

The Midwest Faceter



FEB 2000
Volume 20 Number 1

The Midwest Faceter

Editor

30460 Woodstock

Southfield, MI 48076-1216

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Inside This Issue

October Election of Officers

2000 Schedule

Birthstones and Polishes

Faceting Diagrams

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The Midwest Faceter

Volume 20 Number 1

Feb 2000

Editor

Linda
Badger

* Membership
Information

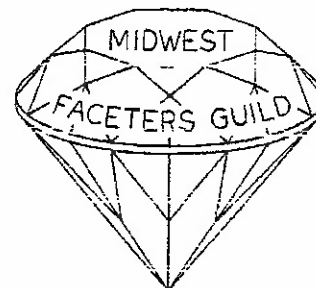
* Newsletter
Deadlines

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A Publication of the Midwest Faceters Guild

Send all Articles to:

The MIDWEST FACETER
30460 Woodstock
Southfield, MI 48076-1216
email: lbadger@mediaone.net



Deadline:

Six weeks prior to the MWFG Meeting

The MIDWEST FACETER is not forwardable. For Membership Application or Address Change contact: Membership Chairman: Ray Becker, 29802 Rosebriar Street, St Clair Shores, MI 48082-2634.

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WEBSITE <http://sites.netscape.net/craftfanatic>

* ORGANIZED JULY 14, 1979

* PURPOSES:

- * To promote education and recreation
- * To develop the art of faceting
- * To exchange information related to faceting
- * To provide meeting for those of like interests
- * To promote the achievement of individuals

* MEMBER OF:

THE MIDWEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES

THE AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES

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FROM THE ROLLS...

Ray Becker, Membership Chairman

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Dues \$5.00 - includes subscription to THE MIDWEST FACETER

Fiscal year is January 1st through December 31st. Dues are \$5.00 per fiscal year or portion of a year.

Name _____

Street _____ City _____ State _____

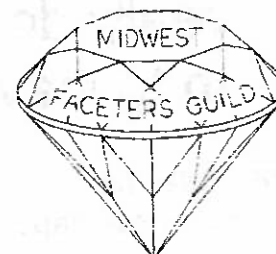
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29802 Rosebrier Street
St Clair Shores, MI 48082-2634
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**WIDWEST FACETERS GUILD
BOARD OF DIRECTORS**

CONGRATULATIONS TO NEW BOARD MEMBERS ELECTED IN OCTOBER 1999.....

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622 Eighth St
Wyandotte, MI 48192-2637
(734) 282-3745

Treasurer Lester Medlen
3639 Hiawatha Blvd
Fort Wayne, IN 46809-1227
(219) 747-4985

Secretary Jacquie Swain
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Grosse Point Woods, MI
48236 (313) 881-4828

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26320 Chippendale Street
Roseville, MI 48066-3576
(810) 775-3397

Past Pres. Harold "Arizona" Rice
122 Lois Lane
Mt Clemens, MI 48083-2243
(810) 463-5972

COMMITTEE CHAIRPERSONS

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Mailing	Carman Eiche 852 Wright, Toledo, OH 43609-3058	(419) 382-4862
Membership	Ray Becker 29802 Rosebriar Street, St Clair Shores, MI 48082-2634	
Parliamentarian	Tom Gibbs 622 Eighth Street, Wyandotte, MI 48192-2637	(734) 282-3745
Seminar 2000	Harold "Arizona" Rice 122 Lois Lane, Mt Clemens, MI 48043-2243	(810) 463-5972
Show 2000	Glenn Swain 20719 Wendy Lane, Grosse Pointe Woods, MI 48236	(313) 881-4823
Sunshine Lady	JoAnn Rice 122 Lois Lane, Mt Clemens, MI 48043-2243	(810) 463-5972

**Sorry PAGES 3-4 got LOST in Dec 1999 Newsletter.
We really do appreciate our new officers and did not
mean to leave you out...TheEditor**

MWFG Website
<http://sites.netscape.net/craftfanatic>

THE MIDWEST FACETER EDITOR

Linda Badger
30460 Woodstock, Southfield, MI 48076
(248) 642-7917

From the Presidents Quill - - -

Hi!

What a delight to see so many members at the January meeting in Lansing! The weather was good, the membership turnout and food were both great... but our speaker was in the Upper Peninsula and couldn't get back for our meeting.

What to do? Never fear - our intrepid members Bill Gardiner and Joe Manina saved the day! Bill's topic was Diamonds which then went into a general question and answer session. Joe spoke about Laps and fielded questions and suggestions. Kudos' to Bill & Joe!

You have probably received your Membership Directory from our Membership Chairman Ray Becker. If there are any corrections please contact Ray. Thankyou Ray, for all your work.

Beginning with this newsletter, meeting minutes, new members names and addresses as well as address corrections will be published for your information. This will help all of us to keep up with what our club is doing.

We have a Sunshine chairman, JoAnn Rice, who wants to hear about anyone who is ill, in the hospital or who has had a death in the family. We live so far apart news reaches us often very late. However, a cheery card does help us feel we are remembered by our club. Do let JoAnn know what happens to you and others. Good news will be appreciated greatly. Keep in touch.

We still need several committee chairpersons - COMPETITION, EDUCATION (PROGRAM) and RULES!!! The Education (Program) Chairperson is desperately needed. Surely there is someone among our membership who can fill this position. Yes, it does need to be someone within our meeting areas and yes, there will be help for whoever volunteers. The Competition and Rules positions are important, but without an Education Chairperson there is the danger of having NO programs at meetings.

Our next meeting will be March 18, 2000, at the H.J. Prime Cut Steak House, 206 New Town Square Road (off Alexis Road), Toledo, Ohio (419-476-1616). The Board meeting begins at 10:00 AM, lunch at 12:00 noon and the General Meeting at 1:00 PM. Program - at present we don't have program -- hopefully that will change. Do come and join us - anyone may attend the Board Meeting and H.J.'s has really good food! See you March 18th in Toledo!

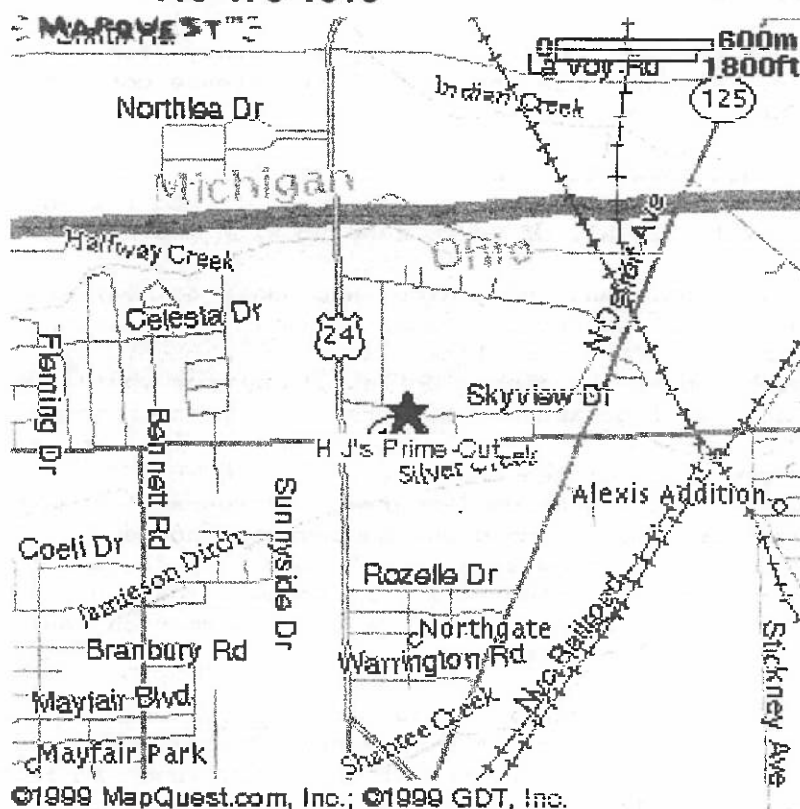
Happy

Elspeth N. Gibbs

MEETINGS FOR REST OF 2000

March 18, 2000

H.J. Prime Cut Steak House, Toledo, OH
206 New Towne Square Dr
Toledo, OH 43612
419-476-1616



May 13, 2000

to be determined

June 17, 2000

Picnic at Bill Horton's
2589 N Hughes Rd, Howell, MI 48843-9749

October 28, 2000

Annual Meeting - to be determined

SPECIAL EVENTS

August 18, 19, & 20, 2000 SEMINAR at Mott College, Flint, MI

Nov 10, 11, & 12, 2000 SHOW at Gibraltar Trade Center, Taylor, MI

**MINUTES OF THE MEETING OF THE BOARD OF
DIRECTORS OF THE MIDWEST FACETERS GUILD
HELD ON: January 15, 2000
AT: Lansing, Michigan**

The meeting was called to order by President Elspeth Gibbs.

The minutes from the last Board meeting were presented by J. Swain; motion by T. Gibbs and seconded by H. Rice that the minutes of the Board meeting held on October 16, 1999 be approved as read; motion carried unanimously.

The Treasurer's Report as of January 15, 2000 was presented by Lester Medlen. A motion was made by H. Rice and seconded by T. Gibbs that the Treasurer's Report be approved; motion carried unanimously.

Membership: Ray Becker announced that the membership of the Faceters Guild currently totals 161 members. Mr. Becker also announced that new membership directories will be mailed out the week of January 17th.

Newsletter: Board members were reminded that submissions for the newsletter need to be received by the Editor no less than six weeks prior to a Guild meeting and that all submissions should be forwarded to Linda Badger. The due date for the next newsletter is February 5, 2000.

Scholarship: This matter will be brought up at the next Board meeting pending receipt of a recommendation from Frank Bevins and Bill Horton.

NEW BUSINESS:

The next item on the agenda was payment of membership dues and for insurance to the Midwest Federation. A motion was made by H. Rice and seconded by L. Badger that the Board recommend to the general membership payment in the amount of \$504.00 for dues to the Midwest Federation based on the Midwest Faceters Guild membership roll of 252 members as of 12/31/99; after a lengthy discussion, the motion was carried by a majority vote.

President Gibbs presented the matter of paying for our insurance to the Midwest Federation. A motion was made by H. Rice and seconded by T. Gibbs that the Board recommend to the general membership of the Midwest Faceters Guild payment in the amount of \$466.20 for insurance through the Midwest Federation based on a charge of \$1.85 per person and a membership roll of 252 members as of 12/31/99; motion carried unanimously.

A lengthy discussion ensued regarding the importance of programs for upcoming Guild meetings. Because a good program draws more members to a Guild meeting, President Gibbs polled the group present for ideas for new programs.

The meeting was adjourned at 12:15 p.m.

Respectfully Submitted,

Jacqueline Swain, Secretary

2/1/2000

WELCOME TO NEW MEMBERS

Mitchell Gardner
1310 S. Second #1
Louisville, Ky 40208
(502) 635-5311

Pat Kozak
1034 Cogswell St NW
Grand Rapids, MI 49544-2819
(616) 364-5949

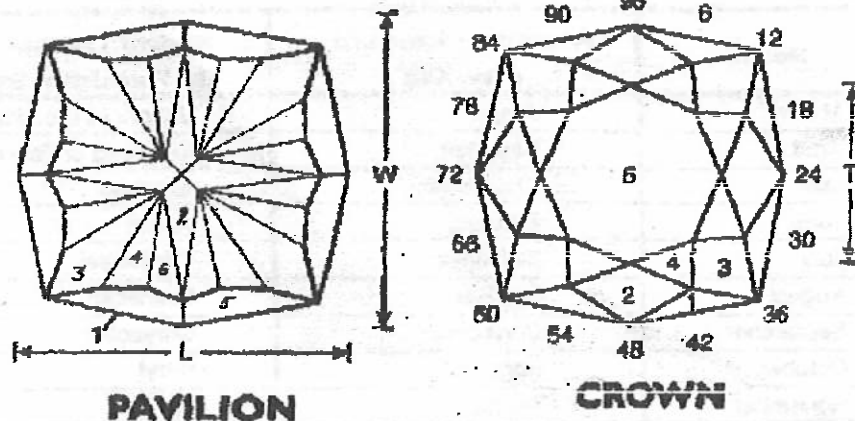
Cheryl Powers
1024 London Drive
Lansing, MI 48917-4155
(517) 321-8987

Our Prayers and Sympathy goes out to Family of Don Sererus of Toledo, Ohio. He died Jan 17, 2000 after an illness. His daughter, Chris Goetting of Maumee, has had foot surgery and is recuperating. We hope she is well soon.

Barion-Style Square Brilliant

By Alwyn Lawrence

This is a modification of a barion style square brilliant by John B Green which appeared in the June 1998 issue of the Lapidary Journal in which the design of the crown was retained but the pavilion changed and the angles calculated for quartz.



PAVILION			CROWN		
Step	Angle	Index	Step	Angle	Index
1	90.0	03-21-27-45-51-69-75-93; cut to establish size	1	46.5	03-21-27-45-51-69-75-93; cut to level girdle
2	43.0	96-24-48-72 cut to culet tip	2	35.0	96-24-48-72 meet at girdle
3	45.0	12-36-60-84; cut to position short of culet tip	3	25.8	12-36-60-84; meet at girdle
4	44.0	06-18-30-42-54-66-78-90; cut to position short of culet tip	4	19.7	06-18-30-42-54-66-78-90; meet junction of 1, 2, & 3
5	63.0	03-21-27-45-51-69-75-93; cut to level girdle	5	0.0	Table: meet at junction of 2, 4 and 3, 4
6	43.0 plus ($\frac{1}{4}$ to $1\frac{1}{2}$) this angle will depend on step 3	01-23-25-47-49-71-73-95; cut to position short of culet tip meeting 3,4,			

DATA

96 index
57 facets + 8 on girdle = 65
4-fold, mirror-image symmetry.

Birthstones

The use of gemstones as fetishes and talismans is well established throughout history. One use that has continued and remained strong is that of birthstones. The traditional list is based on the Foundation Stones of the New Testament (Revelations XXI). The Foundation Stones can be traced to the stones in the Breastplate of the High Priest of the Israelites (Exodus XXVII). Each of the twelve stones in the Breastplate was inscribed with

the names of the twelve tribes of Israel; the Foundation Stones feature the names of the twelve apostles. The order of the stones coincides with the months of the year, starting with the ancient first month of March. Ancient Jews also associated the twelve tribes and their associated stones with the signs of the zodiac. The combination of these sources has led to today's lists of birthstones.

Month	Foundation Stone List (Rev. XXI)	Modern List Based on the Foundation Stones
March	Jasper	Jasper or Bloodstone
April	Sapphire	Diamond or Sapphire
May	Chalcedony	Emerald
June	Emerald	Agate
July	Sardonyx	Turquoise
August	Sardius	Carnelian
September	Chrysolite	Chrysolite
October	Beryl	Beryl
November	Topaz	Topaz
December	Chrysoprasus	Ruby
January	Jacinth	Garnet
February	Amethyst	Amethyst

After numerous lists had been devised by the American National Retail Jeweler's Association, the American Stone Importers Association and

the American Gem Society, a list was devised by the Jewelry Industry Council in 1952. This list was eventually adopted by the above named groups.

Modern Birthstone List

Month	Natural Stone	Synthetic Stone / Color
January	Garnet	Synthetic Corundum / Deep Red
February	Amethyst	Synthetic Corundum / Light Purple
March	Aquamarine or Bloodstone	Synthetic Spinel / Light Blue Green
April	Diamond	Synthetic Spinel / Colorless
May	Emerald	Synthetic Emerald or Spinel / Green
June	Pearl, Moonstone or Alexandrite	Cultured Pearl or Synthetic Corundum / Purple
July	Ruby	Synthetic Corundum / Red
August	Peridot or Sardonyx	Synthetic Spinel / Yellow Green
September	Sapphire	Synthetic Sapphire / Blue
October	Opal or Pink Tourmaline	Synthetic Corundum / Pink
November	Topaz or Citrine	Synthetic Corundum / Orange
December	Turquoise or Zircon	Synthetic Spinel / Light Blue

How often have you heard someone say, "I just can't get a really good polish on... I must be doing something wrong." ? ? ? ? ? The list of stones and polishes may be just the help needed to solve that problem and help you enjoy our hobby more.

RECOMMENDED POLISHES

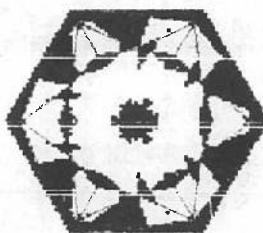
CMO=Cerium Oxide TO=Tin Oxide LA=Linde A DIA=Diamond CHO=Chromium Oxide

	CMO	TO	LA	DIA	CHO		CMO	TO	LA	DIA	CHO
ACTINOLITE		x	x			LABRADORITE		x			x
AGATE	x	x	x	x		LAPIS LAZULI		x	x	x	x
ALABASTER		x	x			LIMESTONE	x	x	x		x
AMAZONITE		x				LAPIDOLITE					x
AMBER		x				MALACHITE		x	x		x
AMBLYGONITE		x				MOONSTONE		x			
ANDALUSITE		x				NEPHRITE		x	x		x
APATITE			x		x	OBSIDIAN		x			x
AVENTURINE		x				ONYX	x	x			x
AZURITE		x			x	OPAL	x	x		x	
APOPHYLLITE					x	PERIDOT		x	x	x	
ARAGONITE					x	PETRIED WOOD	x	x	x		x
AXINITE	x					PHENACITE		x			
BARITE					x	POLLUCITE	x				
BENITOITE	x					QUARTZ	x	x			
BERYL	x	x		x		RHODOCHROSITE		x	x		x
BLOODSTONE			x			RHODONITE	x		x		x
BRAZILIANITE		x				RUBY				x	
CALCITE		x			x	RUTILE			x		
CASSITERITE		x				SAPPHIRE				x	
CELESTITE					x	SCAPOLITE	x				
CERUSSITE					x	SHEELITE					x
CHRYSOBERYL				x		SERPENTINE		x	x		x
CORAL		x				SMITHSONITE		x			
CORUNDUM				x		SODALITE	x				
DANBURITE		x				SOSOLITE	x				
DATOLITE		x				SPINEL		x	x	x	
DIOPSIDE					x	SPHALERITE					x
DIOPTASE	x					SPODUMENE		x			
CLORITE	x	x	x		x	SUNSTONE		x			
ENSTATITE		x				THOMPSONITE	x				
EPIDOTE		x				TIGER-EYE	x	x	x		
EUCLASE		x				TITANITE (Sohene)	x				
FELDSPAR	x	x				TOPAZ		x	x	x	
FLORENITE		x			x	TOURMALINE		x	x	x	
GARNET	x	x	x	x	x	TURQUOISE	x	x	x		
GOLDSTONE	x	x				UNIKITE	x				
HEMATITE	x					VARICITE	x	x	x		
HICKORYITE			x			VESUVIANITE	x				
HOWLITE	x	x	x		x	WILLIAMSITE			x		
HYPERSTHENE		x				WONDERSTONE		x	x		
JADITE	x	x	x	x	x	WULFENITE		x			x
JASPER	x	x	x		x	ZIRCON					
KYANITE		x				ZIOSITE	x				

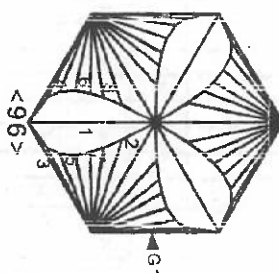
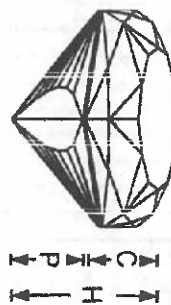
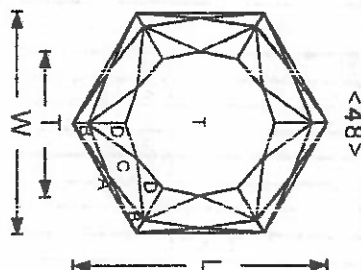
FROM "Grindings" via "Grit and Sand"

SEATTLE FACETOR DESIGN

April 1995



SPOT+Ambient Trans 0.6
Table Brl = 68
Avg Brl = 51
RI=2.15



28.151 CHEVRON HEXAGONAL

New Design by: Moon, Charles and Clark, Roscoe

96 Index L/W=1.155 P/W=0.492 C/W=0.185 T/W=0.675
85+6 facets H/W=0.698 Vol =0.295 W³ Angles for RI=2.15

CROWN CUTTING INSTRUCTIONS

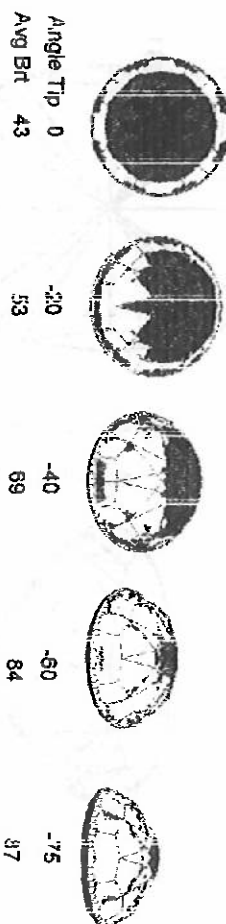
Step/Angle	Bearing	Comment
A 70.0	08-24-40-56-72-88	Fix girdle width
B 55.8	07-09-23-25-39-41-55-57-71-73-87-89	Meet A-G1-G1-A
C 39.3	08-24-40-56-72-88	Meet B-A-B
D 30.0	05-11-21-27-37-43-53-59-69-75-85-91	Meet C-B-B-C
T 0.0	Table	Meet D-C-D

PAVILION CUTTING INSTRUCTIONS

Step/Angle	Bearing	Comment
G1 90.0	08-24-40-56-72-88	Cut ECED
1 40.5	01-31-33-63-65-95	Cut to PCP. This also fixes depth.
2 40.7	14-18-46-50-78-82	Meet P1 at PCP
3 75.8	08-24-40-56-72-88	Meet 1-G1-G1-1
4 55.9	09-23-41-55-73-87	Meet 2-3-G1-G1-3-2
5 48.4	10-22-42-54-74-86	Same meetpoint as 3 and 4
6 44.8	11-21-43-53-75-85	Same meetpoint as 3,4,5
7 42.7	12-20-44-52-76-84	Same meetpoint as 3,4,5,6
8 41.4	13-19-45-51-77-83	Same meetpoint as 3,4,5,6,7

With facets so close together, this design calls for a fairly large stone. Prototype was 20.5mm in glass. Note angles at too low for quartz, but work reasonably well for RI=1.72 materials or higher.

SEATTLE FACETOR DESIGN



Conditions: Design 01.543 Roseamond's Highbred Rose

RI=2.16 (Cubic Zirconia), Transmission 0.99, ISO model

Angle Tip given in degrees about the X-axis

In Seattle Facetor Design the normal "Brightness" plot conditions are "SPOT+Ambient at 0.6 transmission". This is a model appropriate to judging a stone that has a pavilion which is supposed to return light to the viewers eye through the crown (mostly through the table on the crown). The low "transmission" is used because we assume we are dealing with colored materials that absorb some of the light. As in all of the brightness models we use the viewing direction is assumed perpendicular to the plane of the paper on which the brightness plot is made.

These conditions are not really appropriate for a material like cubic zirconia which does not usually have such a deep color that it absorbs much light, nor for a facet design that has no pavilion or at least a pavilion that does not return much light to the crown. For example, "Rose Cuts" have essentially only a crown and a flat pavilion. If it from directly from the crown side most of the light leaks out the pavilion. "Egg" and "Spheres" act similarly.

The original reference for design 01.543 Roseamond's Highbred Rose is an article by Jim Schlotmann (Midwest Faceter, Mar 95 p10) he says:

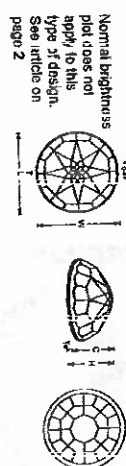
"When viewing a rose cut, the gemstone should be between you and the light source. Like you were sitting on a table with dishes and candles are the light source. The candle flames reflect off the dishes and glassware into your eyes. The light penetrates the gemstone and reflects off the back (mainly the flat pavilion) and carries the color of the gemstone to your eye. The light strikes the gem at a 20-60 degree angle and reflects off the bottom and exists on the opposite side."

Such are not the conditions of either Strickland's COSINE model or the

Page 2

01.543 Roseamond's Highbred Rose

Reference: Schlotmann, Jim: Midwest Faceter, Mar 95, p11
64 Index LM=1.000 PM=0.346 CM=0.675 TM=0
69-1 facets HM=1.219 Vol=0.234V Two tiers next to the
guide are cones guide is a cylinder. Angles for CZ



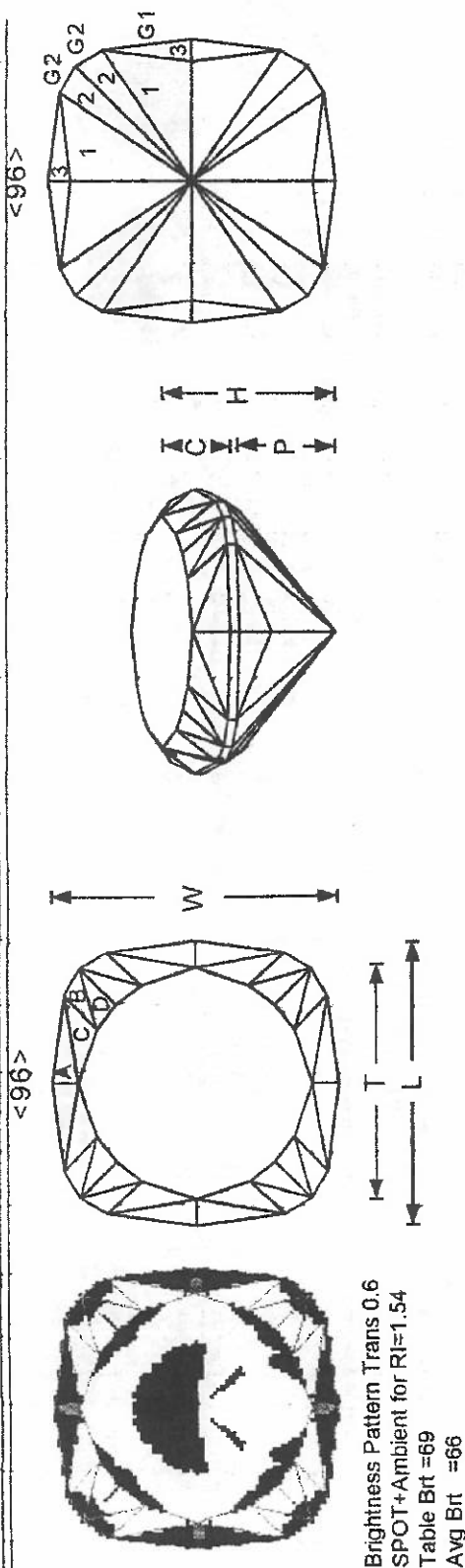
L & S SPOT+Ambient model. Both assume a light source essentially in line with the viewing position and on the same side of the stone as the viewer. However, using the ISO model (which has light coming from all directions) and tipping the stone about the X-axis allows us to use a model much more favorable to the brightness pattern of a rose cut. Since we presumably always want to view the stone in its most favorable light it seems appropriate that we would also want to make brightness plots that can predict the most favorable results it can produce.

Consider the brightness plots at the top left of this page. Progressively as one moves from left to right, the tip angle has been increased from 0 degrees (the normal position) to 15 degrees (from the normal) which is about the tip shown in the SFD drawings and in the INDEX TO FACET DESIGNS. Since the facets in the center of the crown leak through the pavilion, as we show more side and less center the design shows improved "average brightness". This is equivalent to Schlotmann's advice, viewing a rose cut with the stone between the light source and the viewer.

You may have noted that several designs listed in the "What's New" section do poorly in the brightness plots in the ordinary model. Often this is more closely allied to an inappropriate lighting model than to the fact that these designs do not look good in any position. However, in a situation like 30.089 Apollo Pentagon where the unpavilioned pavilion "star" needs to be visible through the table tipping the stone to get a brighter image does not seem to be a valid option.

SEATTLE FACI

SEATTLE FACETOR DESIGN May 1995



09.134 Split Side #4

Reference: New design by Norman W Steele. Same pavilion as 09 001, but different crown.

96 Index L/W=1.000 P/W=0.480 G/W=0.112 T/W=0.817
57+16 facets H/W=0.612 Vol =0.254W³ RI=1.54

CROWN CUTTING INSTRUCTIONS

Step/Angle	Bearing	Index	Remarks
A	51.0	02-22-26-46-50-70-74-94	Cut pavilion first to fix size
B	35.0	08-16-32-40-56-64-80-88	Fix girdle width
C	37.2	05-19-29-43-53-67-77-91	Level girdle
D	32.0	10-14-34-38-58-62-82-86	Meet A-B-girdle
T	0.0	Any for Table	Meet B-B-girdle
			Meet C-A-A-C

PAVILION CUTTING INSTRUCTIONS

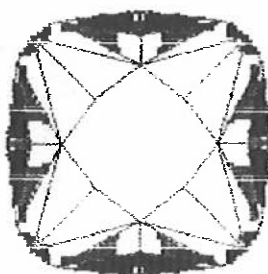
Step/Angle	Bearing	Index	Remarks
P1	41.5	06-18-30-42-54-66-78-90	Cut to PCP
P2	41.0	08-16-32-40-56-64-80-88	Meet P1 at PCP
G1	90.0	02-22-26-46-50-70-74-94	Meet P1-P2-girdle
G2	90.0	08-16-32-40-56-64-80-88	Meet P1-P2-G1
P3	60.0	02-22-26-46-50-70-74-94	Level girdle

This design was an outgrowth of 09.133. When using GenCad, to make sure a given set of tiers is all at the same height, we often place a temporary girdle plane in place at a known point and then adjust the other facets to make them fit. When I did that with 09.133 (using the meetpoint C-A-A-C), the B and D facets did not fit, but otherwise it looked like an interesting wide table design by itself. Actually all I did was adjust facet tier "C", take out the temporary table plane, and add the real table. Brightness suffered a little, but the design came out better than average for quartz. To improve the design a row of star facets to surround the table would be the next modification.

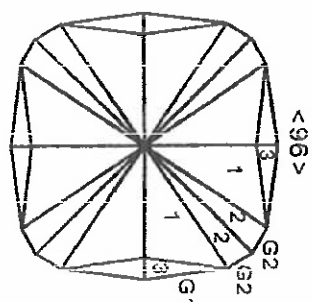
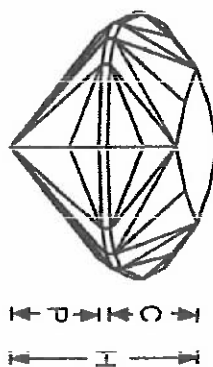
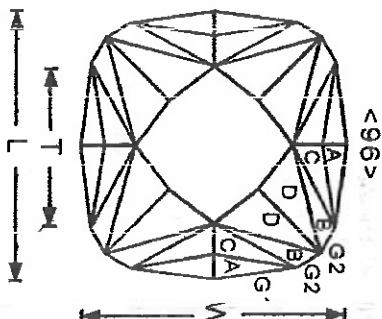
SEATTLE FACETOR DESIGN

May 1995

Page 2



Brightness Pattern
SPOT+Ambient for RI=1.54 Trans 0.6
Table Bt = 93
Avg Bt = 77



09.133 Split Side #4

Reference: New Design by Norman W. Steele. Alternate crown for pavilion 09.001.
96 Index LMW=1.000 PMW=0.480 CMW=0.209 TMW=0.586
57+16 facets HW=0.709 Vol=0.286W³ RI=1.54

Crown Cutting Instructions

Step/Angle	Bearing Index	Remarks
A 51.0	02-22-26-46-50-70-74-94	Cut pavilion first
B 35.0	08-16-32-40-56-64-80-88	Fix and level girdle
C 41.0	04-20-28-44-52-68-76-92	Level girdle
D 32.0	10-14-34-38-58-62-82-86	Meet A-B at girdle
T 0.0	Any for Table	Meet B-B at girdle
		Meet B-C-D

This design provides a different "crown" for an existing pavilion. Designs in the database having nearly the same pavilion are 9.001, 9.002, 9.006, 9.020, 9.020B, 9.065, and 9.100. This particular pavilion is a very simple one to cut and since it is "meetpoint type" it is very reproducible.

Pavilion Cutting Instructions

Step/Angle	Bearing Index	Remarks
P1 41.5	06-18-30-42-54-66-78-90	Cut to PCP
P2 41.0	08-16-32-40-56-64-80-88	Meet P1 at PCP
G1 90.0	02-22-26-46-50-70-74-94	Meet P1-P2-girdle
G2 90.0	08-16-32-40-56-64-80-88	Meet P1-P2-G1
P3 60.0	02-22-26-46-50-70-74-94	Level girdle

This design is very "bright" for Quartz RI=1.54 and should do even better in higher refractive index materials.

