

Interface

Galahad Compass has an intuitive interface with a lot of features helping users to solve everyday tasks.

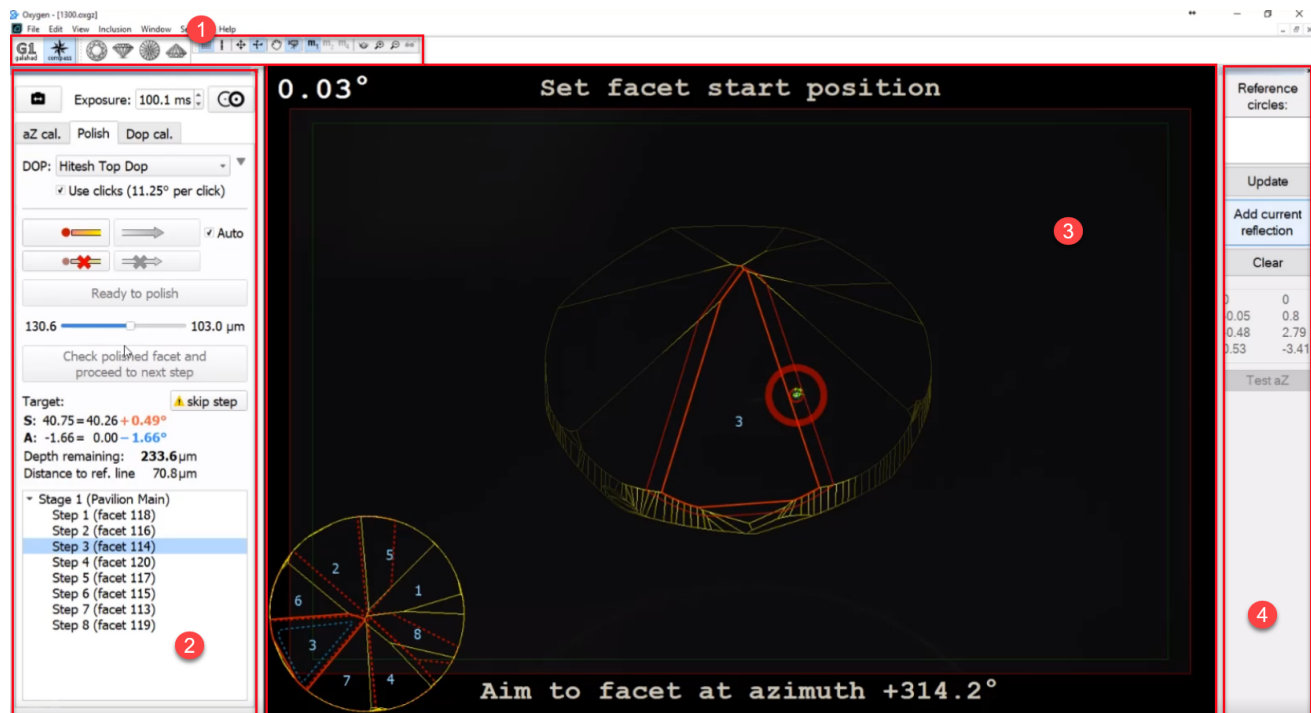
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Galahad Compass Window

The program window is divided into the following areas:

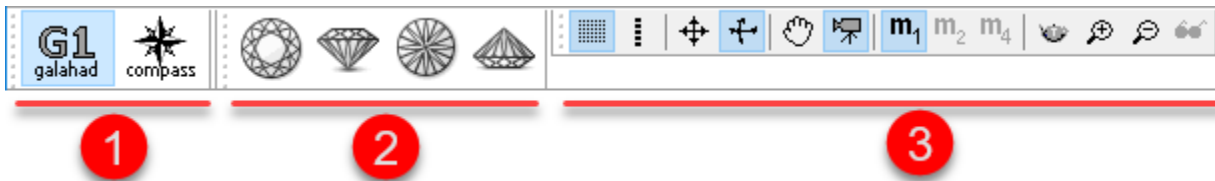
1. Top panel
2. Left panel
3. Scene
4. Right panel



Top Panel

The top panel includes several sub-panels:

1. Main panel
2. Buttons for stone standard positions
3. Toolbox



Main Panel

The **Main Panel** determines the mode of operation with the following possible values:

- **G1 Galahad**. Left panel changes to the mode displaying next step plans. Scene displays the model being polished.
- **Compass**. Left panel changes to the mode displaying controls related to polishing. Scene displays reflection from the facet to be polished within the current step and relative on-screen information.



Working with reflections is only available when the hardware is connected. If not, the usual model contour will be displayed.

Buttons for Stone Standard Positions



- Top View (Crown)
- Side View (Table Up)
- Bottom View (Pavilion)
- Side View (Table Down)

Toolbox

The buttons of the toolbox allow managing stone view in the Scene.

Left Panel

The left panel together with the scene may operate in two modes:

- G1 Galahad
- Compass

Interface Modes

G1 Galahad



G1 Galahad mode is intended for displaying next step plans. It is enabled by clicking the **G1 Galahad** button on the top panel.

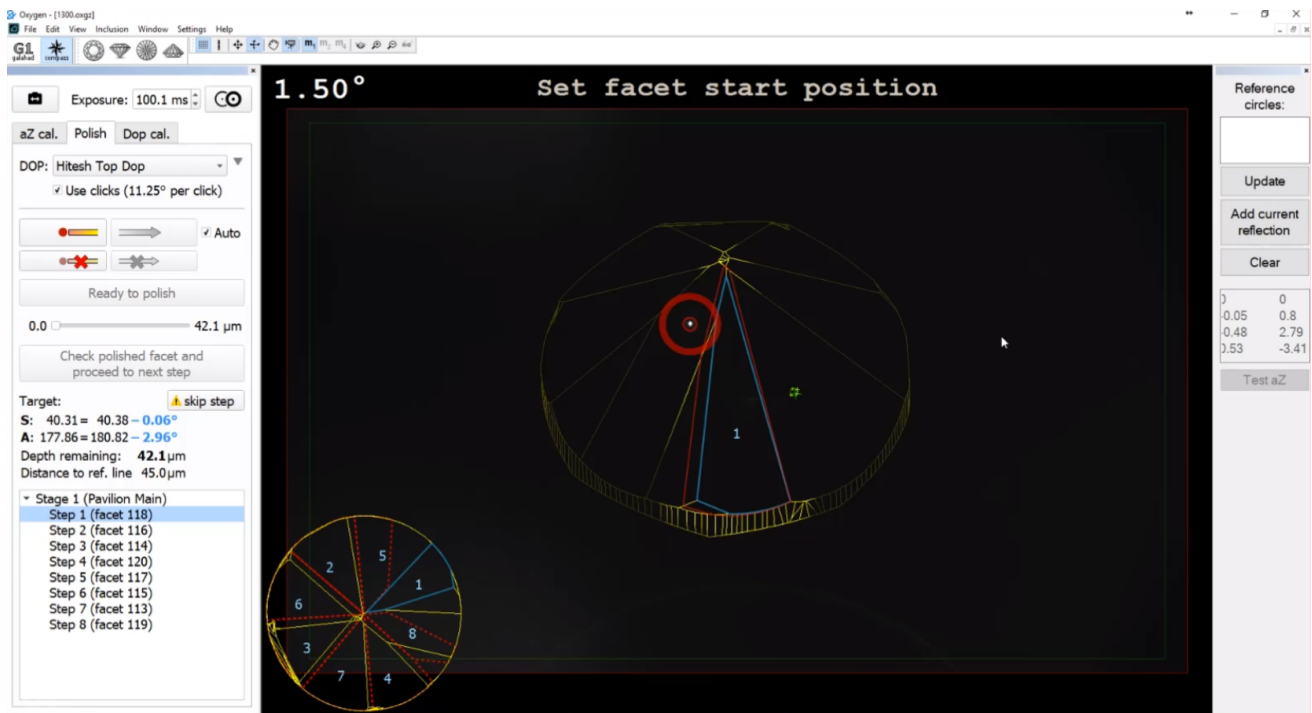
Compass



This is the main mode for the Galahad Compass system. It is enabled by clicking the **Compass** button on the top panel. The mode is intended to perform and manage the polishing process using the connected DOP hardware. When enabled, the mode changes the left panel and the Scene.



Working with reflections in the Scene is only available when the hardware is connected. If not, the usual model contour will be displayed.



In the Compass mode, at the top of the left panel, you can find the

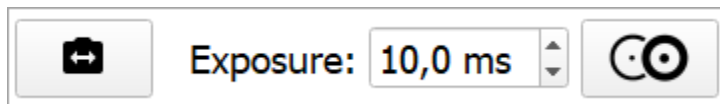


button for connecting to video in a multi-user configuration with the

control to set the exposure in milliseconds, and also the



Select next reflection button, described on the [Switching Between Reflections](#) p



The left panel contains tabs related to:

- Polishing
- DOP Calibration
- (optionally) Axis Z Calibration

Polishing

Polishing
DOP Calibration

DOP: Hitesh Top Dop

Load...
☐ Append

☒ Auto

Ready to polish

48.2

18.1 mkm

Target

skip step

slope **42.01** = 40.83 + **1.18°**
azimuth **-10.74** = -0.00 - **10.74°**
depth remaining **66.4** mkm
Distance to ref. line 8.3 mkm

Check polished facet and proceed to next step

Stage 1 (Pavilion Half)

Step 1 (facet 102)

Step 2 (facet 101)

Step 3 (facet 100)

Step 4 (facet 99)

Step 5 (facet 98)

Step 6 (facet 97)

Step 7 (facet 112)

Step 8 (facet 111)


Step 9 (facet 110)

Step 10 (facet 109)

The following elements are presented on the **Polishing** tab:



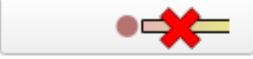




1. DOP selection and mode.
2. Showing slope and azimuth direction.
3. The progress slider for the currently selected step.

4. The full information about the currently selected step.


5. The " **Table of target is inclined** " warning is displayed as a  sign. On mouse over, the detailed tooltip is displayed.



6. Tree of stages and steps of polishing.

Main controls


<div><div><div></div><div></div><div><input checked="" type="checkbox"/> Auto</div></div><div><div></div><div></div></div><div><div>Ready to polish</div></div><div><div>0.0</div><div></div><div>12.5 μm</div><div></div></div><div><div>Check polished facet and proceed to next step</div></div><div><div>Target:</div><div> skip step</div><div>S: 36.47 = 36.37 + 0.11°</div><div>A: 44.10 = 44.73 - 0.63°</div><div>Depth remaining: 12.5 μm</div><div>Distance to ref. line 107.0 μm</div></div></div>	<p>Slope start "O----" and slope end "----->" buttons - for selecting slope direction. "Auto" checkbox - allows registering slope direction automatically when the current angle value exceeds some threshold level.</p> <p>Corresponding "Clear" buttons - for clearing slope start and end points, in case they were set with an error. Also, the "Clear" button for slope zero should be used when the previous facet was finished, and the operator changing to the next facet.</p> <p>"Ready to polish" button - to signal that facet alignment is finished</p> <p>The current status indicator provides information about the current workflow step.</p> <p>Target slope/azimuth indicator.</p>
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Usage


☐ ☐
☐ 
☒ **Auto**

☐ 
☐ 

Ready to polish

0.0 12.5 μm 

Check polished facet and proceed to next step

Target:  skip step

S: 36.47 = 36.37 + 0.11°
A: 44.10 = 44.73 - 0.63°
Depth remaining: **12.5 μm**
Distance to ref. line **107.0 μm**

The main controls should be used as follows:

1. Set facet zero position
2. (optional) Set facet slope - if "Auto" mark is active, the slope will be fixed automatically as long as a deflection from zero point exceeds threshold level (usually 1.5 degrees)
3. (optional) Set facet azimuth - if "Auto" mark is active, the azimuth will be fixed automatically
4. Indicate that current facet is set to target position and ready to be polished
5. Check polished facet and proceed to next step

DOP Calibration

The tab contains controls for DOP calibration. Several DOPs can be calibrated and saved here. Detailed information is presented on the [Compass DOP Calibration](#) page.



Exposure: 10,0 ms



Polishing

DOP Calibration

DOP 001



Click count:

24

12h	0.27°	13°	▶◀
3h	0.12°	-26°	▶◀
6h	0.08°	144°	▶◀
9h	0.20°	62°	▶◀



Set zero
to center

center: (0.10,0.06)

Da: 0.23°, Db: 0.32°

max. error: 0.27°

No check points collected

Add 0 check point

Remove last 0 check point

Clear all 0 check points

DOP leveling

Save to...

Load from...

☐ Add

Scene in Compass Mode

In the Compass mode, the Scene displays reflection from the facet to be polished within the current step and relative on-screen information.

In the Scene you can find:

1. The model visualization.
2. The model thumbnail visualization.
3. Text messages and warnings.

