

Smart Recut with restrictions

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Overview

Smart Recut algorithm is enabled with the options to fix the girdle, girdle+crown, or girdle+pavilion. These may be used, for example, when seeking a recut solution for a stone which has perfect pavilion but the substandard or unfinished crown. In this case, the cutter may prefer to keep the pavilion unchanged and to reshape just the crown.

The Smart Recut algorithm with fixation offers three possible options, namely: fixed girdle, fixed girdle + crown, and fixed girdle + pavilion. The algorithm fixes the planes of the facets in the affected parts, but not the facets themselves; their edges can move as the adjacent facets (which are not fixed) change their positions.

The Smart Recut with fixed elements works only on convex models.

To use this option, perform the following steps:

1. Open the model.
2. Run a simple Recut to produce a starting point for Smart Recut.
3. In the **Recut** panel, select the "Fix Girdle" checkbox.

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Note that the options "Fix Crown" and "Fix Pavilion" become available only after "Fix Girdle" is enabled. Note also that these options cannot be enabled simultaneously, so there are three possible selections:

- "Fix Girdle"
- "Fix Girdle" + "Fix Crown"
- "Fix Girdle" + "Fix Pavilion"

Select algorithm and diamonds for allocation.

Algorithm

13. SmartRecut (Round)

All presets

Cutting list

Brilliant

☒ Fix Girdle

☐ Fix Crown

☒ Fix Pavilion

grade of 1st diam:

EX

symmetry:

EX

4. Fill in the other options as you need, and press Run.
5. The Smart Recut solutions with fixed girdle will appear.

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Note that when the limitation is too strict, so the Smart Recut algorithm fails to produce a better solution, it will resort to using the initial simple Recut as a solution.

Examples

Fixed Girdle

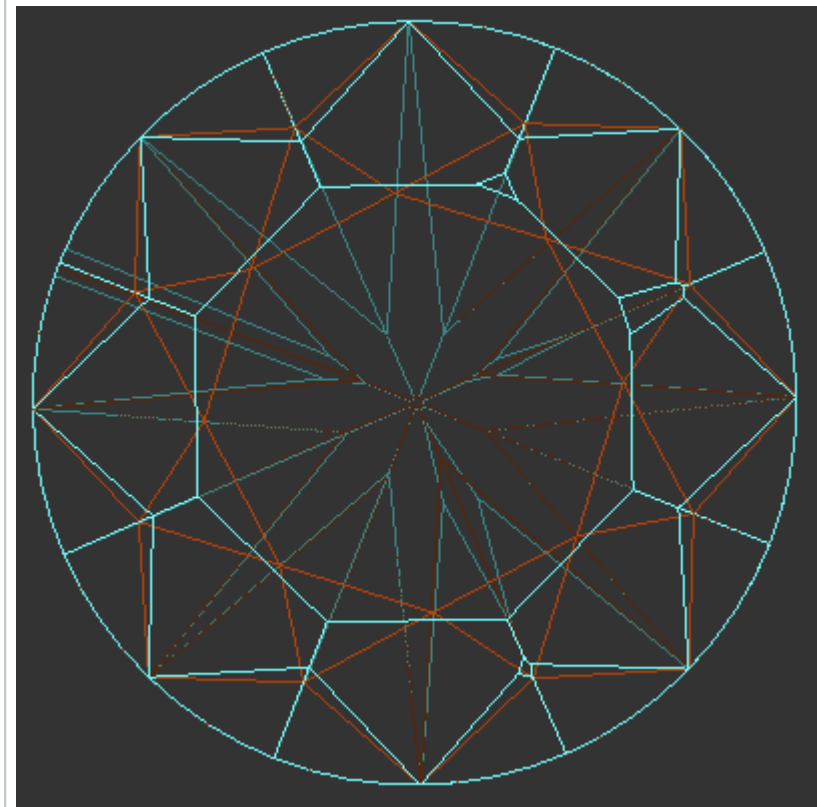
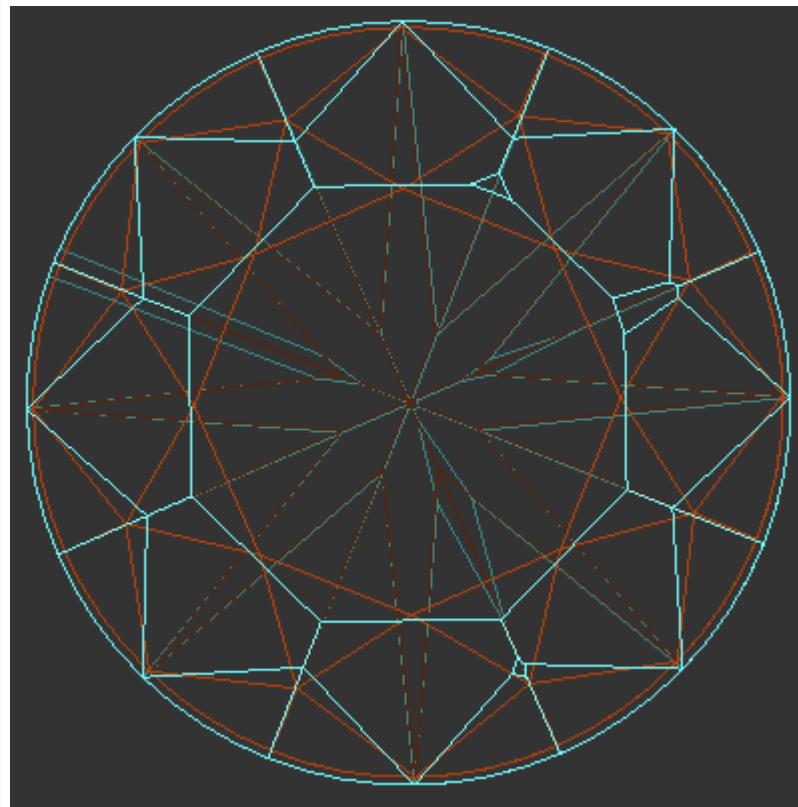
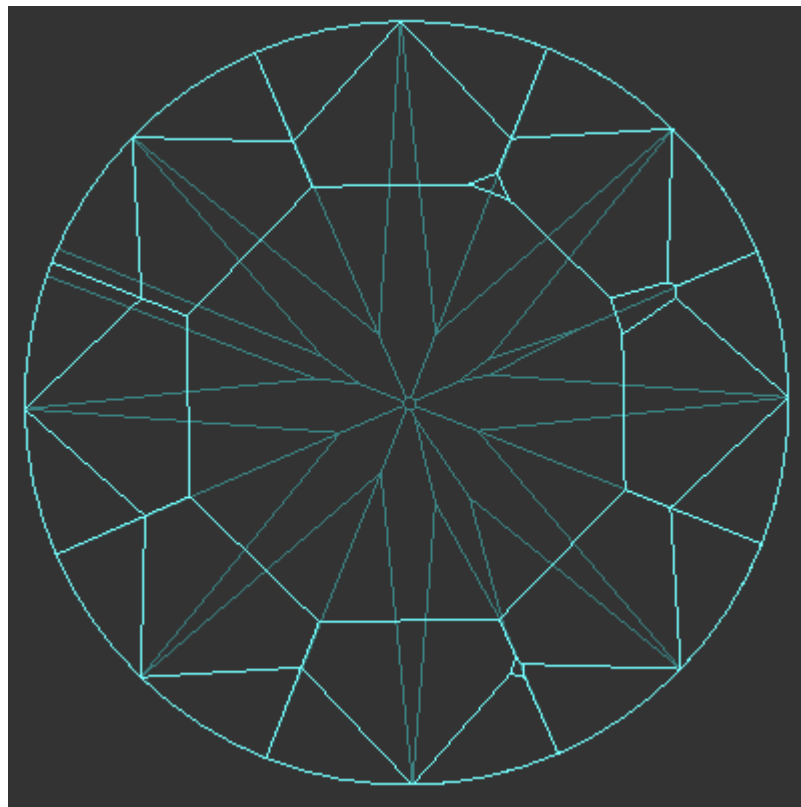
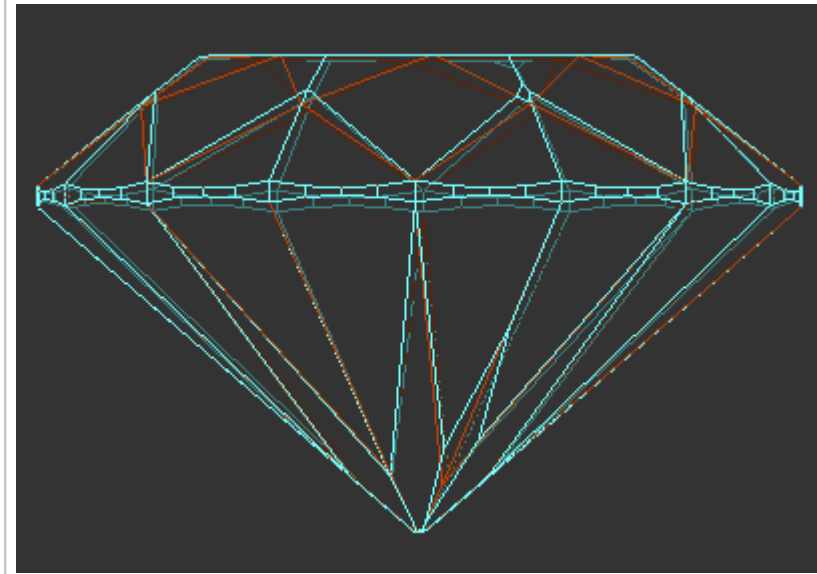
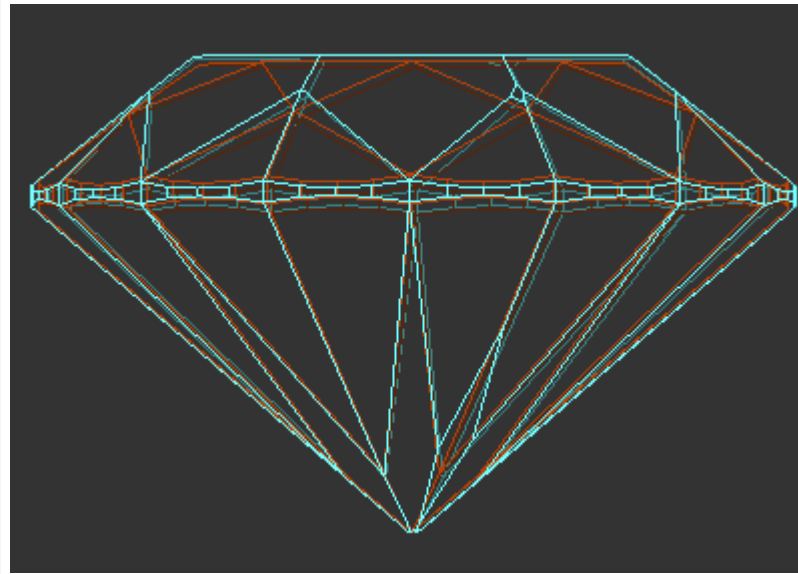
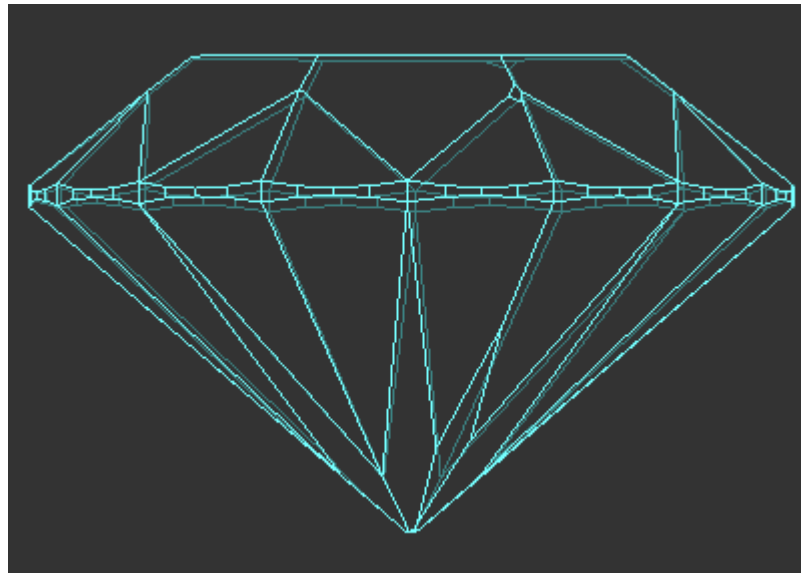
Allocation solutions

Plans & Scans

delete

	#		Price	Cutting	Mass	Yield	Clarity	Col	m	Gr	Cut	Sym
<input type="checkbox"/>	Active scan			Scan	0.8301							
<input checked="" type="checkbox"/>	5		3690\$	Brilliant	0.8195	98.79%	VS1	H		EX	EX	EX
<input type="checkbox"/>	8		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	3		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	2		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	9		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	7		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	4		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	6		3645\$	Brilliant	0.8180	97.58%	VS1	H		EX	EX	EX
<input type="checkbox"/>	1		3510\$	Brilliant	0.7884	93.97%	VS1	H		EX	EX	EX

Smart Recut example (Fixed Girdle)		
Model used: Sample_round_SR_fixed_girdle-hpo_3.19.37.oxg		
Original model	After simple Recut	After Smart Recut



• Fixed Girdle+Crown

Allocation solutions

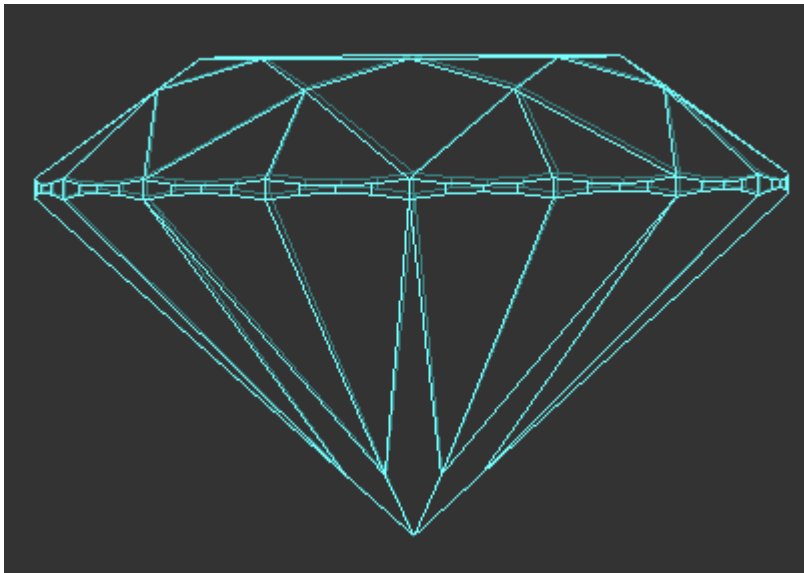
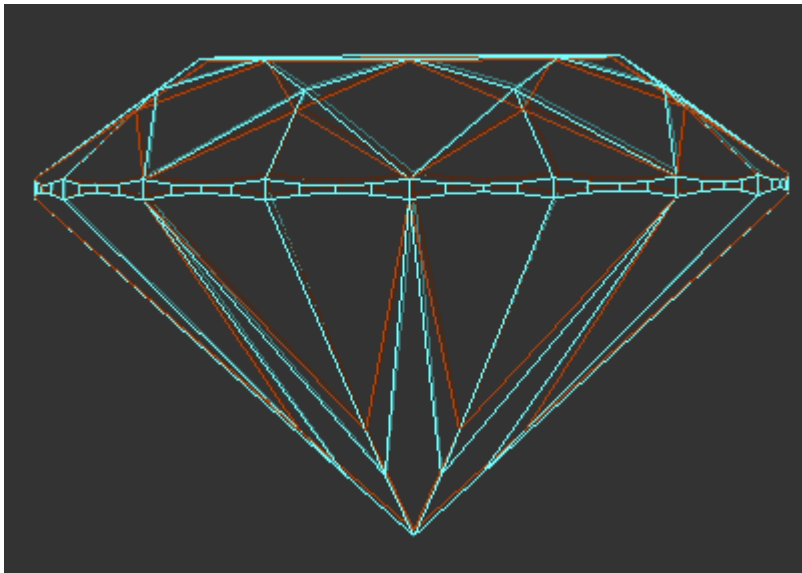
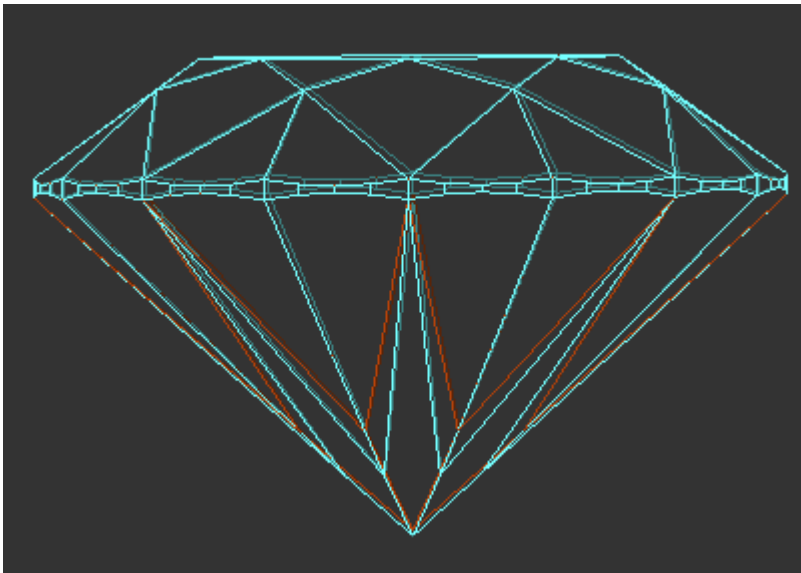
▼ Plans & Scans

delete

	#		Price	Cutting	Mass	Yield	Clarity	Col	m	Gr	Cut	Sym
<input type="checkbox"/>	Active scan			Scan	0.8208							
<input checked="" type="checkbox"/>	13		3645\$	Brilliant	0.8174	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	14		3645\$	Brilliant	0.8174	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	11		3645\$	Brilliant	0.8174	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	12		3645\$	Brilliant	0.8174	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	2		3645\$	Brilliant	0.8140	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	4		3645\$	Brilliant	0.8140	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	3		3645\$	Brilliant	0.8131	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	5		3645\$	Brilliant	0.8131	98.68%	VS1	H		EX	EX	EX
<input type="checkbox"/>	10		3600\$	Brilliant	0.8053	97.46%	VS1	H		EX	EX	EX
<input type="checkbox"/>	1		3600\$	Brilliant	0.8053	97.46%	VS1	H		EX	EX	EX

Smart Recut example (Fixed Girdle+Crown)

Model used: [Sample_round_SR_fixed_crown-hpo_3.19.37.oxgz](#)

Original model	After simple Recut	After Smart Recut
		

- Fixed Girdle + Pavilion

Allocation solutions

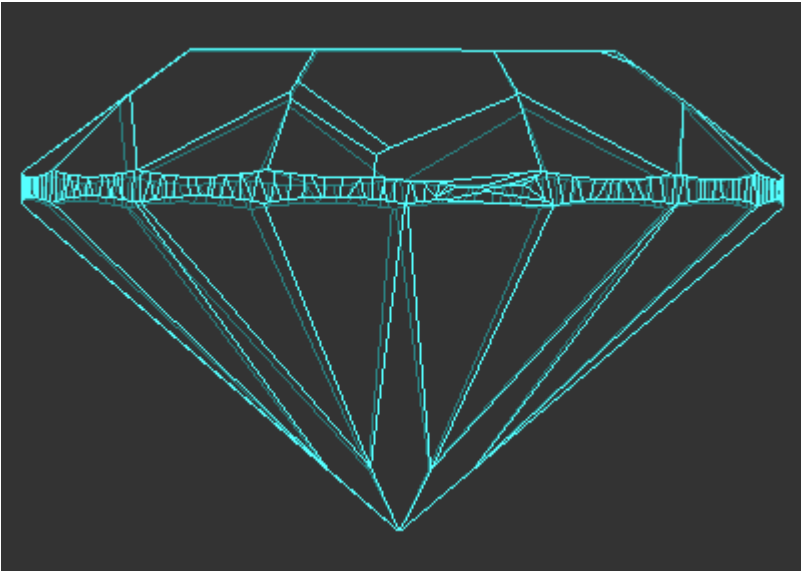
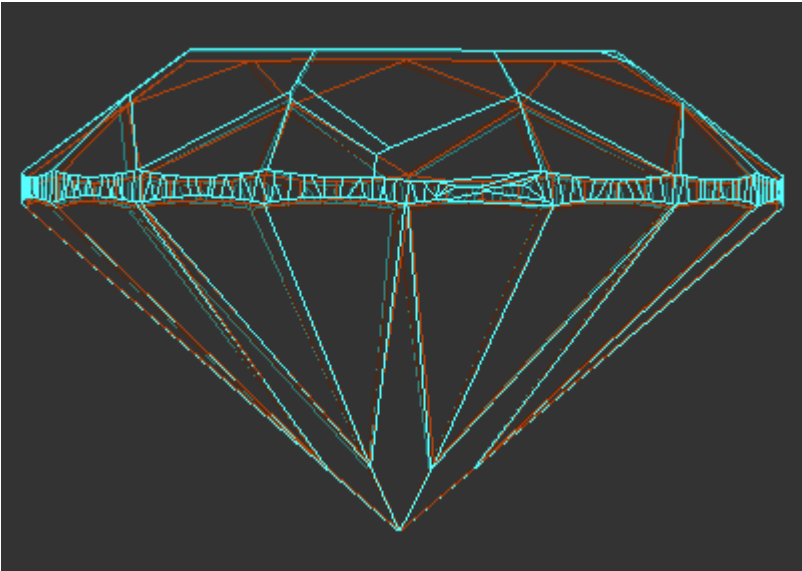
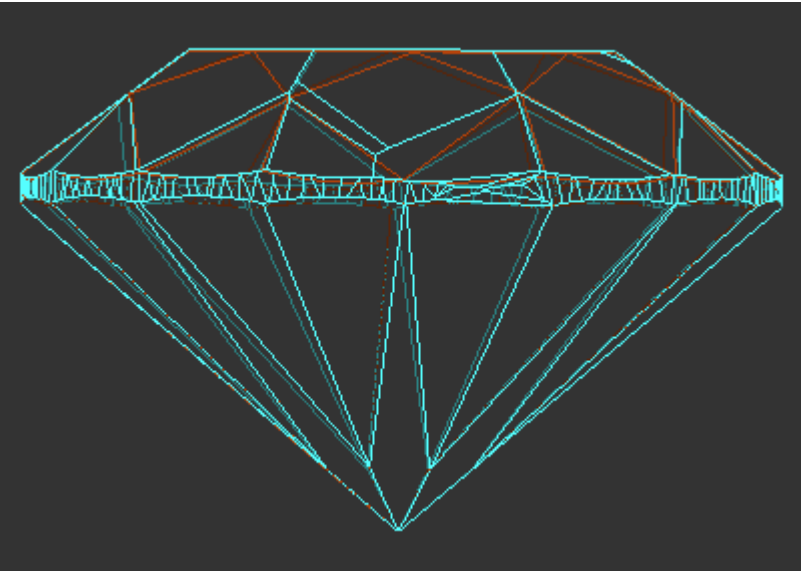
Plans & Scans

delete

	#		Price	Cutting	Mass	Yield	Clarity	Col	m	Gr	Cut	Sym
<input type="checkbox"/>	Active scan			Scan	1.0192							
<input checked="" type="checkbox"/>	9		7407\$	Brilliant	1.0087	99.10%	VS1	H		EX	EX	VG
<input type="checkbox"/>	7		6518\$	Brilliant	1.0061	98.11%	VS1	H		VG	VG	VG
<input type="checkbox"/>	3		6518\$	Brilliant	1.0040	98.11%	VS1	H		VG	VG	VG
<input type="checkbox"/>	8		6518\$	Brilliant	1.0002	98.11%	VS1	H		VG	VG	VG
<input type="checkbox"/>	1		5674\$	Brilliant	0.9694	95.17%	VS1	H		EX	EX	EX
<input type="checkbox"/>	10		5674\$	Brilliant	0.9694	95.17%	VS1	H		EX	EX	EX
<input type="checkbox"/>	2		5324\$	Brilliant	0.9091	89.28%	VS1	H		EX	EX	EX
<input type="checkbox"/>	4		5148\$	Brilliant	0.9950	97.13%	VS1	H		VG	VG	VG
<input type="checkbox"/>	6		5148\$	Brilliant	0.9895	97.13%	VS1	H		VG	VG	VG
<input type="checkbox"/>	5		5148\$	Brilliant	0.9895	97.13%	VS1	H		VG	VG	VG


Smart Recut example (Fixed Girdle+Pavilion)

Model used: [Sample_round_SR_fixed_pavilion-hpo_3.19.37.oxg](#)

Original model	After simple Recut	After Smart Recut
		


Remove Facets from Fixing

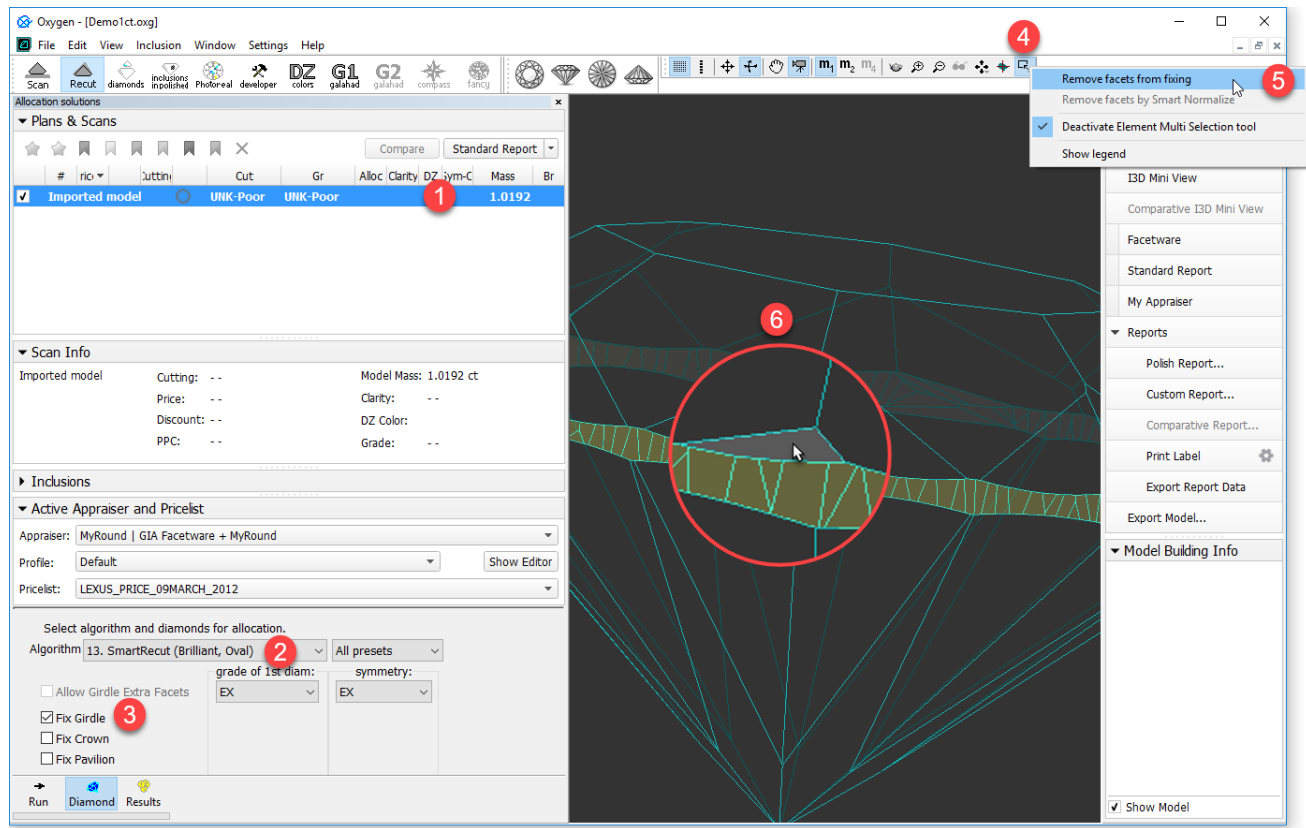
An *Element Multi Selection Tool* can be used with the "13. SmartRecut (Brilliant, Oval)" algorithm. Using the tool, you can adjust the **Fix Girdle**, **Fix Crown**, **Fix Pavilion** options usage by manual removing the facets from fixing. For example, if under the "13. SmartRecut (Brilliant, Oval)" algorithm, the **Fix Girdle** option is selected, it freezes all the facets of the girdle not allowing the algorithm to remove them; then, using the *Element Multi Selection Tool* you can exclude some facets from this freeze, so that the algorithm will mandatorily remove them from the future solution.



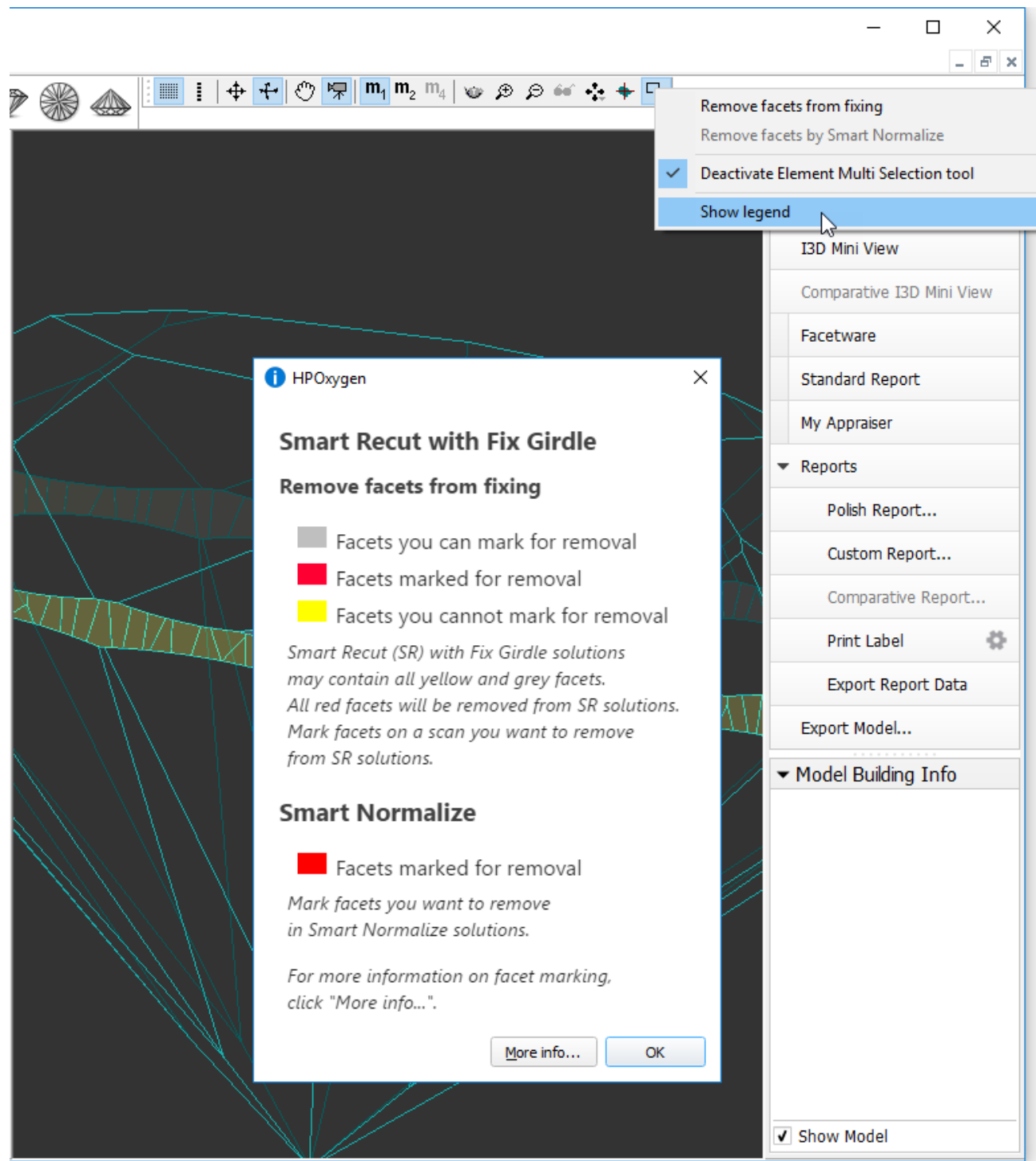
The "Remove facets from fixing" selection mode is applicable when all these conditions are met:

- a convex scan is selected in the list
- the "13. SmartRecut (Brilliant, Oval)" algorithm is selected
- at least one "fix" option is selected

To use the tool, in the **Recut** mode select your convex scan in the list, then select the "13. SmartRecut (Brilliant, Oval)" algorithm, set "Fix" options, and then on the main panel toolbox, click  > **Remove facets from fixing**. This activates the Element Multi Selection Tool; now in the Scene, you can mark facets to be removed from fixing.



The Element Multi Selection Tool includes legend available on clicking **Show legend**.



To view additional information, click **More info**. This will open a help page in your browser containing some detailed information on functionality.

As you finished with marking facets, on the main panel toolbox, click  > **Deactivate Element Multi Selection tool**. This deactivates the tool.

 Note that highlighting of current fixing options is only visible in the Scene when the "13. SmartRecut (Brilliant, Oval)" algorithm is selected and fixing options are enabled.