

G1 Galahad

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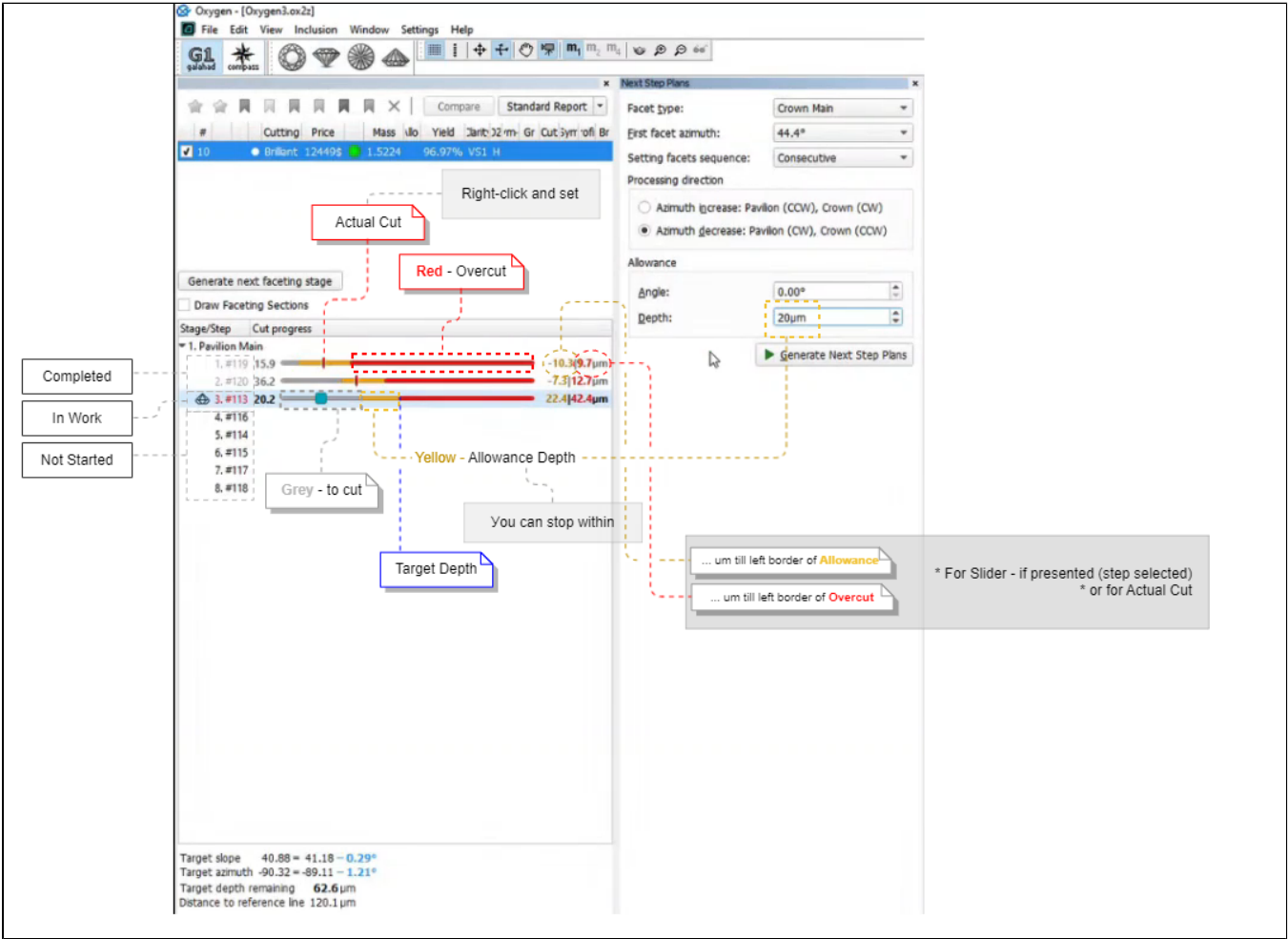
Overview

G1 Galahad mode allows visualizing of virtual steps of the cutting process of stone. **G1 Galahad** mode helps cutter to cut facets correctly by visual control of facet shape and difference values of slope, azimuth, the distance between plan and current model.

In the **G1 Galahad** mode, you generate polishing *steps* leading from the current scan to the target solution. Each step is responsible for polishing one single facet, steps are ordered and combined into *stages*. When working in G1 Galahad, you work with steps and stages and their statuses.

 The **G1 Galahad** mode in HP Carbon is a functionality shared with the [Galahad Compass](#) product, thus the information briefly presented in this overview can be explored in detail in the Galahad Compass [documentation](#), specifically, in the [release notes](#).

For each step, there is a slider bar colored and containing additional numeric data:



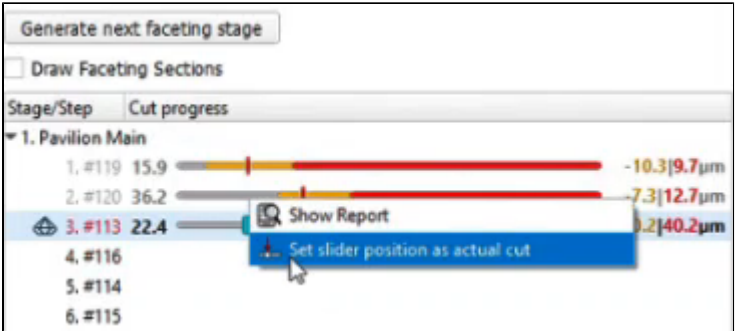
Dragging the pointer on a slider bar leads to the changes in the Scene: it displays how the facet will look "at the selected moment".

About 4 colors:

- In the picture above, three colors are presented
- The border between **yellow** | **red** is the *polishing target* depth (taken into the plan from the target model)
- So **red** is 50 µm to the right of the target - the area of the overcut
- **Yellow** is to the left of target is set by **Allowance** > **Depth** during a plan creation - this is where the polishing can be stopped and the result will be considered acceptable
- **Grey** is how many µm you need to polish to reach the left border of **Yellow** (polishing cannot be stopped here - the result is not achieved yet)

- So where is color #4?

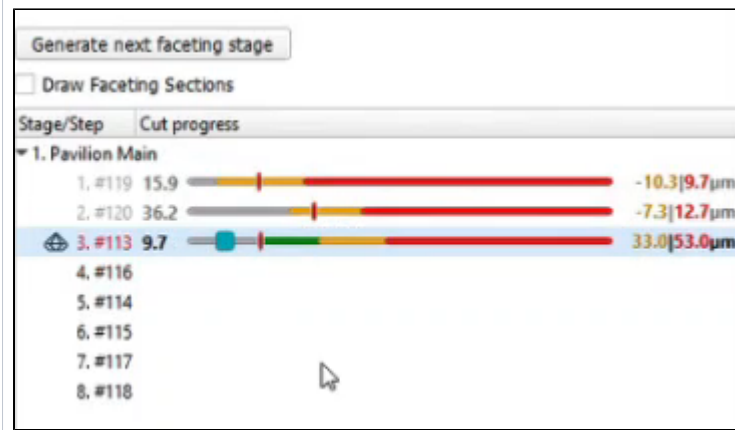
You can right-click at any position of the slider bar and then mark the actual cut in accordance with your stone's current state.



This will lead to:



If your actual cut is within **yellow** or **red**, the step will be marked as "Completed" (grey steps).



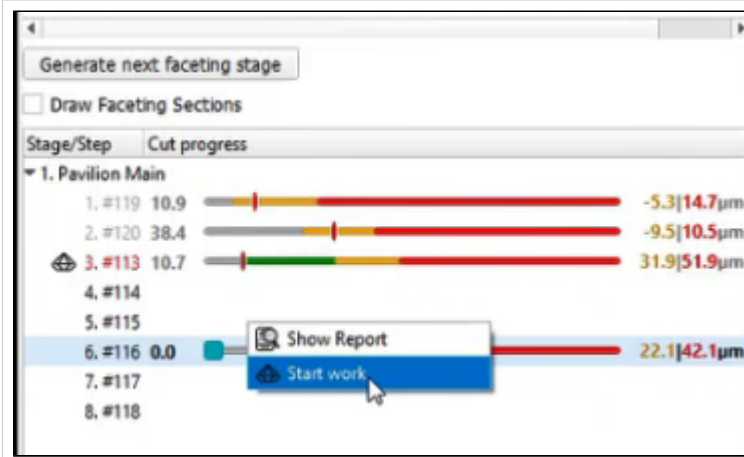
If your actual cut is within a **grey** area, you need to continue polishing - the **green** area will show how many µm you need to cut to reach the left of allowed **yellow**.

Order of work

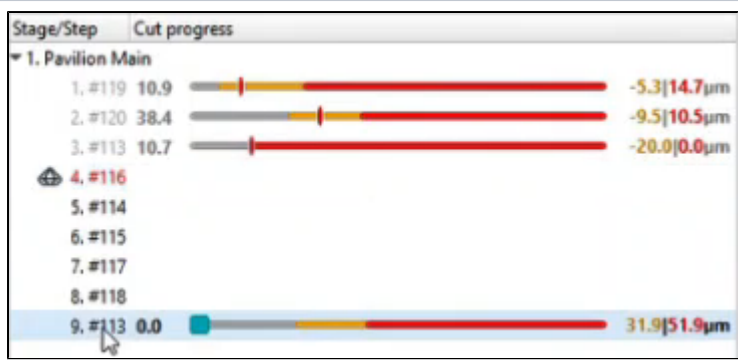
An important principle is the *order of work*. and related statuses of steps and stages:

Unfinished steps

Let us say, you did not finish polishing the step, but want to move to another facet and polish it now. Let us consider an example:



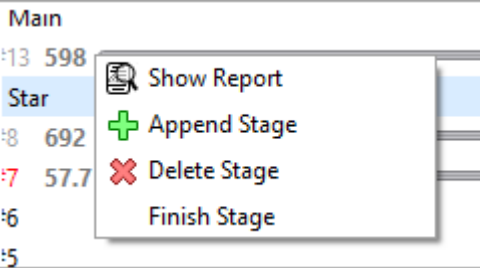
Here you did not finish work on the facet #113 (now step 3 - "In Work", but decided to **Start work** on the facet #116.



So the system follows your decision: work on the facet #116 is now your step "In Work" and you can start working on it. But pay your attention to what happened with #113 - it was split by the **Actual Cut** mark into what had already been done (now it is "Completed" step 3) and what is still remains to be done: step 9 at the end of the sequence - the work on #113 should be finished there.

Unfinished stages

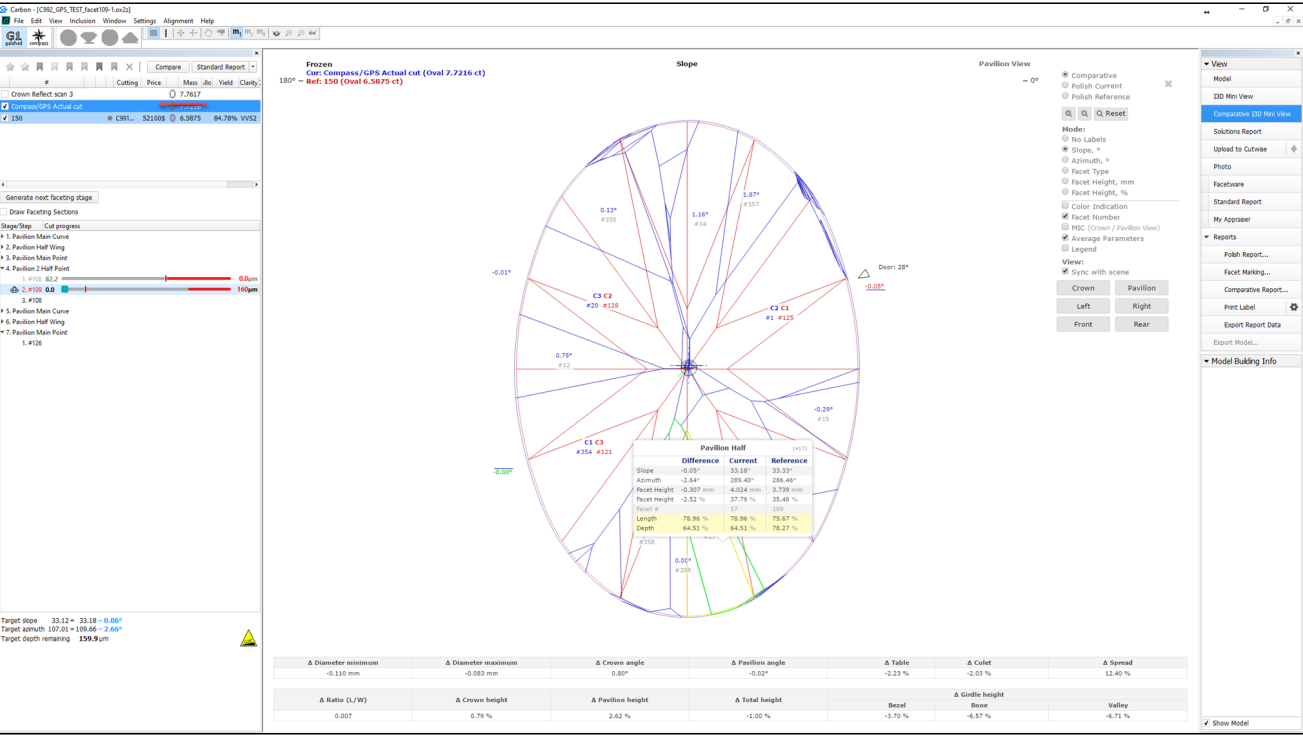
The same approach is now used for stages. To finish stage that has unfinished steps, in the list, right-click the stage and then from the contextual menu, select **Finish Stage** .



This will split the stage into two - one "Completed" (with all steps that have already been completed), and another "Not Started" - at the end of the sequence, with all steps to be completed.

Actual cut model

The " Compass/GPS Actual cut" model is displayed in the solution list. This model is updated each time an actual cut is changed on the faceting step in work. I3D mini and Comparative I3D reports can be built for this model.



Operations with stages and steps

You can perform different operations related to stages and steps.

Generating faceting stages

To generate the next faceting stage for the selected solution:

1. G1 mode shows the main scan and active solution (target plan) from Recut mode:

"G1 Galahad" mode

Carbon - [Oval_blocked_001_ver3]

File Edit View Inclusion Window Settings Help

Scan Recut diamonds inclusions in polished Photoreal DZ colors G1 galahad G2 galahad compass fancy {D}

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Price

Mass

Alloc

Yield

Clarity

2Z/m

Gr

Cut

Sym

Profile

✓ Imported model 2.2307

✓ 7 ● Oval 10249\$ 1.5675 | SR 69.93% VS1 H EX EX EX MyOvalDe

Generate next faceting stage

Draw Faceting Sections

Stage/Step Cut progress

faceting plan is empty

"Recut" mode

Scan Recut diamonds inclusions in polished Photoreal DZ colors G1 galahad G2 galahad compass fancy {DEV}

Allocation solutions

Plans & Scans

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Cutting

Price

Clarity

Mass

Alloc

Profile

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Imported model 2.2307

1 Oval_WBT_C3... 7438\$ VS1 1.4946 MyOvalDefault H VG VG

2 Oval_WBT_C3... 7338\$ VS1 1.4692 MyOvalDefault H VG VG

3 Oval_WBT_C3... 7288\$ VS1 1.4585 MyOvalDefault H VG VG

4 Oval 10249\$ VS1 1.5665 SR MyOvalDefault H EX EX

5 Oval 9110\$ VS1 1.5667 SR MyOvalDefault H VG VG

6 Oval 9110\$ VS1 1.5669 SR MyOvalDefault H VG VG

✓ 7 Oval 10249\$ VS1 1.5675 SR MyOvalDefault H EX EX

8 Oval 10249\$ VS1 1.5647 SR MyOvalDefault H EX EX

9 Oval 10249\$ VS1 1.5660 SR MyOvalDefault H EX EX

10 Oval 10249\$ VS1 1.5636 SR MyOvalDefault H EX EX

11 Oval 10184\$ VS1 1.5490 SR MyOvalDefault H EX EX

2. To get steps, in the **Recut** mode, select the solution, then go to the **G1** mode, and click the **Generate next faceting stage** button. The **Next Step Plans** panel is displayed.
3. In the **Next Step Plans** panel, select **Facet type**, for which you want to generate a stage with steps.
4. Set other parameters.
5. Click **Generate**. The stage and its steps are generated and added to the left panel, to the end of the list.

Scan Recut diamonds inclusions in polished Photoreal DZ colors G1 galahad G2 galahad compass fancy {DEV}

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Price

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Clarity

2Z/m

Imported model 2.2307

Compass/GPS Actual cut 2.2307

7 ● Oval 10249\$ 1.5675 | 69.93% VS1 H

Generate next faceting stage

Draw Faceting Sections

Stage/Step Cut progress

1. Table

2. Crown Main Point

3. Pavilion Main Point

1. #114

2. #115

3. #110

4. #119

Next Step Plans

Generate Next Stage

Facet type: Pavilion Main Point

First facet azimuth: 58.8°

Setting facets sequence: Consecutive

Processing direction

- Azimuth increase: Pavilion (CCW), Crown (CW)
- Azimuth decrease: Pavilion (CW), Crown (CCW)

Allowance

Slope: 0.00°

Depth: 20.0µm

Generate

Faceting steps were successfully generated for Pavilion Main Point

Target slope 40.59 = 34.91 + 5.68°

Target azimuth 92.49 = 89.54 + 2.94°

Target depth remaining 352.2 µm

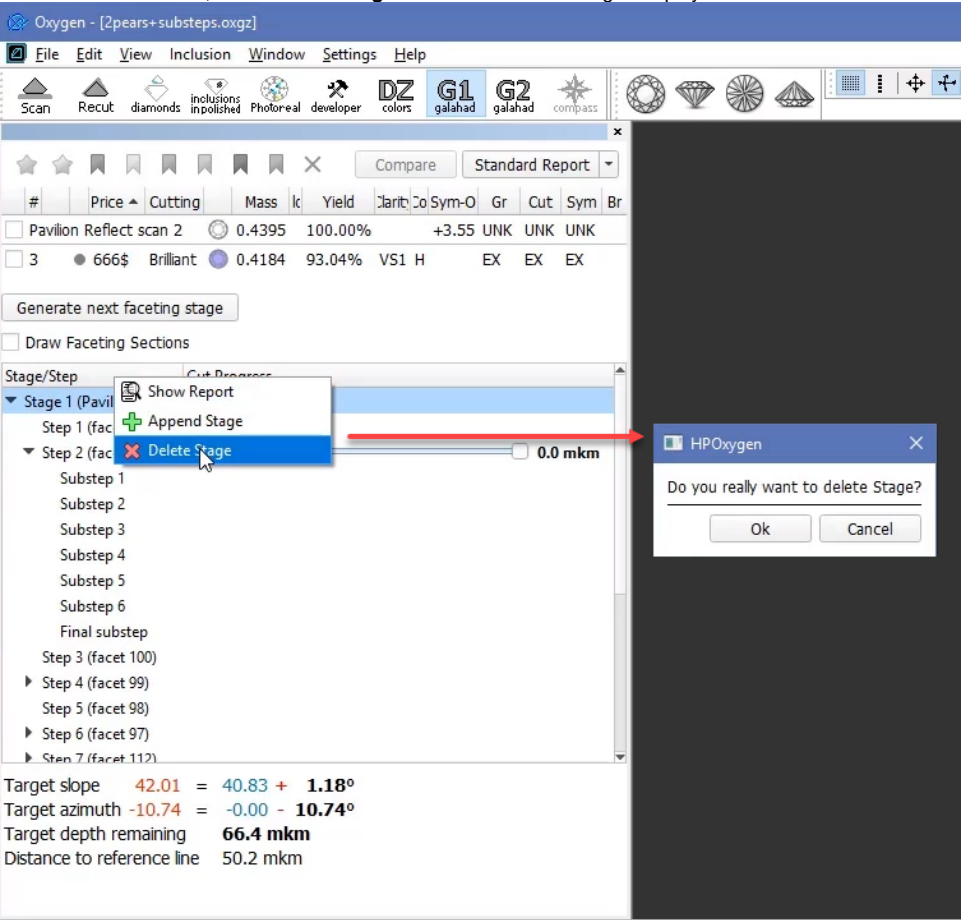
Distance to reference line 121.7 µm

Deleting stages

To delete the stage:

1. In the **G1 Galahad** mode, on the left panel right-click the stage you want to delete. The context menu is displayed.

2. From the context menu, select **Delete Stage**. The confirmation dialog is displayed.

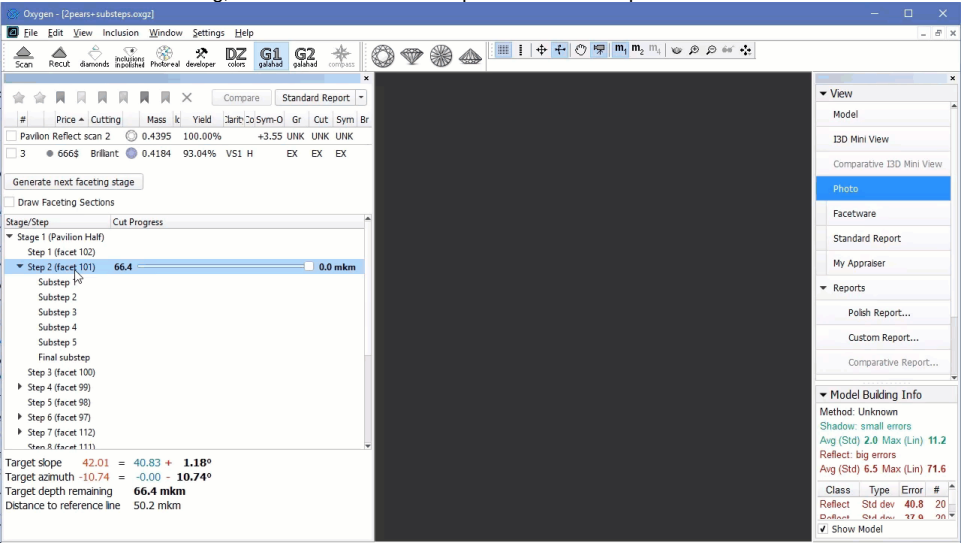


3. In the confirmation dialog, click **OK**. The stage is deleted along with all steps.

Deleting last sub-steps of steps

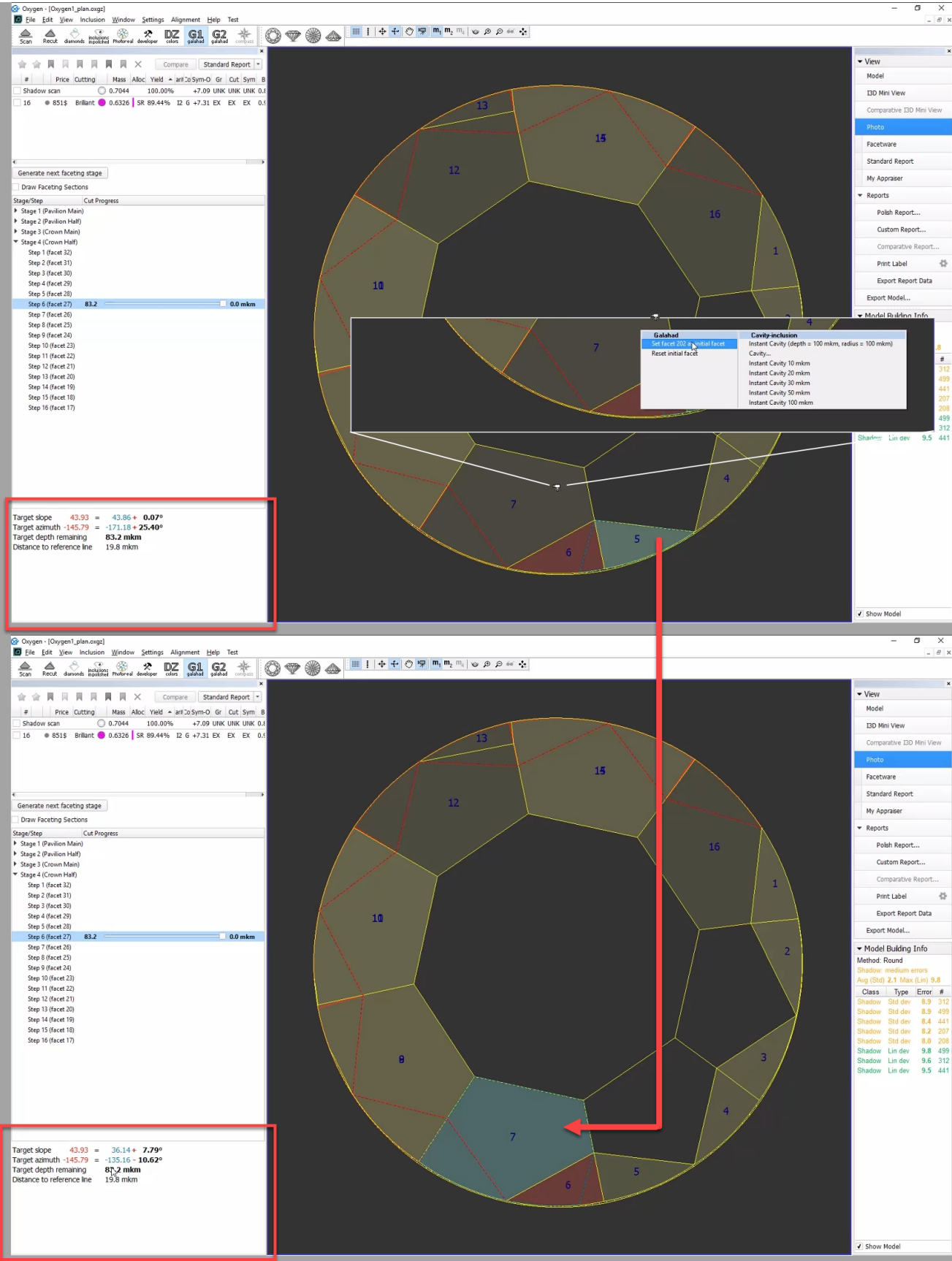
You can delete the last sub-step of the step. To do so:

- 1. In the **G1 Galahad** mode, on the left panel do one of the following:
 - a. Right-click the step for which you want to delete the last sub-step.
 - b. Right-click any sub-step within the step for which you want to delete the last sub-step.The context menu is displayed.
- 2. From the context menu, select **Delete last substep**. The confirmation dialog is displayed.
- 3. In the confirmation dialog, click **OK**. The last sub-step of the current step is deleted.



Select initial facet manually

In Galahad Mode, for the selected step it is now possible to manually select the initial facet different from the one automatically calculated by the system. Once manually set, the initial facet can then at any moment be reset to the default one.



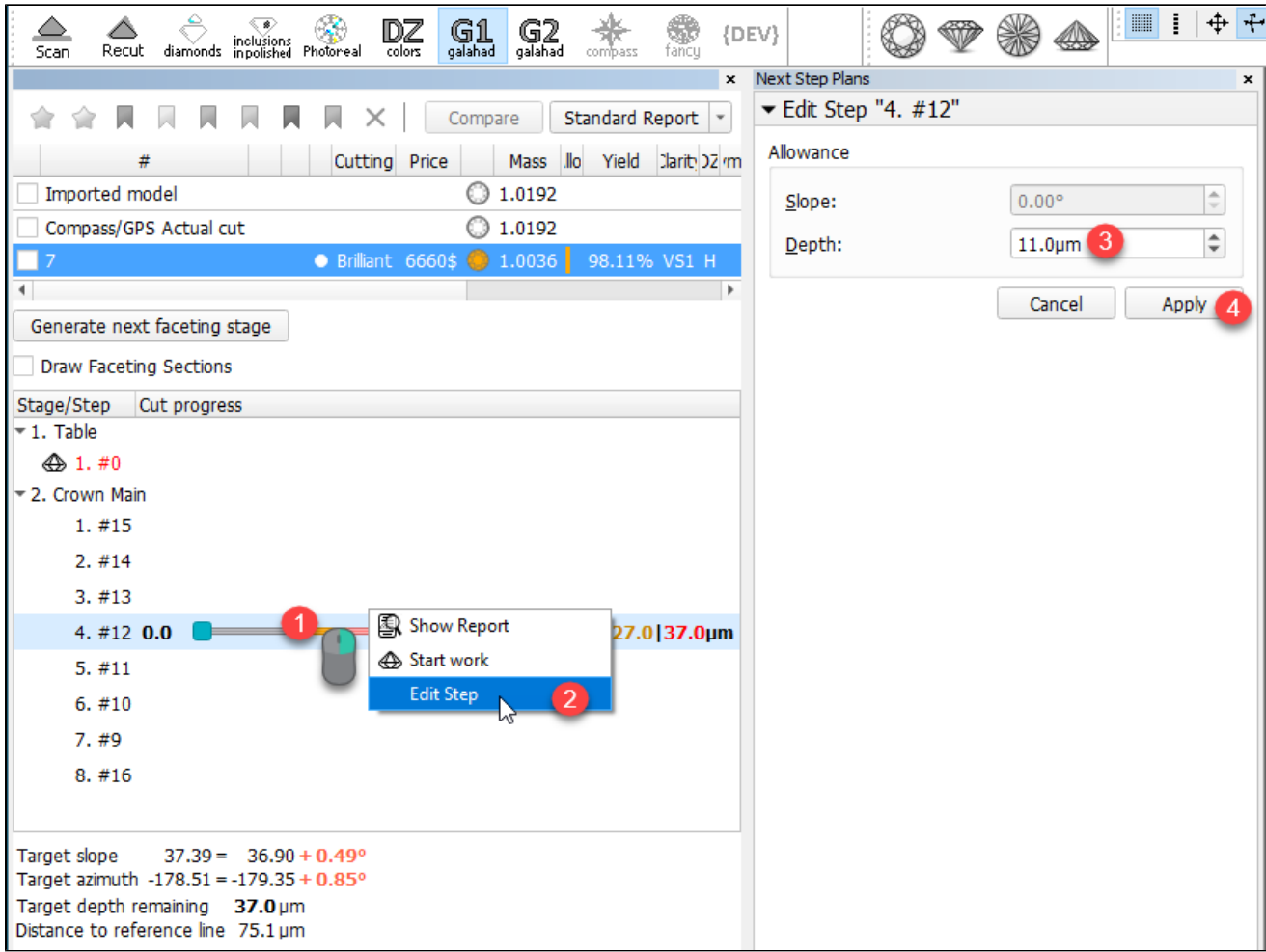
Edit allowance

It is now possible to edit the **Allowance** defined during stage generation. The **Allowance** can be edited both for stages and for separate steps.

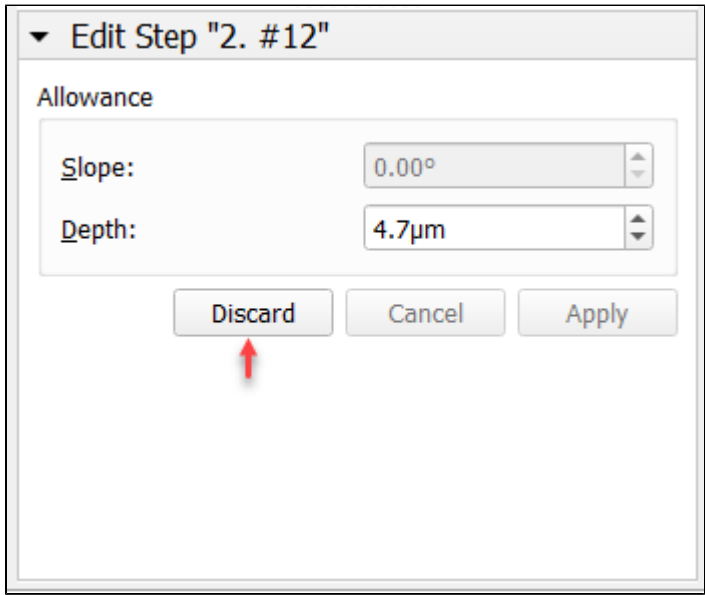
To edit allowance for a step:

- 1. Right-click the step.
- 2. From the context menu select **Edit Step**. The edit panel is displayed.

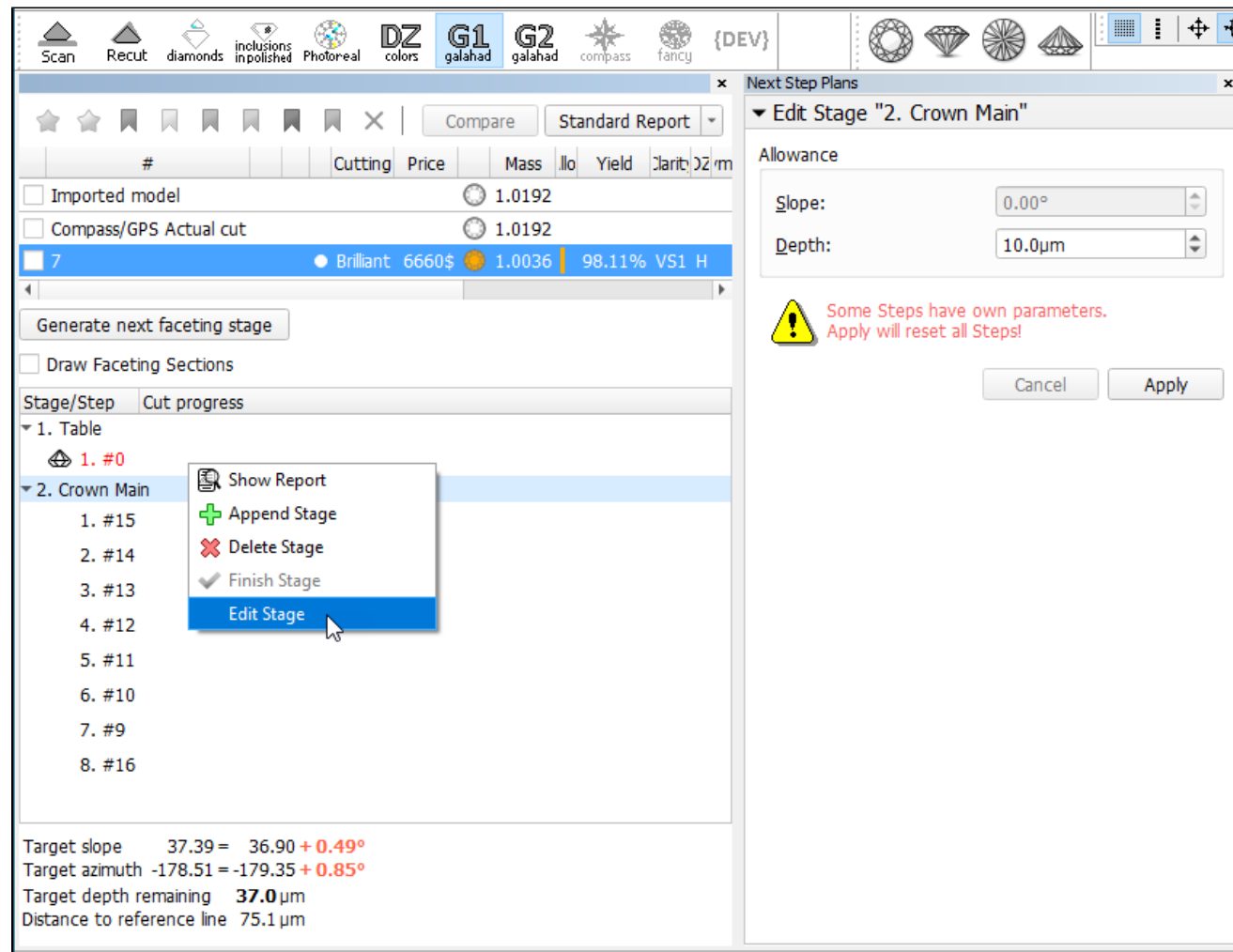
- 3. In the edit panel, set the new **Depth**.
- 4. Click **Apply**. The new allowance depth is set for the step.



If you have a modified allowance for the step, you can **Discard** this difference and revert this step to the stage standard value.



Allowance can also be edited for the stage. Note that if some steps of the stage have their own changed allowance, applying a new value for the stage will reset all steps, the corresponding warning is displayed:



Related pages

- [Faceting Report](#)
- Galahad Compass release notes: [2020.10.21 - Carbon Compass 1.1.13](#)
- Galahad Compass release notes: [2020.12.10 - Carbon Compass 1.2.12](#)