

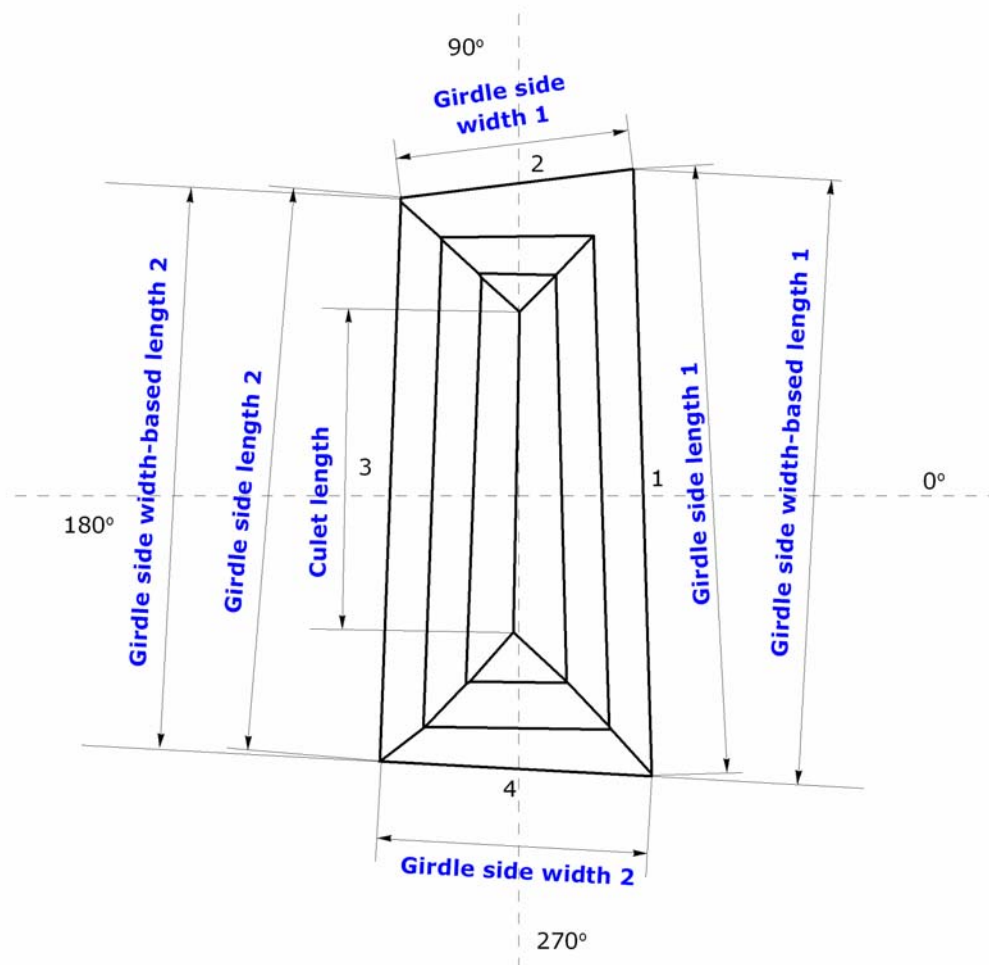
# What is new in the Helium Polish 3.93

February 19, 2007

1. New parameters for StepCut / Trapezium: Girdle side width, Girdle side length, Girdle side width-based length, Culet length, Girdle facets slope & azimuth angles
2. Automatic control of holder height
3. The new GIA cut grade estimations are available in the illustrated report for brilliant
4. Fixed bug

## 1. New parameters for StepCut / Trapezium: Girdle side width, Girdle side length, Girdle side width-based length, Culet length, Girdle facets slope & azimuth angles

- **Girdle side width** - widths of narrow Girdle facets
- **Girdle side length** - lengths of long Girdle facets
- **Girdle side width-based length** - lengths of Girdle side along the normal to the largest Girdle side width
- **Culet length** - Culet length on the projection into the girdle plane
- **Girdle facet angle** - slope angle of the Girdle facet (ideal 90 °)
- **Girdle facet azimuth angle** - azimuth angle of the Girdle facet



Please see example of the report:

[http://www.octonus.com/oct/products/helium/polish/reports/Polish\\_Full\\_StepCut\\_CL\\_19-02-07.doc](http://www.octonus.com/oct/products/helium/polish/reports/Polish_Full_StepCut_CL_19-02-07.doc)

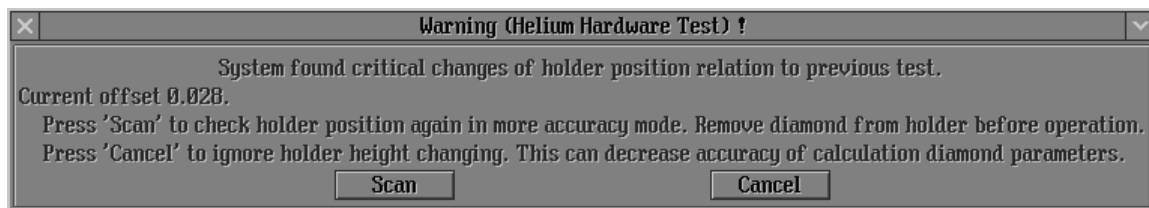
## The new parameters output into report with the follow bookmark names:

1. Girdle side width 1 - GIRDLE\_SIDE\_WIDTH\_MM\_1
2. Girdle side width 2 - GIRDLE\_SIDE\_WIDTH\_MM\_2
3. Girdle side width 1 - GIRDLE\_SIDE\_WIDTH\_PC\_1
4. Girdle side width 2 - GIRDLE\_SIDE\_WIDTH\_PC\_2
5. Girdle side length 1 - GIRDLE\_SIDE\_LENGTH\_MM\_1
6. Girdle side length 2 - GIRDLE\_SIDE\_LENGTH\_MM\_2
7. Girdle side length 1 - GIRDLE\_SIDE\_LENGTH\_PC\_1
8. Girdle side length 2 - GIRDLE\_SIDE\_LENGTH\_PC\_2
9. Girdle side width-based length 1 - GIRDLE\_SIDE\_WIDTH\_BASED\_LENGTH\_MM\_1
10. Girdle side width-based length 2 - GIRDLE\_SIDE\_WIDTH\_BASED\_LENGTH\_MM\_2
11. Girdle side width-based length 1 - GIRDLE\_SIDE\_WIDTH\_BASED\_LENGTH\_PC\_1
12. Girdle side width-based length 2 - GIRDLE\_SIDE\_WIDTH\_BASED\_LENGTH\_PC\_2
13. Culet length - CULET\_LENGTH\_MM
14. Culet length - CULET\_LENGTH\_WISE\_PC
15. Girdle facet angle 1 [degree] - GIRDLE\_SIDE\_ANGLE\_DEG\_1
16. Girdle facet angle 2 [degree] - GIRDLE\_SIDE\_ANGLE\_DEG\_2
17. Girdle facet angle 3 [degree] - GIRDLE\_SIDE\_ANGLE\_DEG\_3
18. Girdle facet angle 4 [degree] - GIRDLE\_SIDE\_ANGLE\_DEG\_4
19. Girdle facet azimuth 1 [degree] - GIRDLE\_SIDE\_AZIMUTH\_DEG\_1
20. Girdle facet azimuth 2 [degree] - GIRDLE\_SIDE\_AZIMUTH\_DEG\_2
21. Girdle facet azimuth 3 [degree] - GIRDLE\_SIDE\_AZIMUTH\_DEG\_3
22. Girdle facet azimuth 4 [degree] - GIRDLE\_SIDE\_AZIMUTH\_DEG\_4

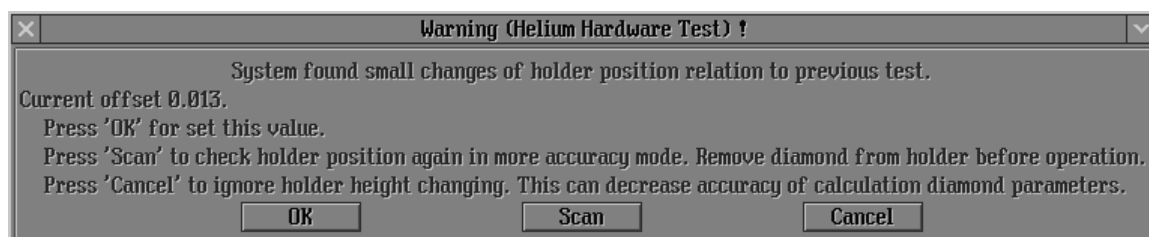
## 2. Automatic control of holder height

This feature adjust a holder height position if device have not stable holder height because of device temperature enlargement. The program do check-up automatic while the device is not scanning. If the system discovers small or critical offset of holder the operator will see a warning with suggestions.

### Critical offset



### Small offset



It is be able to switch off / switch on the automatic control of holder height option, set time interval and etc. To run the automatic control of holder height option insert the command line into the file HeliumBat.ini (or PacorBat.ini):

```
HeliumPolishHardwareControl [/source name] [/interval sec] [/extendedinterval sec]
```

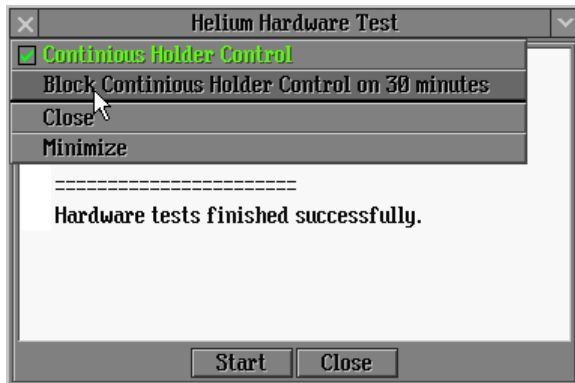
The default settings are:

- **name** - System\HolderContours.mmd
- **interval** - 900 second
- **extendedinterval** - 60 second

For work of automatic control option operator have to save five contours in the file System\HolderContours.mmd in advance. The countours should be saved in the motor position Rx=0.

The system try to check up holder height every 15 minutes. If the system can not make check-up it will try to check every minute. If it still unsuccessfully the program will wait a finish of scanning, block working and suggest to make check-up.

It is possible to put aside cheking of Holder Height for 30 minutes. Use the panel Helium Hardware Test Control. Select «Block Continious Holder Control».



To change the values of small and critical offset be able in the System Settings panel. Open the panel from Start / Inner/ Registry. Select Vertical Holder Offset.



### Critical offset parameters

0.0050 mm  
0.5000 px

For HP 1:2 Critical offset is near 0.015 mm = 0.005 mm + 0.5 px

### Small offset parameters

0.0010 mm  
0.1000 px

For HP 1:2 Small offset is near 0.002 mm = 0.001 mm + 0.1 px

**It is strongly recommended do not change these parameters!**

## **3. The new GIA cut grade estimations are available in the illustrated report for brilliant**

The GIA cut grade estimation for Star facet length is available. Please see Star : Uper ratio section.

Also you can view the GIA estimations in the illustrated report for the follow parameters since version HP 3.91: Girdle valley, Girdle bezel, Length girdle facet, Crown height and Total depth.

Please see example of the Illustrated report:

[http://www.octonus.com/oct/products/helium/polish/reports/Polish\\_Illustrated\\_RBC\\_Color\\_19-02-07.doc](http://www.octonus.com/oct/products/helium/polish/reports/Polish_Illustrated_RBC_Color_19-02-07.doc)

## **4. Fixed bug**

Crown corner angles were missed in the Helium Polish MS Word report for Princess. It is fixed in this version.