

How to edit MyGIA (User-defined) boundaries

This "How-to" guide describes how to edit user defined boundaries on example of appraiser which is included in release Oxygen

This is sample of boundaries applying as additional limitation to GIA Facetware:

Parameter name	Minimum Value	Maximum Value
Average Table %	55	58
Average Crown Angle in degree	33	35
Average pavilion angle in degree	40.6	41.0
Average star Length %	45	50
Average Lower Length %	75	80
Average Girdle thickness bezel	2.8	3.8
Average Crown Height %	12.7	14.0
Girdle Description	THIN	MED
Culet size	0.0	0.5
Average Crown painting/Digging	-2.5	2.5
Average Pavilion Painting/Digging	-2.5	2.5
Sum of painting/digging	-3	4

Appraiser which is corresponds to this table is called My GIA 4/ GIA Facetware.M4.

It includes optimization part My GIA 4 which user can find by starting strings

[Appraiser]

Version: 7

Title: "My GIA 4"

It includes apprising part GIA Facetware.M4 which user can find by starting strings

[Appraiser]

Version: 7

Title: "GIA Facetware.M4"

These 2 parts are editable inside file MyGIA.txt placed in folder Facetware in root folder of program.

Step-by-step guide

- How to change interval for existed in appraiser parameter.

For example, user needs to change interval for Crown Angle for VG group to 30...36. It is necessary to

- Open MyGIA.txt in Notepad and find apprising part GIA Facetware.M4:

```
[Appraiser]

Version: 7
Title: "GIA Facetware.M4"
SerialNumber: 320

[quality]
EX 10 RGB 0 255 0
VG 20 RGB 255 0 255
GD 30 RGB 255 255 0
FR 40 RGB 255 0 0
[end]

[other]
UnknownQuality: Poor 60 RGB 255 255 255

value : t : DC_TableDiameter : stack : Ref1
value : b : DC_CrownAngle : stack : Ref1
value : a : DC_PavilionAngle : stack : Ref1
value : star : DC_StarFacets : stack : Ref1
value : lower : DC_LowerGirdleFacetLength : stack : Ref1
value : gi : DC_GirdleThickness : stack : Ref1
value : hc : DC_CrownHeight : stack : Ref1
value : h : DC_GirdleThicknessValue : stack : Ref1
value : cu : DC_Culet : stack : Ref1
value : acp : : stack : 0
value : app : : stack : 0
value : sum_ap : : stack : 0

interval : Restriction_Table : t : : : EX 55 58 VG 10 99 GD 10 99 FR 10 99 : (%) : "Intervals for Table"
interval : Restriction_CrownAngle : b : : : EX 33 35 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Crown Angle"
interval : Restriction_PavilionAngle : a : : : EX 40.6 41.0 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Pavilion Angle"
interval : Restriction_Star : star : : : EX 45 50 VG 10 90 GD 10 90 FR 10 90 : (%) : "Intervals for Star / upper ratio"
interval : Restriction_LowerLength : lower : : : EX 75 80 VG 50 99 GD 50 99 FR 50 99 : (%) : "Intervals for Lower length"
interval : Restriction_GirdleBezel : gi : : : EX 2.8 3.8 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (bezel)"
interval : Restriction_CrownHeight : hc : : : EX 12.7 14.0 VG 5 40 GD 5 40 FR 5 40 : (%) : "Intervals for Crown Height"
interval : Restriction_GirdleValue : h : : : EX 0.75 2.04 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (value)"
interval : Restriction_Culet : cu : : : EX 0 0.5 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for Culet"
interval : Restriction_ACP : acp : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ACP"
interval : Restriction_APP : app : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ASP"
interval : Restriction_Sum_ACP_APP : sum_ap : : : EX -3.0 3.0 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for Sum ACP APP"

grading : Restrictions : Restriction_Table Restriction_CrownAngle Restriction_PavilionAngle Restriction_Star Restriction_LowerLength Restriction_GirdleBezel Restriction_CrownHeight Restriction_GirdleValue Restriction_Culet : Bad :
grading : Painting : Restriction_ACP Restriction_APP Restriction_Sum_ACP_APP : Bad :

reserved : Calculator : "=InitData(GIA Adaptor)" : "DataValues(t,tavg,b,bavg,a,aavg,acp,paint_upp,app,paint_low,sum_ap,paint_sum)" : "Calculate parameters in GIA Adaptor appraiser"

externalgrading : Adaptor : "GIA Adaptor" Recommended : : : :
grading : Main : Adaptor Calculator Restrictions Painting : Bad : Final

[end]

[end]
```

- b. Find section with "intervals" - it contains intervals for different parameters for different cut quality groups. Here user can edit intervals for EX, VG and other cut quality groups.
- c. Edit string:

Before:

```
interval : Restriction_CrownAngle : b : : : EX 33 35 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Crown Angle"
```

After:

```
interval : Restriction_CrownAngle : b : : : EX 33 35 VG 30 36 GD 10 90 FR 10 90 : (°) : "Intervals for Crown Angle"
```

- d. Find optimization part My GIA 4:

```
[Appraiser]

Version: 7
Title: "My GIA 4"
SerialNumber: 316

[quality]
EX 10 RGB 0 255 0
VG 20 RGB 255 0 255
GD 30 RGB 255 255 0
FR 40 RGB 255 0 0
[end]

[other]
UnknownQuality: Poor 60 RGB 255 255 255
AssociatedAppraiser: "GIA Facetware.M4"

externalgrading : Adaptor : "GIA Adaptor" RecommendedGrading : : : :
grading : Main : Adaptor : Bad : Final

[end]

[cut]
Name: Brilliant
Quality: EX VG GD FR

DiamondStart: /file My4\Brilliant_Start.dmc

Parameters: DC_TableDiameter (%) DC_CrownAngle_Table (°) DC_PavilionAngle (°) DC_StarFacets (%) DC_LowerGirdleFacetLength (%) DC_GirdleThickness (%) DC_Culet (%) \
DC_CuletX (%) DC_CuletY (%) DC_GirdleRatio DC_GirdleDeviation (%)

Optimize: \ DC_TableDiameter DC_TableDiameter DC_TableDiameter_CrownAngleStarFacet_Fixed \
DC_GirdleThicknessValue DC_GirdleThickness DC_GirdleThickness \
DC_CrownAngle_Table DC_CrownAngle_Table DC_CrownAngle_Table \
DC_PavilionAngle DC_PavilionAngle DC_PavilionAngle \
DC_CrownAngleLevel1 DC_CrownAngle_Table DC_CrownAngle \
OP_1 DC_StarFacets DC_StarFacets \
OP_2 DC_LowerGirdleFacetLength DC_LowerGirdleFacetLength \
OP_3 DC_CuletY DC_CuletY \
OP_4 DC_GirdleDeviation DC_GirdleDeviation \

Mass: 0.00 100000 \
55.05 57.95 33.05 34.95 40.65 40.95 45.10 49.90 75 80 2.8 3.8 0 0.5 -0.6 0.6 -0.6 0.6 0.991 1.009 -0.9 0.9 \
44 72 20 41.5 37.2 44 45 55 60 95 0 7 0 3.74 -1.2 1.2 -1.2 1.2 0.982 1.018 -1.8 1.8 \
44 72 20 41.5 37.2 44 45 55 60 95 0 8 0 8.74 -2.4 2.4 -2.4 2.4 0.964 1.036 -3.6 3.6 \
44 72 20 41.5 37.2 44 45 55 60 95 0 11 0 13.75 -4.8 4.8 -4.8 4.8 0.928 1.072 -7.2 7.2 \

[end]

[fixedcut]
Name: Brilliant
DMCFiles: EX SetDiamond1 My4\Set1_Brilliant_EX.dmcx
DMCFiles: EX SetDiamond2 My4\Set2_Brilliant_EX.dmcx
[end]

[end]
```

- e. Find parameter DC_CrownAngle_Table - it is Crown Angle. In section *Mass:* and following table there are optimizartion intervals for parameters mentioned in *Parameters:* section. Each string corresponds to each cut quality group. All groupd are metnions in *Quality:* section.
- f. So we find second string for VG group and change 3rd and 4th values (they are correspond to Crown angle range) to 29.95 and 36.05 (we have to make 0.05 gap for optimization values in comparison with apprising values - it helps find better solutions during optimization):

Before:

```
Mass: 0.00 100000 \
55.05 57.95 33.05 34.95 40.65 40.95 45.10 49.90 75 80 2.8 3.8 0 0.5 -0.6 0.6 -0.6 0.6 0.991 1.009 -0.9 0.9 \
44 72 20 41.5 37.2 44 45 55 60 95 0 7 0 3.74 -1.2 1.2 -1.2 1.2 0.982 1.018 -1.8 1.8 \
```

After:

```
Mass: 0.00 100000 \
55.05 57.95 33.05 34.95 40.65 40.95 45.10 49.90 75 80 2.8 3.8 0 0.5 -0.6 0.6 -0.6 0.6 0.991 1.009 -0.9 0.9 \
44 72 29.95 36.05 37.2 44 45 55 60 95 0 7 0 3.74 -1.2 1.2 -1.2 1.2 0.982 1.018 -1.8 1.8 \
```

2. How to add parameter and its interval to appraiser.

For example, user needs to add Total Height parameter with range 58...62.5 to EX group. It is necessary to

a. Open MyGIA.txt in Notepad and find apprising part GIA Facetware.M4:

```
[Appraiser]

Version: 7
Title: "GIA Facetware.M4"
SerialNumber: 320

[quality]
EX 10 RGB 0 255 0
VG 20 RGB 255 0 255
GD 30 RGB 255 255 0
FR 40 RGB 255 0 0
[end]

[other]
UnknownQuality: Poor 60 RGB 255 255 255

value : t : DC_TableDiameter : stack : Ref1
value : b : DC_CrownAngle : stack : Ref1
value : a : DC_PavilionAngle : stack : Ref1
value : star : DC_StarFacets : stack : Ref1
value : lower : DC_LowerGirdleFacetLength : stack : Ref1
value : gi : DC_GirdleThickness : stack : Ref1
value : hc : DC_CrownHeight : stack : Ref1
value : h : DC_GirdleThicknessValue : stack : Ref1
value : cu : DC_Culet : stack : Ref1
value : acp : : stack : 0
value : app : : stack : 0
value : sum_ap : : stack : 0

interval : Restriction_Table : t : : : EX 55 58 VG 10 99 GD 10 99 FR 10 99 : (%) : "Intervals for Table"
interval : Restriction_CrownAngle : b : : : EX 33 35 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Crown Angle"
interval : Restriction_PavilionAngle : a : : : EX 40.6 41.0 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Pavilion Angle"
interval : Restriction_Star : star : : : EX 45 50 VG 10 90 GD 10 90 FR 10 90 : (%) : "Intervals for Star / upper ratio"
interval : Restriction_LowerLength : lower : : : EX 75 80 VG 50 99 GD 50 99 FR 50 99 : (%) : "Intervals for Lower length"
interval : Restriction_GirdleBezel : gi : : : EX 2.8 3.8 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (bezel)"
interval : Restriction_CrownHeight : hc : : : EX 12.7 14.0 VG 5 40 GD 5 40 FR 5 40 : (%) : "Intervals for Crown Height"
interval : Restriction_GirdleValue : h : : : EX 0.75 2.04 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (value)"
interval : Restriction_Culet : cu : : : EX 0 0.5 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for Culet"
interval : Restriction_ACP : acp : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ACP"
interval : Restriction_APP : app : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ASP"
interval : Restriction_Sum_ACP_APP : sum_ap : : : EX -3.0 3.0 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for Sum ACP APP"

grading : Restrictions : Restriction_Table Restriction_CrownAngle Restriction_PavilionAngle Restriction_Star Restriction_LowerLength Restriction_GirdleBezel Restriction_CrownHeight Restriction_GirdleValue Restriction_Culet : Bad :
grading : Painting : Restriction_ACP Restriction_APP Restriction_Sum_ACP_APP : Bad :

reserved : Calculator : "=InitData(GIA Adaptor)" : "DataValues(t,tavg,b,bavg,a,aavg,acp,paint_upp,app,paint_low,sum_ap,paint_sum)" : "Calculate parameters in GIA Adaptor appraiser"

externalgrading : Adaptor : "GIA Adaptor" Recommended : : : :
grading : Main : Adaptor Calculator Restrictions Painting : Bad : Final

[end]

[end]
```

b. Find section with "value" and add parameter DC_TotalHeight:

```
value : t : DC_TableDiameter : stack : Ref1
value : td : DC_TotalHeight : stack : Ref1
value : b : DC_CrownAngle : stack : Ref1
value : a : DC_PavilionAngle : stack : Ref1
value : star : DC_StarFacets : stack : Ref1
value : lower : DC_LowerGirdleFacetLength : stack : Ref1
value : gi : DC_GirdleThickness : stack : Ref1
value : hc : DC_CrownHeight : stack : Ref1
value : h : DC_GirdleThicknessValue : stack : Ref1
value : cu : DC_Culet : stack : Ref1
value : acp : : stack : 0
value : app : : stack : 0
value : sum_ap : : stack : 0
```

c. Find section with "intervals" and add interval for EX group 58...62.5 like this:

```
interval : Restriction_Table : t : : : EX 55 58 VG 10 99 GD 10 99 FR 10 99 : (%) : "Intervals for Table"
interval : Restriction_TotalHeight : td : : : EX 58 62.5 VG 10 99 GD 10 90 FR 10 90 : (%) : "Intervals for Total height"
interval : Restriction_CrownAngle : b : : : EX 33 35 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Crown Angle"
interval : Restriction_PavilionAngle : a : : : EX 40.6 41.0 VG 10 90 GD 10 90 FR 10 90 : (°) : "Intervals for Pavilion Angle"
interval : Restriction_Star : star : : : EX 45 50 VG 10 90 GD 10 90 FR 10 90 : (%) : "Intervals for Star / upper ratio"
interval : Restriction_LowerLength : lower : : : EX 75 80 VG 50 99 GD 50 99 FR 50 99 : (%) : "Intervals for Lower length"
interval : Restriction_GirdleBezel : gi : : : EX 2.8 3.8 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (bezel)"
interval : Restriction_CrownHeight : hc : : : EX 12.7 14.0 VG 5 40 GD 5 40 FR 5 40 : (%) : "Intervals for Crown Height"
interval : Restriction_GirdleValue : h : : : EX 0.75 2.04 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for gidle thickness (value)"
interval : Restriction_Culet : cu : : : EX 0 0.5 VG 0 20 GD 0 20 FR 0 20 : (%) : "Intervals for Culet"
interval : Restriction_ACP : acp : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ACP"
interval : Restriction_APP : app : : : EX -2.5 2.5 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for ASP"
interval : Restriction_Sum_ACP_APP : sum_ap : : : EX -3.0 3.0 VG -9 20 GD -9 20 FR -9 20 : (°) : "Intervals for Sum ACP APP"
```

d. Find section *grading* : *Restrictions* and add Restriction_TotalHeight there:

```
grading : Restrictions : Restriction_Table Restriction_TotalHeight Restriction_CrownAngle Restriction_PavilionAngle Restriction_Star Restriction_LowerLength Restriction_GirdleBezel Restriction_CrownHeight Restriction_GirdleValue Restriction_Culet : Bad :
```

e. That is all. There is no need to add parameter TotalHeight in optimization part My GIA 4 because there are other parameters which form total height of stone and they are optimized.