some other people where you can get a piece to your puzzle that's

missing right now, the entry-level machine.

Any parting words?

Even though the gem trade seems to be all about stones, it's actually all about people. Gem cutting, at least American gem cutting, is all about community. So, for me, the most important thing has been to find mentors, find teachers, and build community around me. I think for anybody, whether you want to do it as a hobby or professionally, it's very important to find other people who love the same thing. If they're people that are already knowledgeable, they can be your mentors and teachers. If they're people that are on the same level as you, then those will be your colleagues and the people that you can start projects with. Always look for friends, mentors, teachers, partners. That's what makes the whole thing so fun. Gem cutting is fun, but going and meeting other gem cutters and doing that kind of thing is what it's all about. That's, I think, why I love teaching so much. It's about making connections with other people over a shared love. Find the others.



Justin's first faceted stone!

A Paradigm Shift and a GFE3

by Graham Sherar, B.Ed (Melb) Retired

The Cambridge Dictionary defines a “Paradigm Shift” as follows:

“A time when the usual and accepted way of doing or thinking about something changes completely.”

The old Gemmaster GFE3 faceting machine pictured below had been sitting on a bench in the Clubrooms at the Bendigo Gem Club unused and covered with an old towel for at least the three years that I have been a member of the Club.

Since the COVID pandemic, the Club has experienced unprecedented demand from members wanting to learn how to facet. The other four Club machines are in high demand.



The South Australian manufactured GFE3:

I asked the Faceting Instructor at the club what was wrong with the machine and was told by him, the ‘Maintenance Officer’ and other Club members, “We can’t use it, it’s not working.”

In this state, the machine was useless to the Club and the members of it; a paradigm shift was required in this instance, it was time for me to step up and at least assess the machine to determine if it was feasible to get it working and to advise the Club Committee concerning any costs associated with the repairs/modifications.

“A big paradigm shift is staring us in the face. If I left things to someone else despite having my own thoughts on it, I wouldn’t be true to myself.”

– Masayoshi Son

The manufacturer of the machine, Shellap Pty Ltd, went out of business quite a few years ago and the supply of parts for their machines dried up long before they closed the doors; therefore, if this machine needed parts I would need to adapt non-genuine substitutes.

The Gemmaster GFE3, GFE4 and GFE 5 were very popular here in Australia, they were well made, robust machines; many are still in use today and on the rare occasions when one of these machines is offered for sale it is from a deceased estate. The removable quill on these machines was one of its most revered features by Gemmaster devotees.

A visual inspection of the Club machine had me ticking all boxes; lap bearings, drive belt, mast and facet head all appeared to be in good working order, nothing required aside from a thorough clean and some lubrication.

I have an Electrical Test & Tag License, so for safety sake, I conducted earthing, polarity and insulation tests prior to plugging the machine into the mains power. So far, so good, no issues with the machine at this stage. Next step in the process was to plug the machine into a power socket and give the motor a run. “Full Speed”

forward and the slightly noisy motor sprang into action; “Full Speed Reverse” was also not an issue.

However, “Variable Speed” was another story, no go on the first try and a surge/slow sequence without me touching the dial on the second attempt at “Variable Speed”. Repeated attempts to use the variable speed dial produced one or the other of these two faulty, undesirable results. With the only “speed” options being flat out or uncontrollable intermittent fast/slow, faceting a stone from start to finish on this machine would have been impossible.

The Substitute Speed/Voltage Regulator

Time for an Internet search, “motor speed control” did the trick and it wasn’t long before I found what I needed to get this machine operational.

Multiple suppliers offered slightly different versions of the “DIAL ROUTER SPEED CONTROL THYRISTOR ELECTRONIC VOLTAGE REGULATOR,” the main difference between the offerings was the voltage and the plug arrangements to suit variations from one country to another in an international market.

This unit provides stepless voltage regulation and a digital display, the speed of the motor is controlled by the regulation of the voltage. The separate on/off switch would enable the faceter to turn off the switch without altering the speed dial.

Overload protection is also provided within the compact unit. The plug and socket arrangement of the controller eliminates the need for a qualified electrician to fit the unit to the machine. The compact unit is 120mm long, 65mm wide and 55mm high.

The Australian market version has a capacity of 220-240 volts AC and a current capacity of 10 amps. The Overload Protection feature is rated at 10 amps. A US version is also readily available online.

The price of the unit, including postage and packaging was \$77.62 AUS (\$51.00 US). My order was delivered in nine days.



The Voltage/Speed Regulator as supplied.

The wiring to the old variable speed controller on the machine was cut to avoid any issues with it, but I left the ON/OFF and Reversing switches operable.



The new Regulator was mounted on a melamine shelving platform beside the machine.

The finished project. The old GFE3 machine and the new speed controller sitting on the new base and ready to go back into service at the Gem Club:



Happy faceting!

Graham Sherar, B.Ed (Melb) Retired

“The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking.”
--Albert Einstein

“Yesterday is but today’s memory, and tomorrow is today’s dream.”
--Kahlil Gibran

Joining Hands

A reminder

By the MWFG Board



Image created in Adobe Firefly

We established collaboration between the Midwest Faceter's Guild and the Columbia-Willamette Faceters' Guild in Oregon. We encourage members from each Guild to consider joining the other, thus leveraging the array of benefits that both organizations offer. Discover more on the CWFG website: <https://facetersguild.com/>

Here's some key information for MWFG members who are interested in joining CWFG:

1. *Both Guilds will utilize newsletters and meetings to highlight the opportunity for members to pursue dual membership. Interested individuals can submit their dues to each Guild independently through their respective websites.*
2. *CWFG's annual membership fees are \$25 for individuals and \$30 for family memberships.*
3. *While it's not mandatory to join both Guilds, those with memberships in each are strongly*

encouraged to engage with the activities and take full advantage of the resources available on both Guilds' websites.

4. *Although the MWFG and CWFG function independently, this collaboration is designed to foster joint initiatives and connections between the two groups.*

MWFG members stand to gain several benefits by joining CWFG:

- *The chance to participate in monthly Zoom meetings, featuring intriguing guest speakers, held at 7:00 p.m. PDT. These engaging sessions typically last 1 to 1½ hours (corresponding to 10:00 p.m. Eastern Time).*
- *Access to their monthly publication, FACETS, which provides new gemstone faceting designs in every issue.*
- *Opportunities to compete for the Al Gerding Novice Faceting Award, tailored for beginning faceters.*
- *Eligibility for the Merle Reinikka Founder's Award, aimed at those who have previously secured the Al Gerding Novice Award.*
- *An array of faceting articles and resources available on the CWFG website.*
- *Exclusive access to faceting diagrams crafted for member use.*
- *For those in the Portland, Oregon area, the opportunity to attend faceting classes offered by CWFG at the Rice Museum during autumn and winter.*

To join the CWFG, visit their website directly or access it via the MWFG webpage. We are confident that this partnership will prove advantageous for both Guilds. United we stand stronger, and this collaboration exemplifies the power of unity.

Joke for Faceters

Did you know that they opened up a new store in New York City? It is called the Husband Store. You can go there and shop for a husband. There are six floors in this store. You can only visit each floor one time though. Each floor you go up the value increases. You may choose any item from any particular floor, but you can go up a floor but cannot go back down. So, there was a woman that went to the Husband Store to find herself a husband. On the first floor, the sign on the door read., "These men have jobs." It sounded good, "These men have jobs." Floor two says, "These men have jobs and love kids." Door number three says, "These men have jobs, love kids, and are extremely good-looking. Wow," she thought. "This is sounding pretty good but I'm compelled to go on to the next floor." Well, she does go to the fourth floor and the sign reads, "These men have jobs, love kids, drop dead good looking, and they help with the housework." :Oh, mercy me," she said. "I can hardly stand it." So, she said, "Oh, I've gotta go on." She went to the fifth floor. "These men have jobs, love kids, drop-dead gorgeous, help with the housework, and have a very strong romantic streak." But she couldn't stand it. She decided she had to just find what was on floor number six. Floor number six said, "You are visitor 31,000,456. There are no men on this floor. This floor exists solely as proof that women are impossible to please."

dead. As the man was sorrowing over the rabbit's limp body, he heard another car. The other car stopped and the driver emerged to see what was going on. The other driver, a woman, pushed the rabbit's limp body with her toe and remarked that it surely was dead. The man once again expressed his grief over having killed the poor innocent animal, but the woman said not to worry. She ran to her car, dug around inside and returned with a spray can. She sprayed the rabbit's body and sure enough, after a few minutes the rabbit stirred, quivered and then rose to a crouching position. A moment later the rabbit started down the road as if nothing had ever happened. However, every few feet the rabbit would turn and wave goodbye. The man was astounded. He snatched the spray wanting to see just what kind of magic she had done. The spray can bore the label., "Alberto VO5, restores life to any dead, limp hair and gives it a permanent wave. "

Both from Mike and Joelle

A Winter Poem

Man, it is cold!

The End

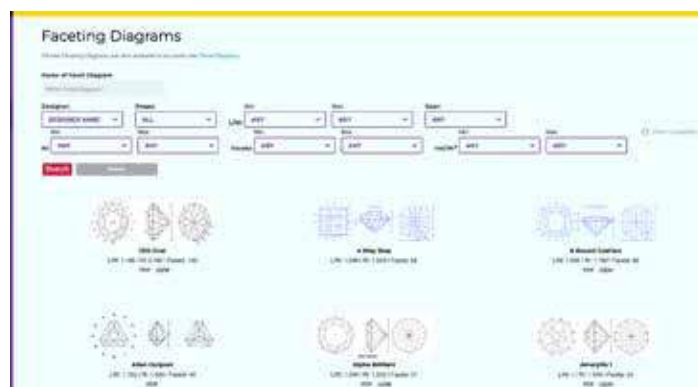
A man is speeding down a back country road, when he saw a rabbit hopping in the middle of the road. Although he tried to swerve and miss it, he hit the rabbit squarely. Being a true animal lover, the man slammed on his brakes, leapt from his car and hurried to see if the rabbit was all right. To his dismay, he found the rabbit was

Faceting Diagrams

In the past, *The Midwest Faceter* included faceting diagrams. Rather than selecting diagrams that may or may not be appealing to the membership, you can select the faceting diagram of your choosing from several sites that have a multitude of designs. [A note to gem designers--If you use Gem Cut Studio or GemCad, create your own designs, and would like to share with Guild members, just send a PDF of your design to the Editor and it can be featured in the next *The Midwest Faceter*.] As a member, if you cut the design and you would like to send in a picture of your gem, look what we could start!

The Faceting Diagram Website: <https://www.facetdiagrams.org> has now been taken over by the US Faceters Guild but it remains free. As a member of the US Faceters Guild there is some additional benefits to the facet diagrams. The dues are \$18 per year.

The United States Faceters Guild Website: <https://usfacetersguild.org>



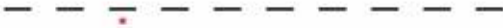
Tom Herbst, the author of *Amateur Gemstone Faceting, Vol. 1 and 2*, has a website with some faceting diagrams. His website is: <http://boghome.com/TomsPages/MyDesigns/index.html>

Tom's Original Gem Designs

	BBS - A simple, stretched, triangle cushion BOG-optimized for beryl
	BluZerk - A keystone design optimized for zircon
	Figaro - A spiral round BOG-optimized for tourmaline
	Fritz - An unusual reflector BOG-optimized for tourmaline
	Green Flash - An interesting sunburst design - BOG optimized for Peridot
	Hexpo - A very lively hexagon for tourmaline NEW! USFG optimized version available
	Integral-8 - An asymmetric round with lots of sparkle - shown here in tourmaline
	Keystar - A keystone with starburst for tourmaline
	North by Northwest - A simple yet sparkly design, optimized for tourmaline
	O-Pace - A frosted design with a message - optimized for Contra-Lux Opal
	Sepang - An unusual pie-shaped design. BOG optimized for garnet
	Tearbangle - A fast and simple teardrop BOG optimized for garnet
	Togo - A very flashy checker-burst design BOG optimized for topaz
	Trigger - A striking geometric triangle cushion BOG optimized for tourmaline
	Tris de Garnet - Simple yet very lively design for garnet

Another @\$&ing learning opportunity

When creating jewels, there are often unexpected frustrations along the way. Can you identify which problematic gemstones the following people were working on?

Carl, while polishing a pale yellow stone, finds some facets very slow to cut and others much faster.	
Danielle finished a gem from a long rectangular dark green stone. For some reason the ends ended up dark black and ugly.	
George bought a multi-colored and beautiful stone from Ethiopia. However, when he cuts the facets all the various colors nearly disappear and the stone is not attractive.	
Francesca cut a design for a pale green stone she thought was quartz and had used before. When she finished and took off the dop, the stone windowed terribly.	
Henrietta was cutting a champagne colored stone. When she finished the gem, there was no reflection pattern because the pavilion reflections were blocked by particles of suspended copper	
Edward, recutting a pale blue stone he bought from a pawn shop, found that the table wouldn't polish and just scratched and ripped.	
Barb, cutting what she was told was pink tourmaline, when it breaks in half after 10 seconds. The only remedy was to switch to another stone or banging her head against a wall.	
Adam, while polishing this yellow stone on his BATT lap with diamond sticks, found cat-hair scratches. When he switches to Cerium oxide the scratches go away.	

If you are having difficulties solving this puzzle, talk to your experienced faceting friends. As always, this puzzle has a hidden word or phrase, which in this case might aptly describe the frustrating nature of learning faceting.

By Michael Holmes and Daniel Peisach

Find Us !

midwestfaceters.org



The Midwest Faceter's Guild was established in 1979 for the purpose of developing the art of faceting, to promote education, and recreation through the exchange of information, to provide meetings for those with like interests, and to encourage the achievements of individuals.

The Midwest Faceter's Guild is also a member of the Midwest Federation of Mineralogical and Geological Societies as well as the American Federation of Mineralogical and Geological Societies.

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