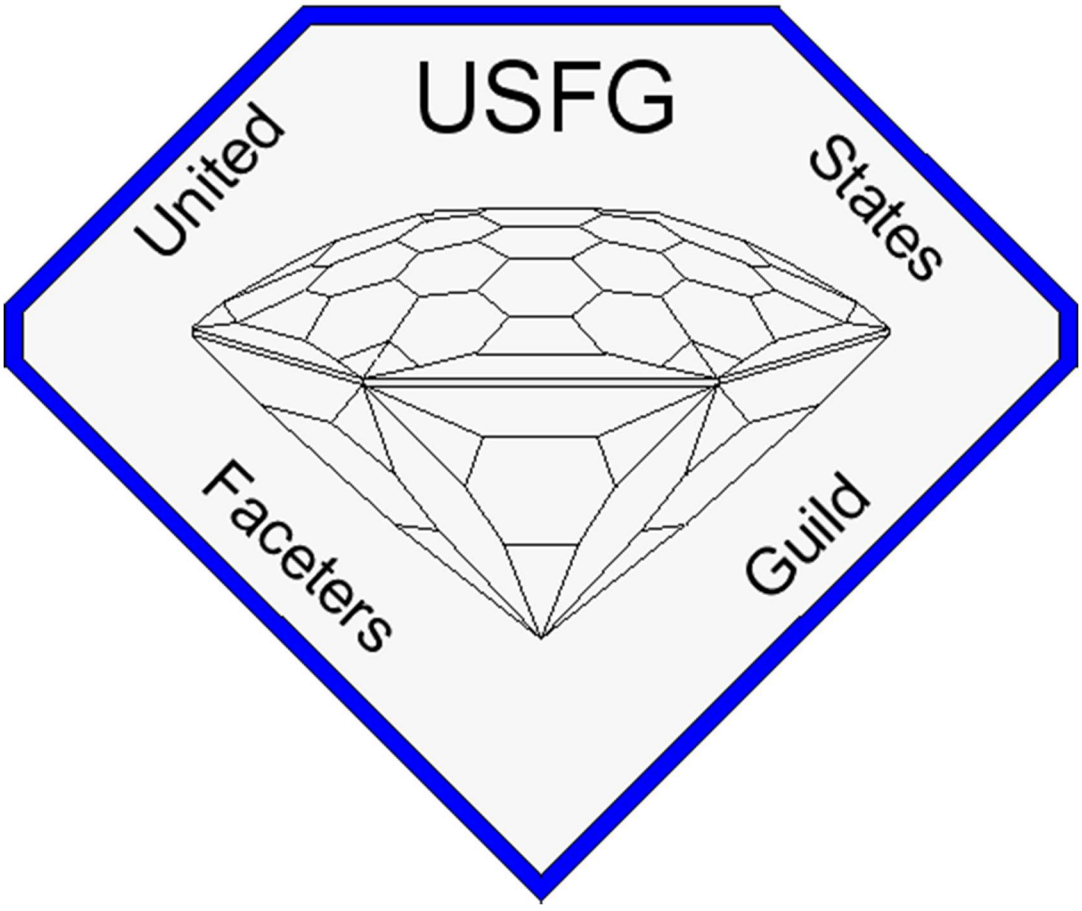
United States Faceters Guild
Competition Rules and Judging Criteria

USFG - Single Stone Competition



USFG SSC Rules
Updated 2024

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Introduction to United States Faceters Guild
Single Stone Competition (SSC) Rules

This document will outline the Rules used to govern the United States Faceters Guild (USFG) Single Stone Competition (SSC). Any USFG Single Stone Competition will be established and governed by the USFG Board (Board, BOD, or board) and it's USFG Competition Committee. Anytime the term Competition Committee or committee is used, it means the **Competition Committee established by the USFG Board**.

USFG Competition Committee Staff – Used to mean Competition Committee in this document and any and all Appendix to the Rules or attachments, as approved by the Board. A committee formed to organize, supervise, and facilitate the faceting competitions of the USFG each year. The Committee shall be composed of a minimum of six (6) committee Staff members, who may or may not be Board members, or even a member of USFG, subject to Board approval**.** If during any year the Board cannot find a minimum of six (6) members to serve as Staff on the Competition Committee, then no USFG competition will be offered the next year.

- At least one of the Competition Committee members shall be a USFG Certified Master Cutter. If a master cutter cannot be found each year, the Board may waive this requirement.

- The Competition Committee members are not required to be current or past members of the Board.

- Any committee members not on the USFG Board shall hold the status of Advisory Committee Member serving the USFG Board.

- The USFG Competition Committee shall be responsible for the organization and implementation of all USFG single stone cutting competitions.

- The USFG Board shall have oversight responsibility over the action and activities of the USFG Competition Committee

The Competition Committee Staff will be established by the USFG Board "ideally" consisting of a minimum of 6 with the following skills and/or responsibility:

- **USFG President -** acting as Chairman of the Committee who has the option to assign that responsibility to another member of the committee, with Board approval. The Board will authorize the Chairman to hold a competition each year and approve the designs and publications offered in e-mail, newsletters, website, Facebook, and any other authorized forms of communication.

- **Stone Handler –** a Staff person responsible for handling the delivery of stones to and from the cutters and judges; oversee the creation and publication of competition paperwork that goes out to members/cutters, judges and back to the cutters; collect and report scoring data to Board, and once approved, publish it to the membership and the public; oversee the Staff involved in the distribution of awards and certificates; and any other duties assigned by the Board.

- **Award/Certificate Staff –** person or persons who will process the award metals and certificates to the cutters, as confirmed by the Board.

- **Judging Staff –** a person or persons who are actively judging SSC Competition, or who has achieved an SSC certified skill level of Master or above, or a highly experienced faceting instructor with 10 or more years of teaching beginning, intermediate and advanced faceting techniques and who has demonstrated exceptional judging skills in the USFG Judging Certification Program, and been approved by the Chief Judge, or a World Class cutter approved by the Board. This person should be a member of USFG and will provide input to the committee.

- **Facet Diagram Design Staff –** a person or persons experienced in cutting competition, and who design diagrams for flat and/or concave facets. This Staff person(s) should be a USFG member, but if not, must be approved by Board each year. This person(s) will work with the committee to evaluate stone designs that work best at skill levels for Novice, Pre-Master, Master, and Grandmaster classifications, in either flat or concave facet competition. The designs will first be approved by the committee and then by the Board..

- **Board Member/Instructor Staff –** a member of the Board who has experience teaching faceting at both the beginner and advanced skill levels. This Staff person to provide input to the committee from an instructor's perspective and one who can share the goals and views of the Board.

Rules and Information

1.0 Introductory Guidelines

1.1 Committee Responsibilities - To run an orderly and professional competition, both the competitors and the Judges must abide by the same rules. Both should study these rules thoroughly and understand their respective responsibilities to comply with them. These rules are constructed to assist the Novice up through Grand Master cutter to understand, promote skills, and give guidance to technical competition cutting, and judging thereof.

1.2 Gender - In this document all cutters (faceters), judges, and various support persons will be described in a non-gender specific manner.

1.3 Scoring - All scoring described is based upon a perfect score of 100 points. Some competitions will express the score as a percentage. For the sake of consistency in this document, scoring will be expressed as percentage (less the % sign) scored out of a possible of 100 points.

2.0 Purpose of Competition

2.1 We acknowledge that some cutters compete for the honor of winning, that others prefer to compete against themselves to see how much they can improve from year to year, and that others compete to earn a title that will allow better promotion of their goods.

2.2 The spirit of the USFG Single Stone Competitions is to promote fair and balanced objective evaluation of single stones for each class of competition, to give USFG members the opportunity to determine their own level of skill. Competitions should have a friendly and constructive environment, yet remain a competitive and professional event.

2.3 An individual who competes should receive direct, actionable feedback to improve his or her skills. Cutters who participate should be able to see themselves improve as they compete in higher classes.

3.0 USFG Single Stone Competition Skill Level Classes

3.1 The USFG Single Stone Competition program has four difficulty levels. From least to most challenging, these are "Novice" (beginner), "Pre-Master" (intermediate), "Master" (expert), and Grand Master. The Single Stone Competition will be conducted as a typical single-stone competition in which winners of the classes will be recognized and presented certificates and/or awards.

3.2 IMPORTANT NOTICE

Cutters who have won a previous USFG-certified Master level competition, may only compete in the Grand Master level competition, and may not compete in any lower level.

3.3 NOVICE

3.3.1 A typical Novice entrant is a faceter with very little experience, who has likely never competed before and/or has never had their work evaluated by another cutter. Any cutter, other than one who is disqualified under section 3.2 or 3.3.5, may enter this category.
3.3.2 To become a certified Novice, the cutter must score 85 or above in Novice competition.
3.3.3 If you score below 90, you are encouraged to repeat the Novice class, to further refine your skills.
3.3.4 If you score 90 or above, you are encouraged to move up to Pre-Master class.
3.3.5 If you score 90 or above, AND you place first, you MUST move up to Pre-Master class or a higher level of competition.

3.4 PRE-MASTER

3.4.1 A typical Pre-Master entrant is a faceter with moderate experience who may have good faceting skills, and likely has entered our Novice class and scored above 90. Any cutter, other than one who is disqualified under section 3.2 or 3.4.5, may enter this category.
3.4.2 To become a certified Pre-Master the cutter must score 90 or above in Pre-Master competition.
3.4.3 If you score below 90, you are encouraged to repeat the Pre-Master class, to further refine your skills.
3.4.4 If you score 93 or above, you are encouraged to move up to Master class.
3.4.5 If you score 93 or above, AND you place first, you MUST move up to Master class or a higher level of competition.

3.5 MASTER

3.5.1 A typical Master entrant is a faceter with a high degree of expertise and skill, who has likely entered our Pre-Master class and scored above 93. Any cutter, other than one who is disqualified under section 3.2 or 3.5.5, may enter this category.
3.5.2 To become a certified Master the cutter must score 93 or above in Master competition.
3.5.3 If you score below 95, you are encouraged to repeat the Master class, to further refine your skills.
3.5.4 If you score 95 or above, you are encouraged to move up to Grand Master class.
3.5.5 If you score 95 or above, AND place first, you MUST move up to Grand Master class.

3.6 GRAND MASTER

3.6.1 A typical Grand Master entrant is a faceter with a profound degree of skill and expertise in a wide variety of materials, with significant accolades in competition cutting.
3.6.2 To enter the Grand Master competition, a cutter should be able to score 95 or above in the Master class.
3.6.3 To qualify for awards in Grand Master competition cutters must score 98 or above.
3.6.4 Once a contestant has achieved Grand Master certification status, they may continue competing at this level and may not regress to a lower level of competition in any USFG Single Stone competition.

3.6.5 To certify as a Grand Master competition the contestant must score 95 or above. A certified Grand Master competition cutter may continue to compete in this class as many times as desired and remains eligible for awards each time.

3.7 Judging Severity

3.7.1 Within any given category of competition, all competitors will be judged equally.

4.0 Competition Design and Material Selection

4.1 Process of selection

4.1.1 The difficulty level of designs within each class should remain consistent from year to year, to allow accurate comparisons of skill. To ensure consistency in difficulty, the following guidelines are used to identify a set of designs that meet those guidelines.

4.1.2 Every year, each member of the USFG Competition Committee will independently select 1 design per class that meets the criteria shown below, and will share the reasoning behind their choices with the rest of the committee. The designs will be placed in a common pool and voted on by the committee, to select the final designs for the year.

4.1.3 When the designs are published in the USFG Newsletter, the publication should include a short commentary including the names of other designs that were considered for each category, as well as specifying what features of the final design choice made it appropriate for selection.

4.1.3 All competition designs must be entirely cut able in a meet point manner.

4.1.4 Designs may require that the cutter use a specific material or cut to a certain size range. These requirements will be listed at the bottom of the diagram.

4.2 Novice design selection guidelines

4.21A Novice-level design should be simple to cut, with no technically demanding attributes. These designs should be easily cut able by a novice faceter who has cut fewer than 10 stones.

4.22Novice-level designs are not *required* to meet all of these criteria, but should attempt to meet as many of the following criteria as possible:

- No greater than 2 pavilion tiers
- No greater than 1 girdle tier
- No greater than 3 crown tiers, excluding a table
- The girdle outline must be defined exclusively by the P1 tier
- The design must feature 3-fold or higher orders of mirror symmetry
- No facets may meet more than one unique set of meet points
- No facets may be within 1 degree of an adjacent facet
- No facets may be within 2 indices of an adjacent facet
- Novice-level designs may not feature a checkerboard crown
- Novice-level designs may not feature a barion-style or keel-style pavilion
- The total number of facets should not exceed 51
- Designs should use a standard 96-index

4.23No girdle outline subtype, as classified by Long & Steele, should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year's design may not feature a hexagonal outline.

4.24The size criteria for this category should be between 10mm and 12mm, with an error margin of +/- 0.3mm.

4.25The girdle facet size for this category should be 0.5mm +/- 0.3mm

4.3 Pre-Master design selection guidelines

4.3.1 A Pre-Master level design should be reasonable to cut, neither very easy nor extremely difficult, with at least one aspect that is more technically demanding than designs that would be found in the Novice category. These designs should be reasonably cuttable with some effort by an intermediate- skilled faceter who has cut greater than 10 stones, but fewer than 50 stones.

4.3.2 Pre-Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- No fewer than 2 pavilion tiers
- No fewer than 1 girdle tier
- No fewer than 3 crown tiers, excluding a table
- The girdle can be defined by more than a single tier of pavilion facets
- Design concepts not present in the Novice-level competition, such as keeled pavilions, barions, and CAM preforms, should be considered
- Designs with mixed symmetry or radial symmetry should be considered
- Designs should be considered that include tiers in which a single facet must simultaneously meet two unique meet points
- The total number of facets must be at least 20 facets more than the Novice design and should not exceed 100 facets.
- Designs should use a standard 96-index

4.3.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year's design may not feature a hexagonal outline.

4.3.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Novice category the year prior.

4.3.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm^2. The error margin should be +/- 0.2mm.

4.3.6 The girdle facet size for this category is 0.5 mm +/- 0.2 mm

4.4 Master design selection guidelines

4.4.1 A Master level design should require some effort to cut accurately, but should not be profoundly difficult or time-consuming to cut accurately. This should have several aspects that are technically challenging for a more advanced cutter who has cut greater than 50 stones.

4.4.2 Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- Low orders of symmetry should be considered
- Designs with complex girdles should be considered. This includes designs with girdle facets that cannot be cut until a girdle tier X, and a pavilion tier Y that requires girdle tier X, have already been cut. This also includes designs with a "wavy" girdle outline.
- Designs should be considered that include multiple tiers in which facets must simultaneously meet 2 or more unique meet points.

- Designs should be considered in which “error accumulation”, or the compounding of meet point error as further tiers are cut, is a significant concern
- While a large number of total facets may increase design difficulty, selection should not be heavily based on this aspect of difficulty, as many designs with a low-moderate number of facets can be significantly more difficult to cut accurately than those with a large number of facets, but small number of tiers. The total number of facets must be at least 20 more than the Pre-Master design and the number of facets for this division should not exceed 150 facets.
- Designs may use an index that is commonly available, including 96, 80, 120, and 72-indices.

4.4.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year’s design may not feature a hexagonal outline.
4.4.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Pre-Master category the year prior.
4.4.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm^2. The error margin should be +/- 0.1mm.
4.4.6 The girdle facet size for this category is 0.5 mm +/- 0.1 mm

4.5 Grand Master design selection guidelines

4.5.1 A Grand Master level design should require significant effort to cut accurately, and should be notably difficult or time-consuming to cut accurately. This should have a large number of technically challenging aspects, and should be appropriate for a cutter who has successfully competed at a high level in prior years.
4.5.2 Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- Low orders of symmetry should be strongly considered
- Large numbers of facets (>100) or tiers (>20) should be considered
- Designs with difficult complex girdle outlines, such as those described in the Master category, should be strongly considered.
- Designs that are readily recognized by Master-level competitors as “very difficult” should be strongly considered
- No design should require more than one transfer process
- Designs with a high risk of “error accumulation” should be considered
- The total number of facets must be at least 20 more than the Master design and the total number of facets for the Grand Master division should not exceed 200 facets.
- Designs may use an index that is commonly available, including 72, 80, 96, and 120-indices.

4.5.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year’s design may not feature a hexagonal outline.
4.5.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Master category the year prior.
4.5.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm^2. The error margin should be +/- 0.1mm.
4.5.6 The girdle facet size for this category is 0.5 mm +/- 0.1 mm

4.6 Material choice

4.6.1 The Novice-level competition should allow entrants to select any material of their choice, natural or synthetic.

4.6.2 The Pre-Master level competitions should select materials that are readily available in large sizes and low costs, without cleavage planes. This includes:

- Natural or synthetic quartz
- Inexpensive beryl, such as goshenite or irradiated golden beryl
- Synthetic spinel or corundum
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- YAG and CZ
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may be selected and should be considered as a single category.

4.6.3 The Master level competitions should select materials that are readily available in large sizes, reasonably low costs, and wide availability. Materials with cleavage planes or well-known difficulties in cutting should be encouraged, but not strongly so. This includes:

- Natural or synthetic quartz
- Feldspars, including sunstone and bytownite, should be considered a single category if selected.
- Topaz, natural or irradiated
- Synthetic spinel or corundum
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- YAG, CZ, or moissanite
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may **not** be considered for this category.

4.6.4 The Grand Master-level competition should select materials that are readily available in large sizes, with reasonably low cost and reasonable availability. Materials with cleavage planes, known tendencies to be brittle, and known difficulties with polishing, should be encouraged. This includes:

- Natural or synthetic quartz
- Feldspars, including sunstone and bytownite, should be considered a single category if selected.
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- Hard synthetics, such as spinel, corundum, YAG, CZ, or moissanite
- Readily available high-RI synthetics, such as strontium titanate
- Well-known materials with cleavage, parting planes, and/or brittleness, that come in readily-available large sizes, such as topaz, spodumene, or scapolite.
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may **not** be considered for this category.

4.6.5 No material should be repeated from one year to the next, within the same category. 4.6.6 No material should be considered for the current year if that material was selected for the previous year in the immediate lower-level competition. For example, the material chosen for the Pre-Master level the year prior should not be repeated in the Master level in the current year.

4.7 Testing

4.7.1 Each design selected for competition should be test-cut, in the specified material and to the specified size, by at least one USFG board member, prior to final selection of the design. If the design is unreasonably difficult or easy for the category level, this should be brought to the attention of the board.

4.8 Cutting Specifications

4.8.1 The material to be cut, the stone dimensions and the girdle width will be listed on the published cutting diagram for each category or division of the Single Stone Competition.

5.0 Entry Conditions and Restrictions

5.1 The Competition Committee USFG Board shall set the time, date and place for submitting forms and actual stones. The Stone Handler (member - Competition Committee) shall be responsible for the collection and return of stones, and oversee the distribution of the awards. Competitors must comply with published rules for their particular class.

5.2 The USFG Single Stone Competition is open only to current USFG members, whose memberships are valid through the submission deadline. Non-members who wish to compete may do so by including a USFG membership application with their competition entry forms and stone.

5.3 Cutters may only submit a single stone per year to the Single Stone Competition.

5.4 All competitors who certify in their respective class competition by meeting the minimum score required will receive a certificate of achievement from the USFG Competition Committee. This will be suitable for framing, and will include the cutter's name, the class the cutter became certified in, and the score earned. The remaining wording on each certificate will reflect the competitor's accomplishment.

5.5 Once a faceter has been certified in any USFG competition, that certification will remain permanent under all circumstances. If a cutter competes in a subsequent year in the same class, but fails to certify, that cutter will retain their previous certification.

5.6 The entry and payment of registration fees shall constitute acceptance of the rules and agreement to comply with them.

6.0 Processing of Stones / Reporting of Scores

6.1 Initial processing

6.1.1 Stones and entry fees will be mailed to a designated Stone Handler of the Competition Committee. Upon receipt of the stones, the Stone Handler will determine which category of the competition that the stones are intended for. He will then keep note of the color, the weight in carats and the dimensions (length and width) of the stones before assigning a numerical code to each entry, repacking the stones in nondescript gem jars, and sending the stones to a selected judge.

6.1.2 Whenever possible, all stones within a given class shall be judged by a single Judge.

6.1.3 The judged stone, the Pattern Error Sheet, the Score Sheet and Judge's Comment Sheet will then be returned to Stone Handler.

6.1.4 The Stone Handler will decode and repackage the stone with the **Pattern Error Sheet**, **Score Sheet**, and **Judges' Comment Sheet**, and return the package to the individual competitor. The Stone Handler will then provide the BOD with a list of all participants, their score, and their certification status. This will occur

before the results are released to the general USFG membership or to the general public.

6.2 Publication of Scores

6.2.0 The BOD will release scores according to the instructions listed above Publication of Scores

6.2.1 At the discretion of the USFG BOD, all scores that qualify for certification, along with names of cutters, will be published in the USFG newsletter, USFG website, and/or public venues supported by the USFG.

For discretionary reasons, the USFG Board will not publish the names of cutters who did not qualify for certification. The USFG may opt to publish an anonymized list of scores below the qualifying score.

6.3 Privacy

6.3.1 The USFG will only publish data pertaining to a cutter's **name, competition score, city, and/or state (or country)**.

6.3.2 No other data of any kind from competitions, including but not limited to mailing addresses, telephone numbers, and e-mail address, shall be disclosed to the general USFG membership or greater public.

6.4 The names of disqualified or ineligible cutters, as well as their scores, will be reported to the USFG Board, but not to the general USFG membership or public. The USFG Board will either approve or reject the disqualified or ineligible stone after receiving the fact from the Stone Handler.

7.0 Certification and Awards

Awards will be given to cutters scoring 1st, 2nd, or 3rd place in the Novice, Pre-Master, Master, and Grand Master class as recorded by the Stone Handler and reported to the Competition Committee. Types of awards and certificates will be determined and published with each competition announcement, after approval by the USFG Board.

7.1 Certification

7.1.1 To be certified in a particular class, cutters must meet the following criteria:
7.1.2 Novice - Score **85** or higher in a USFG Novice Competition.
7.1.3 Pre-Master - Score **90** or higher in a USFG Pre-Master Competition.
7.1.4 Master - Score **93** or higher in a USFG Masters Competition.
7.1.5 Grand Master – Score 95 or higher in a USFG Grand Master competition.

7.2 Awards

7.2.1 To qualify to receive awards (1st, 2nd, 3rd place) in a particular class, cutters must meet the following minimum criteria.
7.2.2 **Novice** - Score **90** or higher in a USFG Novice Competition.
7.2.3 **Pre-Master** - Score **93** or higher in a USFG Pre-Master Competition.
7.2.4 **Master** – Score **95** or higher in USFG Master Competition.
7.2.5 **Grand Master** – Score **98** or higher in USFG Grand Master Competition.

7.3 Special Cases and Ties

7.3.1 The certified top three "qualifying" scores in each competition class will receive awards, i.e., 1st, 2nd, and 3rd place.
7.3.2 All scores shall be calculated to no more than the fourth decimal place. Normal rules shall apply for rounding scores.

7.3.3 In the unlikely event of a tie, and in the spirit of fair competition, all scores which qualify for awards, which also result in exact ties, will receive the same award.

8.0 Pre–Judging

8.1 The practice of having outside expertise evaluate the condition of a stone during the cutting process is strictly forbidden in USFG faceting competitions.

8.2 If it becomes known that any cutter has had the stone evaluated by other cutters during the cutting process, i.e. **with the stone still on the dop,** then that stone will be **automatically disqualified** from the competition.

8.3 If such knowledge becomes available after competition results have been finalized, any awards or other recognition will be declared null and void.

8.3 Cutters may choose to show their finished stone as they wish once it is removed from the dop without penalty.

9.0 Protest

9.1 If protest should arise the written rules shall prevail.

9.2 There will be a 30 day time limit for the cutter to lodge their protest, starting from the date that the stones and the judging forms were mailed back to the cutter. No further protests will be accepted 30 days after the stones were mailed back to the contestants

9.3 In order to lodge a protest, the cutter must send a copy of the Pattern Error Sheet and the Score Sheet, as well as an explanation of the protest, to the Stone Handler. This can be done by mail or e-mail. Do not send the contest stone back for review.

9.4 The Stone Handler shall review the documents and explain the Judges findings to the person making the protest. If the cause of the protest is a difference in measurements, the Stone Handler's has the authority to apply the measurements they took when they first received the stone to adjust the Cutter's score.

9.5 If the cutter is still not satisfied, they may bring their case to the Board of Directors who will review the Pattern Error Sheet and the Score Sheet to determine if there are any discrepancies that warrant changing the final score. If discrepancies are found the score will be recalculated and the new score will be applied. If no discrepancies are found the Board of Directors will certify the Judges findings as accurate.

10.0 **Terms and Definitions**

For Judges and Cutters
Listed in alphabetical order

10.1 Angle - The angle of a facet plane. Angles will generally be expressed in positive degrees. The minimum angle shall be 0 degrees, which is parallel to the table of the stone. The maximum angle of a facet shall be 90 degrees, which is perpendicular to the table of the stone and parallel to the girdle facets.

10.2 Axis of stone - The line passing through the center of the outline shape when viewed from above the stone and perpendicular to the girdle plane and table.

10.3 Board, board, or BOD - Means all members of the Board of Directors of the United States Faceters Guild Corporation.

10.4 Competition Committee - A committee formed to organize, supervise, and facilitate the faceting competitions of the USFG Single Stone Competition as outlined in the beginning statements of this document. The Committee shall be composed of a minimum of **six (6)** people**.**

10.5 Crown - Where a girdle plane exists, the crown is that part of the stone above the girdle plane, i.e., top of the stone. The crown will be clearly marked on the Pattern Sheet.

10.6 Culet - The bottom most point or facet of a stone located below the girdle.

10.7 Chips - Areas where pieces of material have been chipped off. They usually occur along facet edges, at corners, and/or culets. Typically chipping is the result of rough handling and/or with materials sensitive to cleavage. In USFG competitions this feature shall be assigned one quarter (1/4) pattern point per edge. If the feature is "OUT" a 1 point error shall be placed in the 25%, 50%, or 100% column.

10.8 Cutter or Faceter - The word cutter or faceter is used universally in this text to refer to persons (he or she) who practice the art of faceting stones, i.e., Faceters.

10.9 Dimensions - For USFG competitions all dimensions shall be expressed in millimeters.

10.10 Disqualified - Errors resulting in **gross** deviations from the competition rules for a particular class, i.e., **wrong pattern cut**, **missing facet tiers**, **wrong gemstone material**, **etc**. The stone will be set aside and no further judging will take place. The judge will provide written explanation for the **disqualification** to the Stone Handler and BOD. The stone and judging sheets will be returned to the cutter.

10.11 Extra Facets - Facets not defined on the pattern sheet. In general, extra facets are cut by mis-indexing.

10.12 Errors & Credits – All competition stones start with a credited score of 100%. As the stone is judged, any deficit in the workmanship of the finished stone is assigned an error. In USFG competitions, errors are weighted **depending upon the visual severity** of that error.

10.13 Errors are as follows:

"A" - 25% is the partial error if **barely visible** with a 10X **loupe**.
"B" - 50% is the partial error if **easily seen** with the 10 X **loupe**.
"C" - 100% is the error if **OUT as seen with the 10X loupe**, or even **if seen with the naked eye.**

10.14 Facet - A flat surface cut into the stone, preferably polished

10.15 Facet Edge - The linear junction between two facets. In the USFG SSC, facet edges should be sharp, i.e., **not reflect light**. In USFG competitions this feature shall be assigned one (1) possible pattern point per facet. If the feature is curved it is considered "OUT" a 1 point error shall be placed in the 25%, 50%, or 100% columns.

10.16 Faceting Material – The gem material that the cutter is required to use when cutting the stone. The faceting design sheet will clearly state whether natural and/or man- made (laboratory-produced) materials are permitted and which material is required for the particular competition division, ie Novice, Pre-Master, Master and Grand Master

10.17 Facet Uniform – Refers to the **consistency in shape and size of any facet in the same tier**. Facets also must be consistent with the pattern and plan view. In USFG competitions, this feature shall be considered "OUT" a 1 point error per affected facet shall be placed in the 25%, 50%, or 100% columns.

10.18 Flat facet - Facets shall be flat. In USFG competitions facets that are not flat shall be considered "OUT" and will be assessed 1 point error per facet ant the error shall be placed in the 25%, 50%, or 100% columns.

10.19 Floating Meet – A meet point formed by the junction of **three facets,** which may help to define a future meet point.

10.20 Floating Facets – The three facets that define a Floating Meet are considered to be Floating Facets.

10.21 Index Gears – Used to determine the indexing of facets. Depending upon the machine, index gears may be numbered in a clockwise (CW) or counter-clockwise (CCW) fashion.

10.22 Ghost facet - A nearly imperceptible facet formed when a cutter tries to bring facet meet points "in" with the use of a cheater or index micro adjuster. By doing so, the cutter may create a secondary facet directly over an existing one, with only miniscule and nearly invisible differences in index and angle. These false facets are frequently only visible under certain lighting angles. This is called a "ghost facet" and is not considered to be "extra facets". But if found by the judge, they will be considered "OUT" and will be assigned a 1 point 25% error per Ghost Facet.

10.23 Girdle Facets - The narrow band consisting of either a series of facets or a continuous scalloped, curved surface which outlines the girdle plane and is at right angles to it. In USFG competitions the girdle **must be faceted and polished**. Rounded girdles are not considered acceptable.

10.24 Girdle Thickness - The narrowest dimension of the girdle facets. It may also be called the **girdle width**. Cutters may use any method they wish for establishing this feature. In USFG competitions, the girdle thickness (and acceptable tolerance) will be clearly specified on the gem design sheet and will be determined for each division (Novice, Pre-Master, Master and Grand Master) of the competition by the Competition Committee. **USFG Judges are allowed to use magnified scales, optical comparators, or reticules for judging this feature, provided that these tools use only 10X magnification and the same tool is used to judge every stone in a particular division**. The judge may also measure the girdle thickness by using a comparative technique with a gauge of known thickness or diameter, a jeweler's saw blade, precision wire, or plastic film as a reference gauge. In USFG competitions this feature shall be assigned three pattern points. If the feature is "OUT" a 3 point error shall be placed in the 100% column.

10.25 Girdle Uniform – Facets in the same series around a girdle shall be the same shape and dimension. They shall be an exact replica of the faceting design sheet and be within the stated limits including the allowed tolerance factor determined by the Competition Committee. In the case of a design that has scalloped facets, a series of facets that progress from smaller to larger and back to smaller, each series of scalloped facets must be the same dimensions as the corresponding facet series. In the case of a girdle design where each facet is the same length and thickness, then each girdle facet should be identical around the stone. If a girdle facet is thicker on one end then on the other or if one girdle facet is thicker or thinner than any of the other corresponding girdle facets, then the girdle is considered "OUT" and will be assessed a 3 point error. If only one girdle facet is considered "OUT" the penalty will be only 25%. If more than one and less than five girdle facets are "OUT" the assigned error will be 50%. If more than 5 girdle facets are "OUT" the assigned error will be 100%. This type of error generally indicates problems with the transfer.

10.26 Grooved facets are facets that show grooving in the polish, similar in appearance to brush strokes on a canvas. They may be polished scratches or they may be the result of holding the stone still as the lap rotates, resulting in grooves left by the polishing lap. Herringbone effect in quartz or from crystal twinning can sometimes show up in the polish in the same manner. In USFG competitions this feature shall be assigned a 1-point error per facet. If the feature is "OUT" a 1-point error shall be placed in the 25%, 50%, or 100% columns.

10.27 IN or OUT – Terms that describe the accuracy of features of a stone, such as width, L/W, girdle width, meet point accuracy, etc. **"IN"** describes whether a feature is **correct** or **within tolerance**. Examples include precise meet points, accurate girdle width, and a correctly-sized table. **"OUT"** describes when a feature is outside of tolerance, or profoundly and obviously incorrect. Examples include meet points that have facet edges that do not actually meet in a single point, girdles with "stair-step" phenomenon, and tables that are asymmetric.

10.28 Ink Mark - A mark (permanent ink) placed on a stone by the judge to identify the indexing of the stone referenced to the pattern error sheet.

10.29 Judge - Persons selected by the Competition Committee to judge the various classes of USFG competitions. **Judges shall have completed the USFG Judging Certification Program**, and **be approved by the Training Judge and the BOD**. Judges generally work with the assistance of a marker, sometimes referred to as the penciler, who assists with the recording of errors on the Pattern Error Sheet and may also assist with transferring the error totals to the Score Sheet. Judges are usually compensated for their time with funds acquired from the **entry fees**. **The amount of compensation shall be determined and approved by the USFG Board** each year.

10.30 Judges' Comments Sheet - A short note provided by the judge to the cutter, with general comments

and observations about the stone. Following the "spirit of friendly competition", the comment sheet is intended to provide cutters with both encouragement and to highlight areas for improvement, in a constructive and professional manner. At the pleasure of the judge, comments may be typed or hand written.

10.31 Judge's Score Sheet - A formal sheet where errors are recorded tabulated, and the final score is calculated.

10.32 Lighting – The method of lighting for judging will be at the judge's discretion provided it is used equally on all stones in the class

10.33 Length - **In all cases the manner of determining the length and width will be clearly indicated on the gem design sheet**. In some designs the length may replace the width as the required measurement with a corresponding "tolerance" for scoring by the judge.

10.34 Length-to-Width ratio (L/W) - The ratio of the length divided by the width. Often, but not always, the L/W is measured **via parallel sets of girdle facets**. In some cases, though, this may be measured **flat to point** or **point to point**. **The L/W ratio,** will always be **clearly indicated on the faceting design sheet** with a corresponding **"tolerance"**. In USFG competitions, if the feature is "OUT" a 3-point error shall be placed in the 100% column.

10.35 Length-to-Width scoring – Measure both dimensions, L and W. Multiply the measured width by the design L/W ratio or divide the length by the L/W ratio to get the actual L/W ratio. Compare the actual L or W dimension to the calculated (or target) L or W dimension. If the measured L or W dimension is within the required limit of +/- 0.1 mm from the calculated L or W dimension, then the stone is considered "In" and will not be penalized. If this ratio feature is "out" a three (3) point error shall be placed in the 100% column.

10.36 Magnification - For judging a 10X loupe will be the only magnification allowed. **No exceptions!** Judges are allowed to use corrective eyewear as needed for normal vision in addition to the 10X lens magnifier.

10.37 Man-made faceting material - Transparent faceting materials that are created in a laboratory. This includes, but is not limited to, such material as **YAG (yttrium-aluminum garnet)**, **CZ (cubic zirconia)**, **corundum split boules**, **spinel**, and **glass**, etc.

10.38 Markers or Pencilers - The person assisting the judge with the scoring process, by writing the scores on the pattern error sheet as they are called out by the judge and/or the person who enters the final scores in the score sheet at the judge's direction.

10.39 Measuring – The only measuring tool allowed in USFG competitions shall be a digital caliper with suitable repeatability and resolution for measuring features such as Width and Length. The construction of the caliper jaws may be either plastic or metal, but preferably metal because it is less susceptible to deformation errors. If using calipers with metal jaws it is suggested that the contact surfaces of the jaws be protected with cellophane tape to reduce the risk of chipping stones, then zeroed before measuring each stone dimension. Ideally calipers should be periodically checked for accuracy against a known standard. It is suggested that girdle thickness may be measured using a comparative technique with a gauge of known thickness or diameter. Suggestions may include using a jeweler's saw blade, precision wire, or plastic film as a reference gauge. Judges have the option to use magnified scales, optical comparators, or reticules, but must use the same method for all stones judged.

10.40 Natural faceting material - Transparent materials that are created by the forces of nature. It includes natural materials, which may be treated to enhance color, transparency or other features. It does NOT

include materials, which would not have been facet able in their natural state before treatment, e.g. Mt. St. Helen Ash, which are regarded as man-made.

10.41 Meet point - **A point where three or more facets** culminate in a single point with no facet overcut or undercut. In USFG competitions, this feature shall be assigned one possible pattern point per meet point, **regardless of the number of facets comprising the meet point**. If the feature is "OUT" a 1-point error shall be placed in the 25%, 50%, or 100% columns. Please note that **all meets** carry the **same scoring weight** whether they are **comprised of 3 facets or 16** facets.

10.42 Overcut & Undercut – Overcut facets are those that miss the meet by virtue of removing too much material. Unfortunately, correcting this problem requires that the cutter **go back and recut the tier,** and in some cases the entire side of a stone. Undercutting a facet is definitely a lesser error, as the cutter may simply return to the same facet and remove slightly more material. In either case (over/undercutting) the judge shall score the affected meet as 'OUT'. A judge may point out on the comment sheet if a facet was over or under cut.

10.43 Faceting Design Sheet - A diagram or a particular pattern or cut, with **all** necessary information for cutting the design. **The faceting design sheet will also address specifications and issues regarding length, width, L/W ratio, number of facets, girdle design, tolerances, and required faceting materials for their respective competition classes**. All pattern sheets will incorporate the use of GemCAD for the generation of design parameters. For the sake of readability, the pattern sheet may be a set of multiple pages, with the diagram and cutting instructions followed by a list if additional competition parameters.

10.44 Pattern Error Sheet - A sheet used by the judge to permanently record the amount and type of errors a finished stone may have. The Pattern Error sheet (to be returned to the cutter) will also serve as a map to assist the cutter in "seeing what errors the judge found" on a stone submitted for competition. Pattern Error Sheets will also include an "**ink mark**" for referencing the indexing of the stone to the pattern errors.

10.45 Pavilion - Where a girdle plane exists, the pavilion is that part of the stone below the girdle plane. The pavilion will be clearly marked on the pattern sheet.

10.46 Plan View - That arrangement of points and lines that one sees when looking directly down or up the 90° vertical axis of the stone. While cutters may alter the angles or heights of the crown and pavilion, they may NOT add or subtract any facets from the plan view diagram. If alterations of the plan view can be detected by the judge indicating any change in the positioning and/or shape of facets there will be severe penalties applied, possibly including disqualification.

10.47 Pits - Any flaw, fracture, cleavage parting, or inclusion **that reach the surface**. Foreign matter on the surface that will not wipe off will be judged as a pit. In USFG competitions this feature shall be assigned one possible pattern point per facet. If the feature is "out" a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.48 Rounded Facets or Rounded Edge – A condition where a facet is not absolutely flat or the facet edges that are not sharp and crisp. Rounded facets usually occur when a cutter tries to gradually cheat a facet, using micro adjustments, into a meet point on one corner of the original facet. Rounding is easily detected on a facet edge if the facet edge reflects light. A sharp edge will not reflect light because it has no detectable width. Typically, this is caused by using too much polishing compound, or when using Ultra Laps (flexible mylar polishing laps) or by applying excess pressure to specific types of laps.

10.49 Scratches - Any mark on a faceted surface of the stone other than pitting, which are tiny chips. Scratches may involve any inclusion, fracture, or mark that breaks the surface of the stone. The finest of scratches may also be defined by the popular term **"cat hair".** In USFG competitions this feature shall be assigned 1-point error per facet. If a scratch is detected it is considered "OUT" and a 1-point error shall be placed in the 25%, 50%, or 100% columns.

10.50 Stones - The finished product of faceting, or faceted gemstones.

10.51 Stone Handler – The person assigned by the USFG Board and a member of the Competition Committee to facilitate the handling of the stones between the entrants and the judges.

10.52 Table – A crown facet parallel to the girdle plane and perpendicular to the stone axis/dop axis.

10.53 Tolerances - **All critical tolerances used for judging will be specifically stated on the faceting diagram sheets**. A judge may designate a stone to be ineligible or disqualified if the deviations from given measurement, exceeds the stated tolerance, resulting in **gross violations of the plan view,** subject to approval by the USFG Board.

10.54 Width - In all cases the width measurement will be clearly defined on the Faceting Design Sheet. In USFG competitions this feature shall be assigned 3 point error and will be considered "OUT". A 3 point error will be placed in the 100% column.

10.55 USFG - United States Faceters Guild**,** is a corporation dedicated to supporting and encouraging the education of faceters worldwide.

11.0 Judging Criteria – Pattern Error Sheet

Pattern Error Sheet

11.1 Scratches - Category 1
Each facet should be absent of scratches, including the finest of cat hair scratches. Scratches, inclusions or fractures that surface and look like scratches will be judged and assigned errors in this category

11.2 Pitting - Category 2
Each facet should be absent of pitting. The tiniest inclusions and fractures that surface and look like pits will be judged and assigned errors in this category. Foreign matter on the surface that will not wipe off will be judged as an error. Flaws, fractures, and cleavages partings will be judged under this category.

11.3 Grooved Facets - Category 3
Facets that have scratches that have been polished but remain as depressions in the polished surface are considered to be grooves. Typically grooving appears as a series of very fine parallel grooves, very similar in appearance to extremely fine brush strokes. Herringbone effect in Quartz can sometimes show up in the polish in the same manner. Both features will be judged in this category.

11.4 Rounded Facet or Edges and Unintentional or Ghost Facets - Category 4
Rounded Facets refers to facets that have to be gradually cheated to a meet point. Rounded Edges refers to the junction between facets that are not crisp or sharp. Unintentional Facets are facets that were accidental and do not appear on the diagram. Ghost facets usually result during the polishing stage, when trying to make minute corrections (cheating) to get facets to meet properly, but these minor corrections do not completely cover the original facet surface. These features will be judged under category 4 on the score sheet.

11.5 Facet Uniform – Category 5
Facets uniform refers to consistency in shape and size of facets in the same tier of the design. The number of facets in each tier should also be consistent with the design.

11.6 Meet points – Category 6
A point on the stone where 3 or more facets culminate in a single point with no facet over cut or under cut. Note some judges may choose to indicate over/under cut facets, but this is entirely optional.

11.7 Chips – Category 7
Chips occur along facet edges, at corners, and at culets. Chips can come from rough handling, contact damage, or when stones are dropped or come off the dop and they can be the result of subsurface damage from grinding laps that have not been completely removed by successive laps.

11.8 Girdle Uniform - Category 8
Girdle facets should be the be the same shape and dimensions indicated on the diagram. If the diagram indicates a level girdle, then all girdle facets should meet, top and bottom, all the way around the stone. Girdle facets shall be an exact replica of the girdle on the diagram.

11.9 L/W Ratio - Category 9
This feature is judged using the Width of the cutters stone. The length to width ratio is indicated on the faceting design sheet and score sheet. For all competition designs, the width is given as one of the required measurements. To determine the length/width ratio, the width of the stone is measured, and using the

formula L/W, the required length is then determined. If the cutter's stone is more than +/- 0.1mm larger or smaller than the required length, then the ratio is considered to be OUT and a 3-point 100% error is given.

11.10 Stone width - Category 10

The competition committee will set the stone width between 10 mm and 16 mm for each competition class. There will be an allowable margin of error of the stone width set by the competition committee. The allowable error will vary with the competition class. In the Novice class, the error shall not exceed +/- 0.3mm. In the Pre-Master class the error shall not exceed +/- 0.2mm. In the Master and Grand Master class the error shall not exceed +/- 0.1mm. The width will be clearly marked on the pattern sheet. If OUT, a 3-point 100% error will result. In some cases, the cutting order used to develop the girdle shape may require the Length to be used instead of Width. An example would be Omni Ovals, Hearts, and Tear Drop where the Omni starts at the longest part of the design.

11.11 Girdle thickness – Category 11

The required girdle thickness shall be included on the faceting diagram and the pattern error sheet. The girdle thickness for the Novice class shall be 0.5 mm +/- 0.3 mm. For the Pre-Master, the thickness of the girdle shall be 0.5 mm +/- 0.2 mm. For the Master and Grand Master classes the girdle thickness shall be 0.5 mm +/- 0.1 mm. If the Girdle Thickness is considered OUT a 3-point 100% error will be given.

12.0 Additional Judging Notes:

(Reference to judging categories, Pattern Error Sheet)

12.1 Categories **1, 2, 3, & 4 represent polish**.

12.2 The **girdle** shall be polished and judged under the same categories on the score sheet, "1 through 7" as with all other facets. Two other categories are specifically designated for the girdle alone. They are category **8 – "Girdle Uniform"** and category **11 – "Girdle Thickness".**

12.3 Scoring in categories **1 through 8** – Errors will be assigned a weighted value of 25%, 50%, or 100% point deduction depending upon the magnitude of the error.
12.3.1 A general definition of the weighted value scoring is as follows:
12.3.2 -25% off if the error is barely visible with a 10X loupe.
12.3.3 -50% off if the error is barely visible with the naked eye but easily seen with a 10X loupe.
12.3.4 -100% when a most serious error is seen with the 10X loupe and/or if the error is easily seen with the naked eye.

12.4 Scoring in categories **9 through 11** - Errors will be automatically assigned a 3 point 100% deduction.

12.5 Maintaining the Plan View (see 10.46)
12.5.1 Creating a change in the "plan view" when cutting a competition stone can be done by employing a severe change of angle(s) or index (indices) that will create a difference in facets observable to the judges. This falls under the judges' prerogative for disqualifying a stone.
12.5.3 This may also be done through a mishap of inadvertently leaving out or adding a tier of facets.
12.5.4 Both crown and pavilion are subject to penalty if the plan view of is in error.
12.5.5 If the plan view as defined is not followed as per the opinion of the judge, the stone will be ineligible/disqualified and the judge will give a written explanation on the patterns sheet.

12.6 Pre-judging of stones is strictly forbidden. Any indication of pre-judging will automatically, **without exception,** disqualify the participant from the competition. See section 8.0 of this document for further explanation.

12.7 The Minimum Final Score
The minimal final score that a judge will award is 50 out of 100 possible points.

12.8 Required Material to Cut
In the Novice competition the cutter is allowed to choose the material that they cut without penalty. In the Pre-Master, Master and Grand Master divisions the required cutting material is clearly indicated on the competition design form for that division. Part of what the judge is required to do is to weigh the stone. If they determine that a particular stone is significantly lighter or heavier than other competition stones in the same division, then the judge should examine the stone with a refractometer to determine if the stone has the same RI as the required material for that division. **If it is determined that the stone is not cut from the required material the judge must disqualify the stone.** At the judge's discretion, they may fill out a score sheet to show the cutter where they need improvement. But the stone will still be disqualified and ineligible for certification or awards.

12.9 Required Width of the Stone
The competition designs in each division of the competition is assigned a required width with a specific tolerance within which they must be cut to avoid a penalty.

Novice - When a size is given, it is always in millimeters. If it is stated that the size is to be a 10 mm round like a standard round brilliant (SRB) then the measurement is taken at the girdle flat to flat. **In the Novice class only**, you may have up to a +/- **0.3 mm error without penalty**. In other words, your stone could measure 9.7 mm to 10.3 mm without penalty. If it is outside those parameters it is considered OUT and the cutter will be assessed a 3-point 100% error.

Width Example

Pre-Master, Masters, & Grand Masters –In most round stone, hexagon, octagon, or rectangle designs, width is measured flat to flat and given a tolerance of +/- 0.2 mm. If a stone is to be cut at 10 mm this means a stone that measures 9.8 mm or 10.2 mm will be considered within parameters, and no errors will be deducted. Any greater error will result in a three (3) point 100% error. Any significant and excessive error will risk becoming ineligible or disqualified from competition.

Complex Example

In many stones, such as a pear, heart or pentagon, the cutter may not be able to measure flat to flat, and in extreme cases the cutter may not be able to measure the technical narrowest portion of the stone. Some triangular designs may be measured tip to point or tip to flat. For stones of this nature, the Length and Width must be marked clearly on the competition cutting diagram. This is the responsibility of the competition committee. For example, on an oval with the width defined as between index positions 93-03 and 45-51, the measurement will be taken point to point. In a coffin or kite cut, the width measurement is taken at the high end of the width, and the diagram will clearly show where the measurement is to be taken.

12.10 Length and Width Ratio

When you have a pattern with a length to width ratio (L/W) it must be within +/- 0.1 mm, or you will incur a three (3) point 100% error. Let us consider an example using the above parameters of 12 mm +/- 0.1 mm for the width and L/W of 1.33 +/- 0.1 mm on an oval. Let's say the width of your stone actually measures 12.0 mm, well within the rules. This particular pattern calls for a L/W ratio of 1 .33, hence 12.0 mm x 1 .33 = 15.96 mm. The measured length for this 12.00 mm wide stone may be (15.96 - 0.1 = 15.86) between 15.86 mm and (15.96 + 0.1 = 16.06) 16.06 mm without error. Any more or less and it is assessed a three 3-point 100% error. If the judge determines that the length and width ratio is extremely far from the specified L/W ration such that it no longer complies with the Plan View, the judge may make the stone ineligible or disqualified depending on the severity of the error.

12.11 Shapes, other than even sided rounds

For shapes such as pentagons and/or trillions, the minimum measurement between a tip and a flat, or between a tip and a point, shall be used to determine or defined width of the pattern. In all cases the published pattern sheet will have the specific requirements for each stone to be cut, plus tolerance.