2018.12.25 - HPOxygen Server 4.8.20

Here you can find information about what is new in HPOxygen Server version 4.8.20.

On this page:

Re-Designed Model Topology Editing Tool

The Model Topology Editing Tool has been re-designed. Now the tool allows removing extra edges and drawing in their place a new configuration - **all this within one operation**. This includes that:

- Now you can add new edges across the deleted edges.
- Now you can add vertexes out of an edge - at any place on the facet. Note that dangling vertexes and edges are highlighted with red and will be removed on model recalculation.
- The snapping to the end of edges is added, which means when you are adding vertexes and put mouse pointer close to the end of the edge, the system will snap the pointer to the end of the edge which makes adding vertexes more precise and comfortable.

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Smart Recut - Improved Usage of Extra Facets

Previously, for the "13. SmartRecut (Brilliant, Oval)" algorithm the **Allow Girdle Extra Facets** option was trying to keep already existing extra facets of the semi-polished stone. This approach actually did not work for the stones on the early stages of polishing (rough stones) for which the extra facets were not created in spite of the selected “Allow Girdle Extra Facets” option. This prevented from getting solutions with the maximum mass caused by using the extra facets.

Now the **Allow Girdle Extra Facets** option has been re-designed to always create the extra facet when possible, including cases of the rough stones.

MyRound Appraiser - New MaxMass Profile

For the "MyRound | GIA Facetware + MyRound" appraiser, the new profile has been added: "MyRound_Max".

Sometimes the solutions produced using the “MyRound | GIA Facetware + MyRound” appraiser may be just a little below the mass border (like 1/2/3/4/5 carats, or 0.7, 0.9 carats). It is important to have the ability to overstep the border value. The new “MyRound_Max” profile for the “MyRound | GIA Facetware + MyRound” appraiser has been added. The parameter intervals of this profile have been extended which allows getting solutions overstepping the mass border value but still inside GIA EX boundaries.

GIA Facetware + MyRound

Profile: **MyRound_Max** (read only)

Cut | Symmetry

Parameter	Grade	Value	[FR	[GD	[VG	[EX	EX]	VG]	GD]	FR]
Table			10	46,5	49,5	51,5	62,5	66,5	69,5	99
CrownAngle			10	21,75	26,25	31,25	36,75	38,75	40,25	90
PavilionAngle			10	38,7	39,7	40,5	41,9	42,5	43,1	90
SweetLine			-9	-6	-3	-1,5	1,5	3	6	9
StarLength			10	32,5	37,5	42,5	67,5	72,5	77,5	90
LowerGirdleLength			50	57,5	62,5	67,5	87,5	92,5	97,5	99
GirdleBezel			0	1,25	1,75	2,25	4,75	5,75	7,25	20
GirdleValley			0	0	0	0,75	2,94	4,14	6,14	20
CrownHeight			5	10,5	12	12,3	17	17,5	18,5	40
TotalHeight			10	54	57	58	64,5	66	70	90
Culet			0	0	0	0	1	1,5	2	20
CrownPainting			-9	-6	-3,5	-3,2	4,2	5	7	20
PavilionPainting			-9	-5	-3,5	-3,2	3,2	4	6	20
SumPainting			-9	-6	-5	-4,2	6,2	8	10	20
GirdleVerticality			-20	-1,5	-1	-1	0,5	1	1,5	20
HeightGirdleExtraFacet			0	0	0	0	3	4	8	20
GirdleCrownExtraFacets			0	0	0	0	0	2	4	20
GirdlePavilionExtraFacets			0	0	0	0	3	4	6	20
GirdleExtraFacets			0	0	0	0	2	4	8	20

Cut | Symmetry

Parameter	Grade	Value	EX]	VG]	GD]	FR]
Diameter			0,7	1,4	2,8	20
Table			1	1,7	3,4	20
CrownAngle			1	1,8	3,6	20
PavilionAngle			0,7	1,2	2,4	20
StarLength			7,2	12	24	48
LowerGirdleLength			4,8	8	16	32
GirdleBezel			1	1,8	3,6	20
GirdleBezelLocal			0,5	0,9	1,8	20
StarAngle			2,9	5,6	11,2	22,4
UpperGirdleAngle			4,8	8	16	32
LowerGirdleAngle			1,4	2,6	5,2	10,4
HalvesWidthLocal			6	10	15	20
CrownHeight			1	1,8	3,6	20
PavilionDepth			1	1,8	3,6	20
GirdleValley			1	1,8	3,6	20
GirdleValleyLocal			0,5	0,9	1,8	20
GirdleBone			1,1	1,8	3,6	20
GirdleBoneLocal			0,5	0,9	1,8	20
GirdleSlopeDeviationMax			3	4	5	32
2RRoundness22_5			1,1	1,5	2	20
2RRoundness45			1,3	2	2,8	20
2RRoundness90			1,3	2,4	3,6	20
TableOffset			0,5	0,8	1,6	20
CuletOffset			0,5	0,8	1,6	20
TableCuletOffset			0,7	1,2	2,4	20
TableEdge_TEV			2,2	3	4	20
BezelWidth			2,2	3	4	20
StarEdge			1,7	2,5	4	20
CrownPainting			4,5	6	8	20
PavilionPainting			4,5	6	8	20
TableAngle			4,5	6	8	20
OppositeAzimuth			2,75	4	6	20
FacetTwistMax			2,2	3	4	20
JunctionBezelTwistMax			1,2	2	3	20
OppositeSlopeSumHalf			0,5	1	1,5	20
StarFacetTwist			2	3	4	20
JunctionBoneTwistMax			1,2	2	3	20
MainCrownFacetsAzimuthSymm			3	4	6	20
MainPavilionFacetsAzimuthSymm			2	4	6	20
StarFacetsAzimuthSymm			3	4	6	20

You can find further details in the video below:

Settings - Lock to Scan

The new **Lock to scan** option has been implemented. The option locks the system to the **Scan & Build** mode and hides the Top Panel along with all the buttons.

blocked URL

To enable the option, go to **Settings** > **General Settings** > **General** section > **Display** tab > in the **Special Environment** group, select **Lock to scan**.

> Application restart is required for the new setting to take effect.

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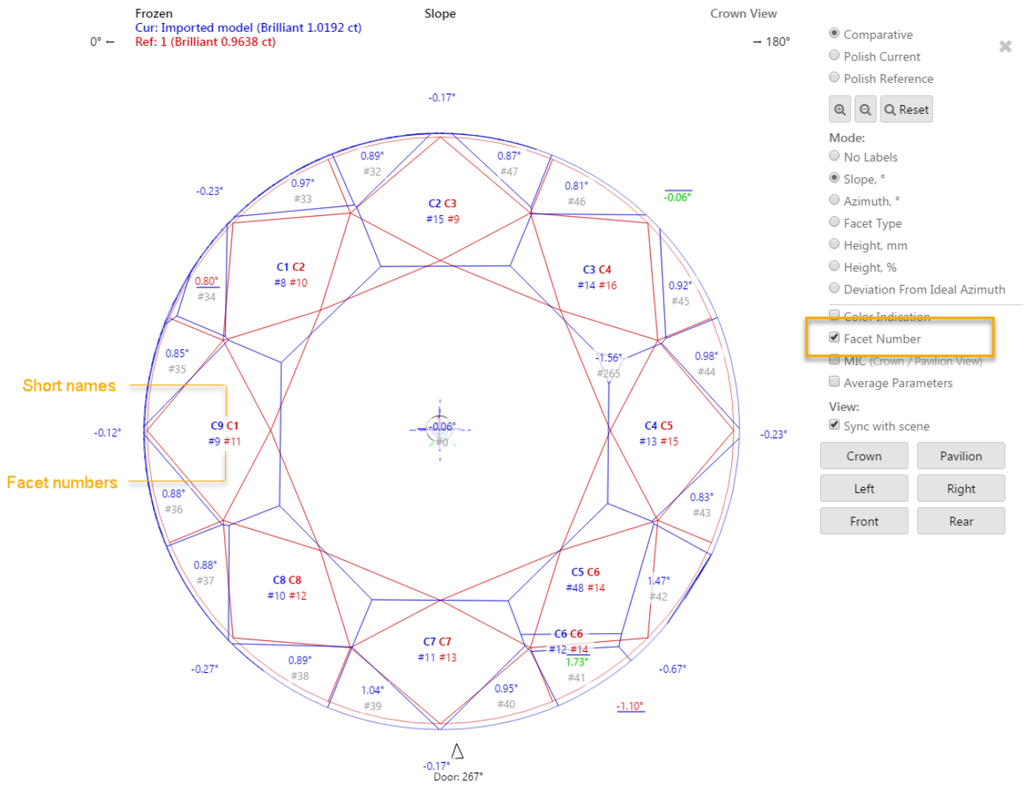
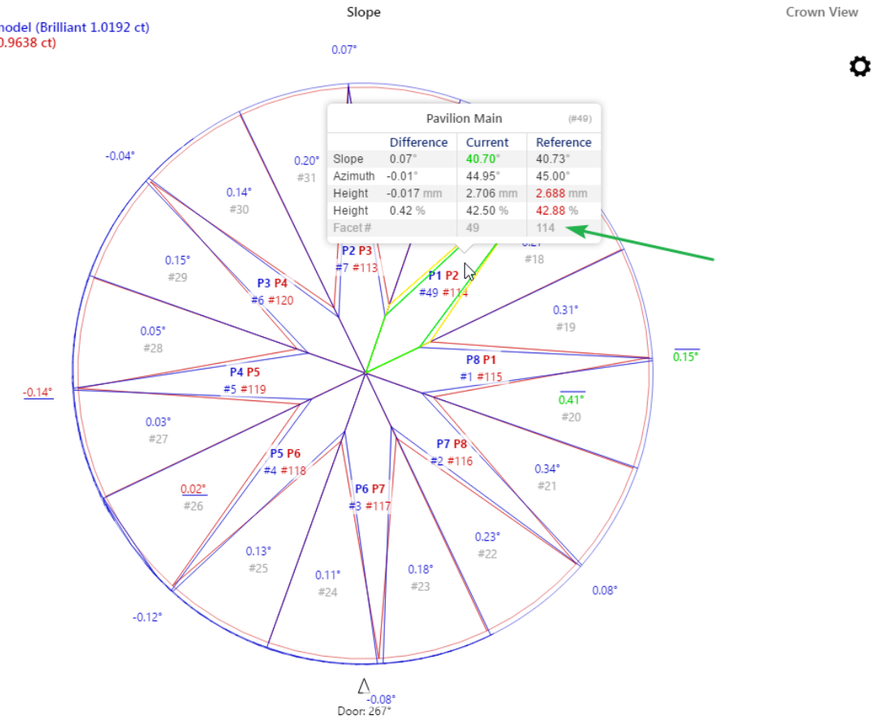
Comparative I3D Mini View - Facet Identification

Now in Comparative I3D Mini View, in "Comparative" mode, short names of the main facets and their numbers are displayed both for the current and for the reference models. They are colored correspondingly.

> Facet numbers are displayed only when the **Facet Number** check box is selected.



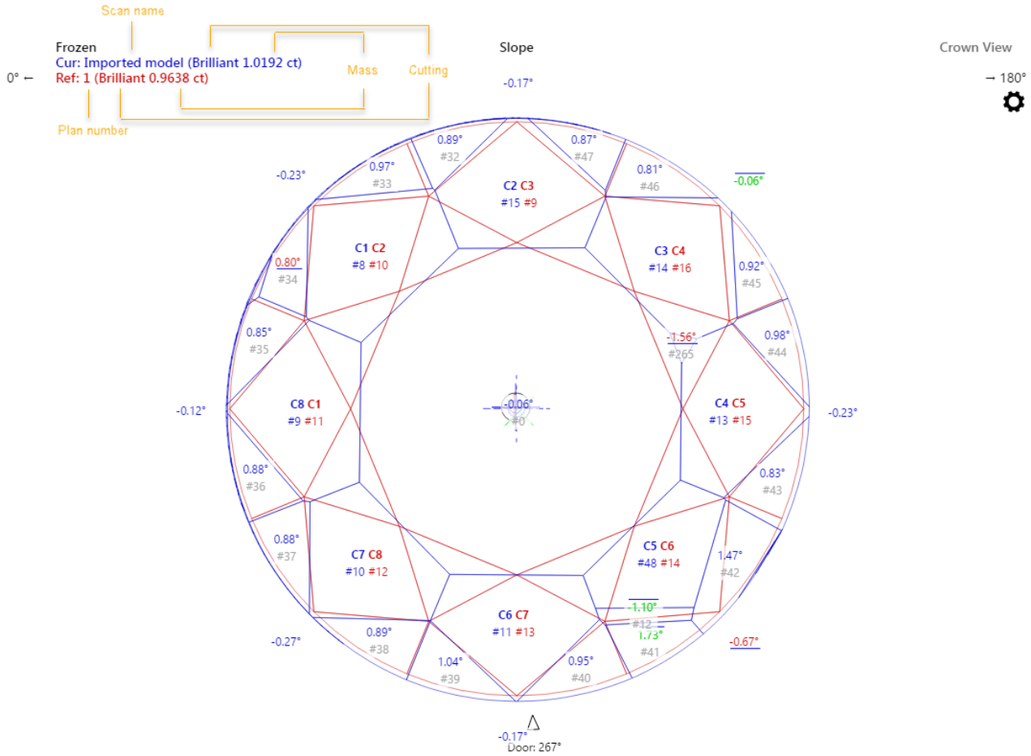
Also, the main facet numbers are now displayed in the tooltip shown on mouse over the facet.



Comparative I3D Mini View - Displaying Model Mass in Correspondence with Plan List

In comparative I3D Mini View, for what was selected from the plan list as the current and reference models the following information is displayed:

- Scan name (for example, "Imported Model") or plan number (for example "1"), followed by (in brackets):
- Cutting name
- Model mass, ct

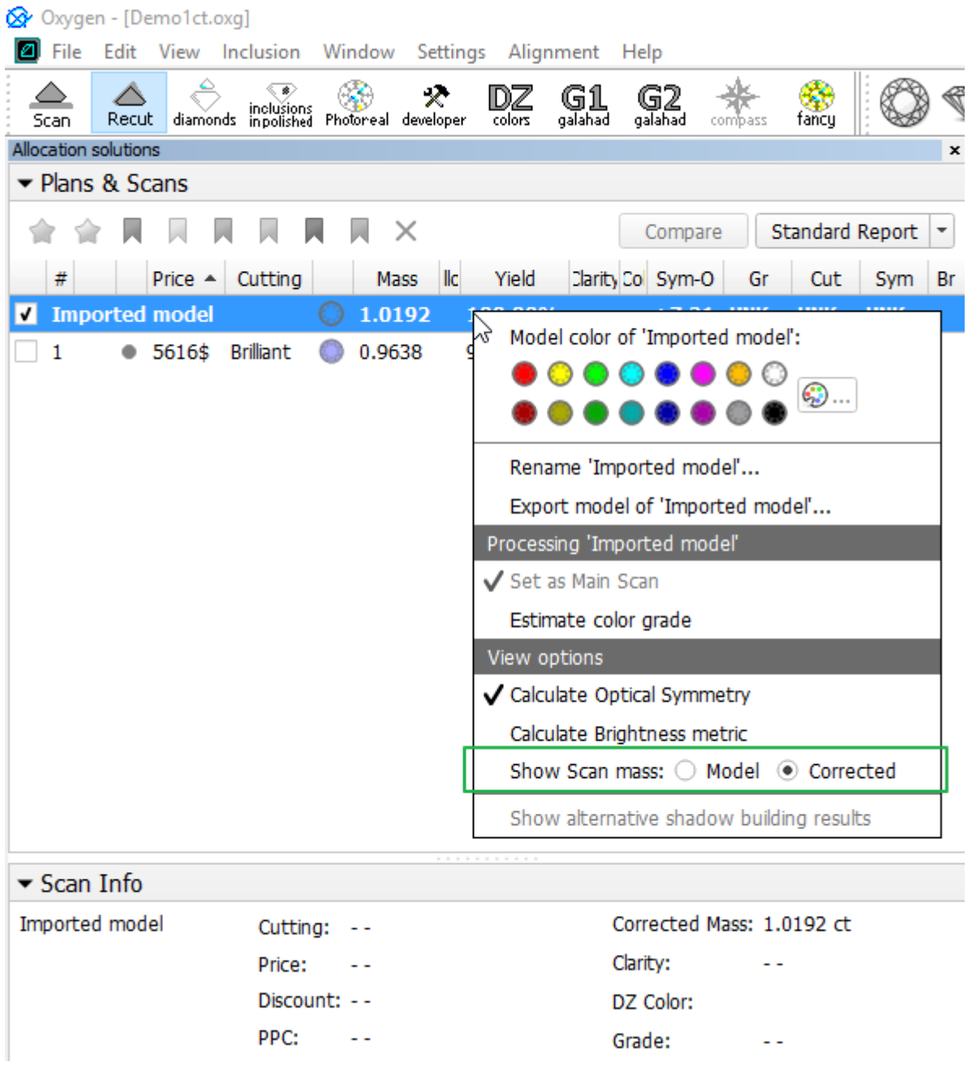


Δ Diameter minimum	Δ Diameter maximum	Δ Crown angle	Δ Pavilion angle	Δ Table	Δ Culet	Δ Spread
-0.071 mm	-0.112 mm	-0.24°	0.00°	2.32 %	-0.46 %	0.76 %

Δ Ratio (L/W)	Δ Crown height	Δ Pavilion height	Δ Total height	Δ Girdle height		
				Bezel	Bone	Valley
-0.006	-1.06 %	0.23 %	-0.63 %	0.28 %	-0.11 %	-0.17 %

Now for the scan, the displayed mass will be in correspondence with the mass displayed in the plan list. This may be:

- Model mass
- Corrected mass

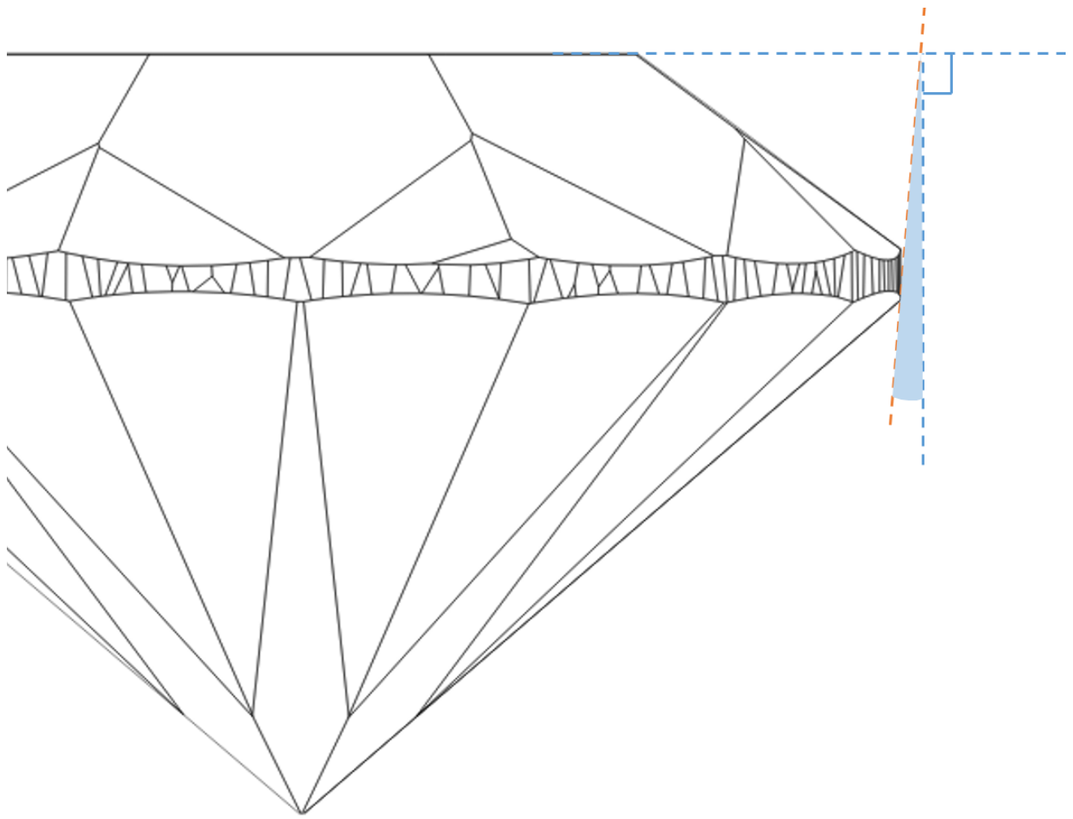


General - New Stone Parameters

The following new stone parameters have been added:

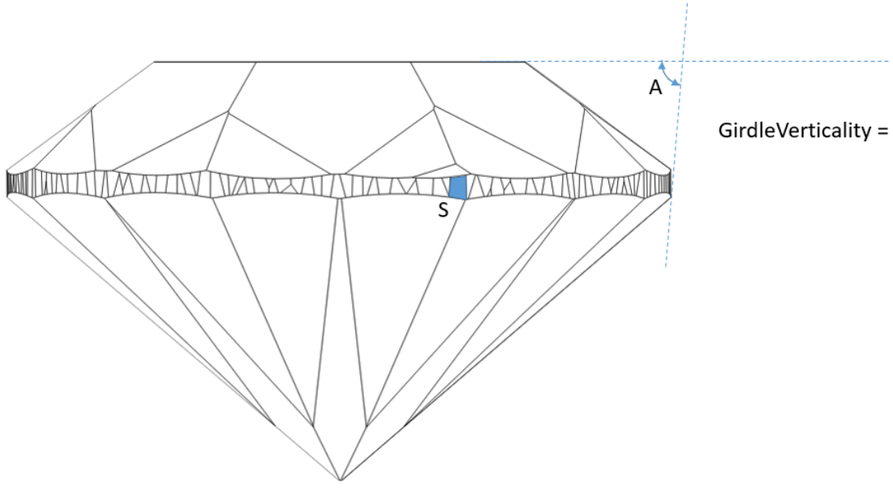
> This parameter is applicable to the Brilliant cut.

Girdle facets average slope deviation from vertical in degrees.



Calculation

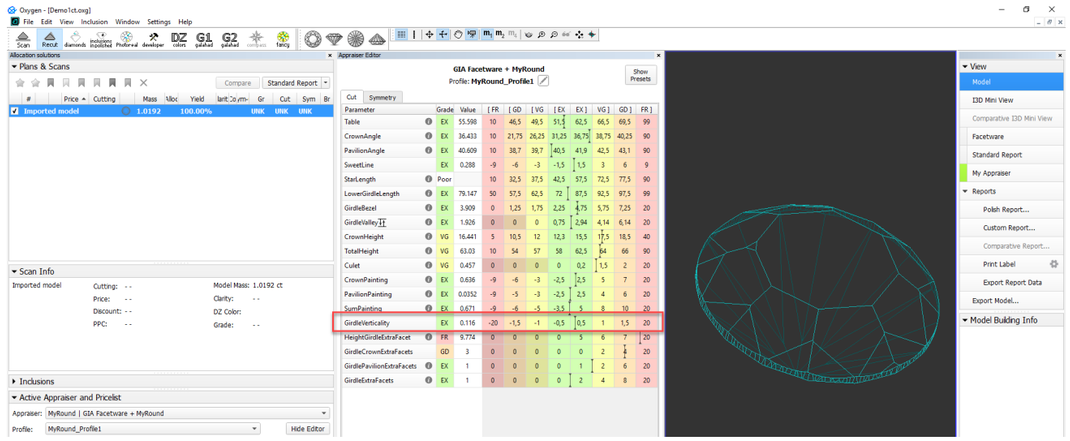
Th larger area the facet with the deviation from vertical has the more it affects visually the stone. That is why the areas of the Girdle facets are included into the calculation.



$$\text{GirdleVerticality} = \frac{\text{SUM}(S*(A-90))}{\text{SUM}(S)}$$

In User Interface

Recut > **Appraiser** = "MyRound | GIA Facetware + MyRound" > **Show Editor** > the **Cut** tab.

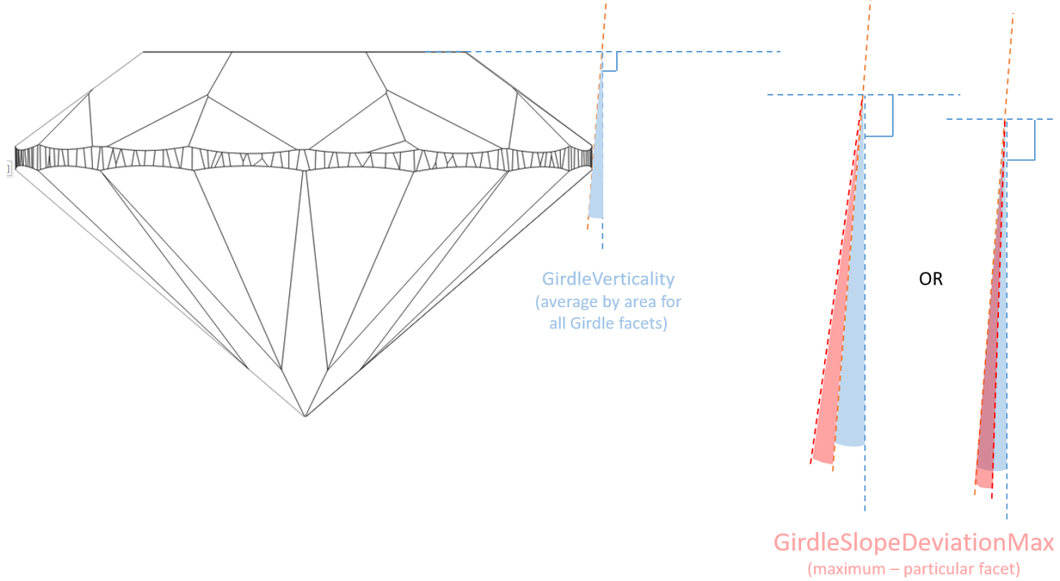


Reporting

Reported in	Section	Values	Units	Bookmarks
All full reports	Main Parameters	Avg	°	GIRDLE_VERTICALITY

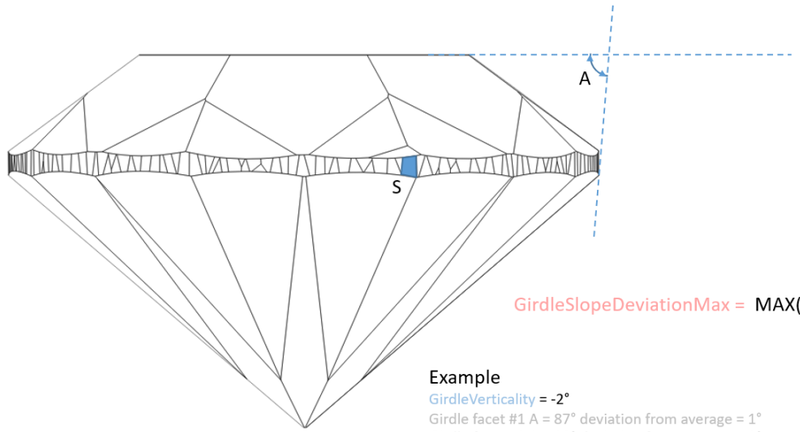
> This parameter is applicable to the Brilliant cut.

Maximum girdle facet slope deviation from **GirdleVerticality** in degrees.



Calculation

We take every Girdle facet, calculate its deviation from vertical (A-90), then compare it to average deviation from vertical (**GirdleVerticality**) for this stone, then from all found values we select the maximum. It is **GirdleSlopeDeviationMax**.



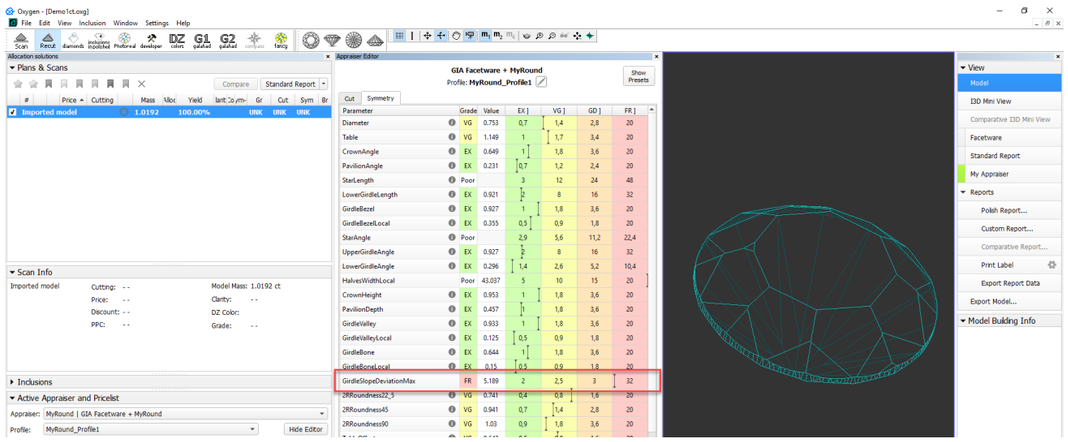
GirdleSlopeDeviationMax = MAX(|(A-90) – GirdleVerticality|)

Example
GirdleVerticality = -2°
Girdle facet #1 A = 87° deviation from average = 1°
Girdle facet #2 A = 88° deviation from average = 0°
Girdle facet #3 A = 86,8° deviation from average = 1,2° = GirdleSlopeDeviationMax
Girdle facet #4 A = 91° deviation from average = 1°

GirdleSlopeDeviationMax

In User Interface

Recut > **Appraiser** = "MyRound | GIA Facetware + MyRound" > **Show Editor** > the **Symmetry** tab.

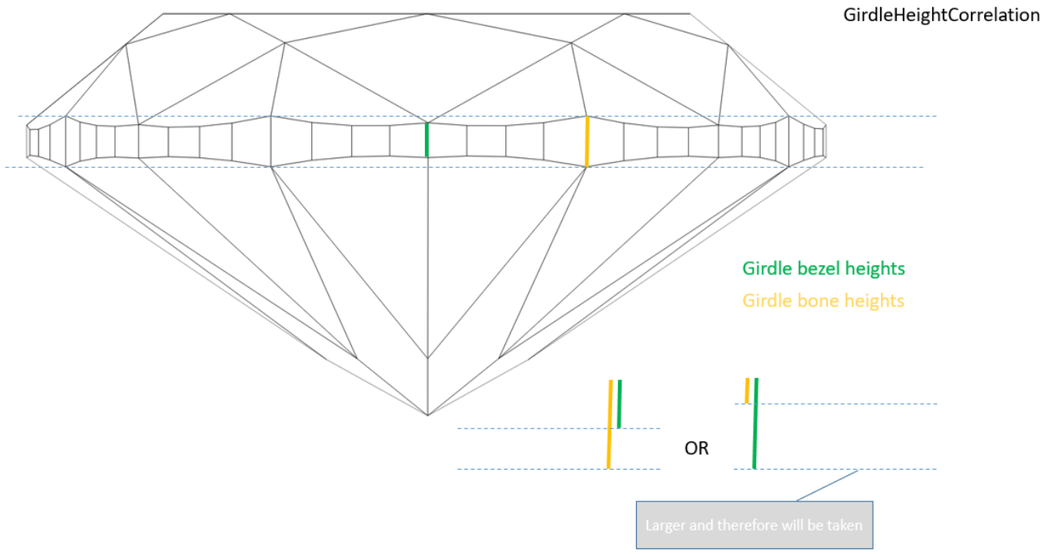


Reporting

Reported in	Section	Values	Units	Bookmarks
All full reports	Main Parameters	Avg	°	GIRDLE_SLOPE_DEVIATION_MAX

This parameter is applicable to the Oval cut.

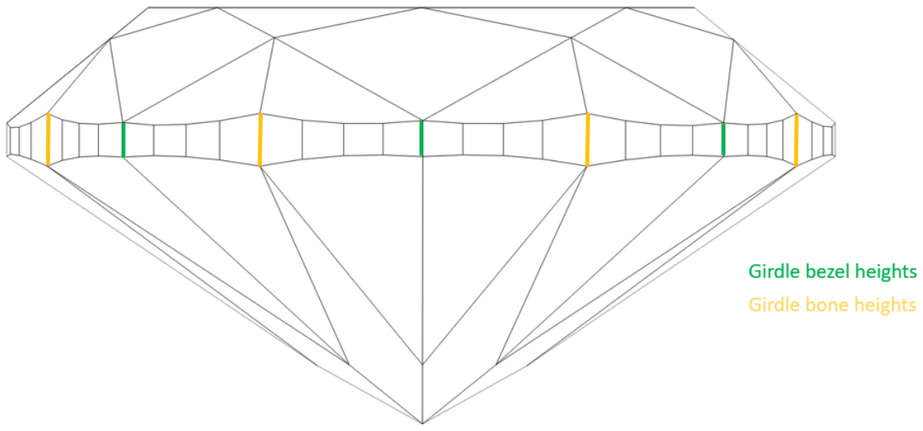
The maximum difference between the bezel and bone heights. The parameter shows how well a Girdle is leveled in the areas of bezel and bone: the less the value is, the greater the leveling.



Calculation

So we measure the height of every Girdle bezel and take the maximum from obtained values, we measure the height of every Girdle bone and take the minimum from obtained values, then calculate the difference between this maximum and minimum. This is the first number. Then from Girdle bones, we take maximum, from Girdle bezels - minimum, then calculate the difference between this maximum and minimum. This is the second number. Then we take maximum from these two numbers. This is our parameter.

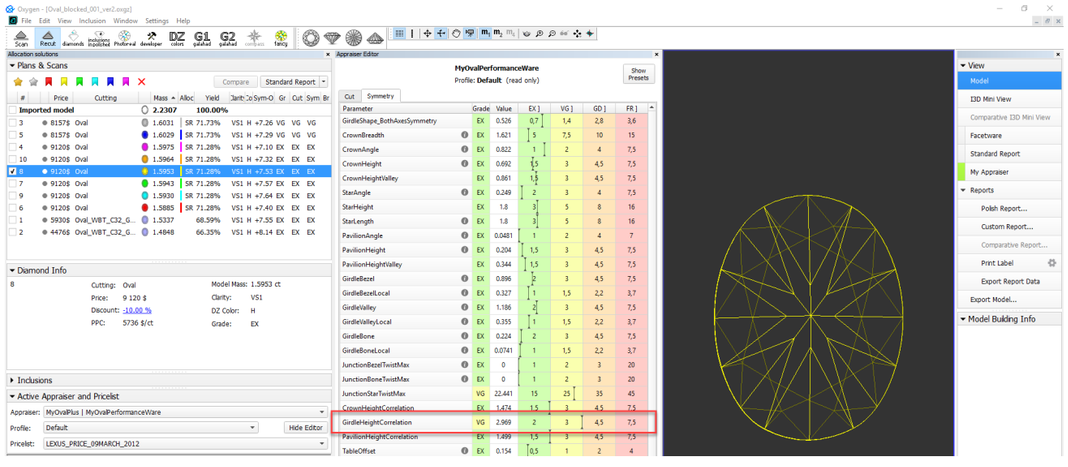
For detailed information about Girdle bezel and Girdle bone, see corresponding sections in the Girdle Thickness article. The detailed description of how Girdle bezel and Girdle bone are defined and used in the system is presented in the New measurements of Heights for Pavilion and Girdle section of the OctoNus site page.



MAX(MAX(Girdle bezel height)–MIN(Girdle bone height), MAX(Girdle bone height)–MIN(Girdle bezel height)**)**

In User Interface

Recut > **Appraiser** = "MyOvalOpt | MyOval" or "MyOvalPlus | MyOvalPerformanceWare > **Show Editor** > the **Symmetry** tab.



Reporting

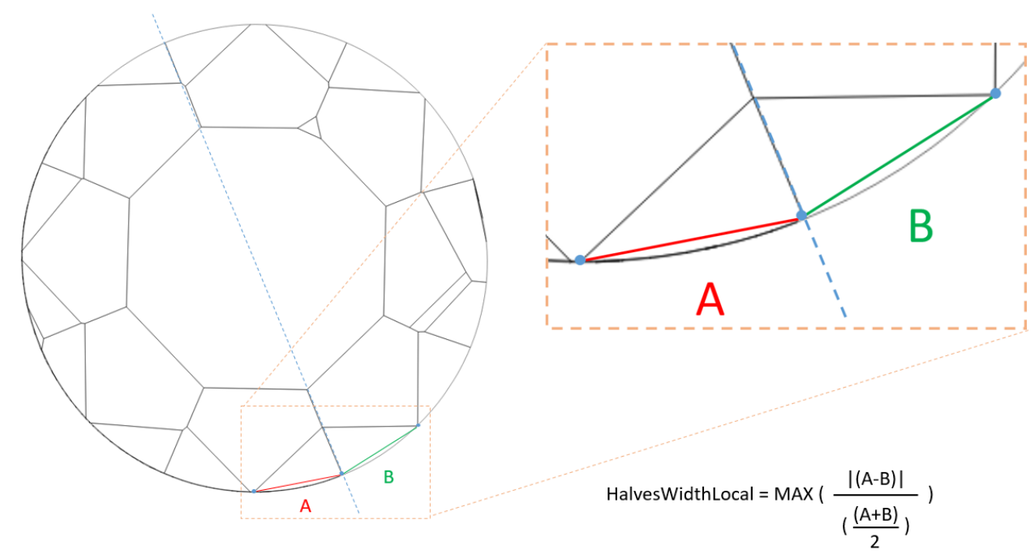
Reported in	Section	Values	Units	Bookmarks
Full Report for Rounded Fancies	Main Parameters	Avg	%(diameter)	GIRDLE_HEIGHT_CORRELATION

This parameter is applicable to the Brilliant and Oval cut.

The maximum difference between the lengths of Girdle chords of neighboring upper and lower facets.

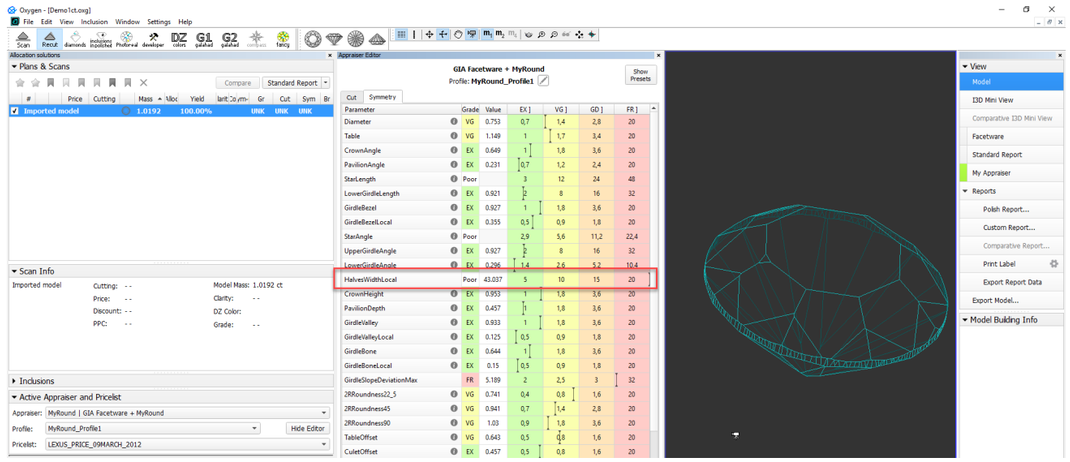
Calculation

For every pair of neighboring upper facets, we calculate the length of Girdle chords, then calculate the absolute difference between them and divide this difference by half sum of these chords. The same is done for lower facets. As we have this value for each pair of facets, we the take maximum of them.



In User Interface

Recut > **Appraiser** = "MyRound | GIA Facetware + MyRound" > **Show Editor** > the **Symmetry** tab.



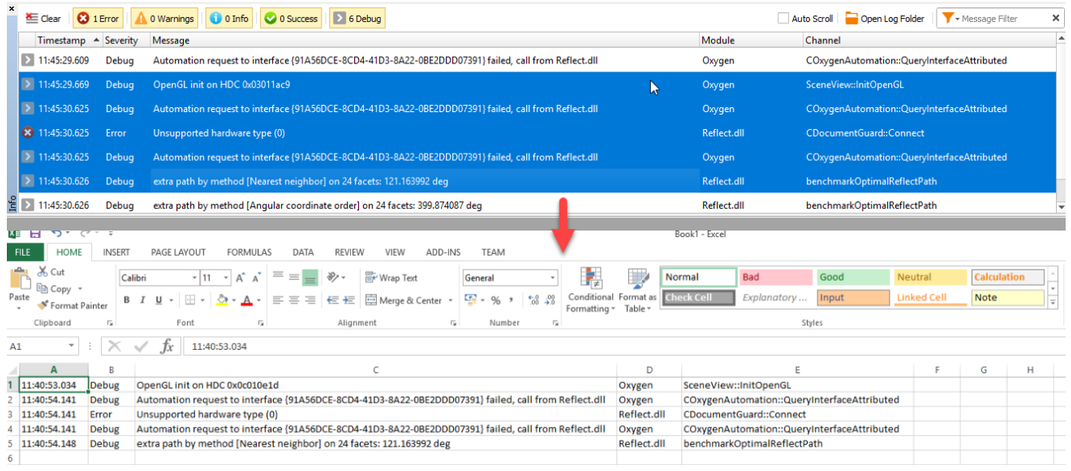
Reporting

Reported in	Section	Values	Units	Bookmarks
Currently NA	NA	NA	%	HALVES_WIDTH_LOCAL_DEVIATION

Logger Panel - Copying Presented Data

Now you can copy data presented in the Logger Panel (available on **View** > **Show logger (info) panel**) to the clipboard. The structure of data is kept so you can paste it immediately into Excel. Prior to copying, you can:

- Select all rows by CTRL-A
- Select a range of rows by SHIFT-click
- Select a range of rows by mouse over with the left mouse button held
- Add or exclude rows from selection by CTRL-click



Fixed Problems and Improvements

The following fixes for the known problems and improvements have been implemented:

1. For the model import, the recognition with the "Polished diamond" algorithm has been improved.
2. For the **G1 Galahad**, the algorithm detecting the reference facet of the current step has been improved.
3. The I3D Mini View:
    a. The "FILE NOT FOUND" error has been fixed.
    b. Girdle thickness visualization bugs have been fixed (this also fixes this problem for the I3D Report).
4. For the Comparative I3D Mini View and Report, the algorithm for transferring facet types from the reference to the current model has been improved.
5. Table identification for fancy cuttings is improved.
6. Bug with the **Precision** panel title not updating on the cutting switch has been fixed.

7. Girdle Deviation from Model Building Info panel has been added to the export report data: MODEL_BUILDING_GIRDLE_ERR_VALUE_*