

# Aligning and Calibrating the Vista System Camera on a Prism Engraver

Check the camera calibration periodically to ensure optimum VISTA system performance and accuracy. OHIO GT recommends checking the calibration once a year. Camera calibration should remain very consistent and may not need any correction when you check calibration.

## Camera Alignment

The VISTA camera should be aligned horizontally to maintain optimum results from the VISTA Cell Measuring System.

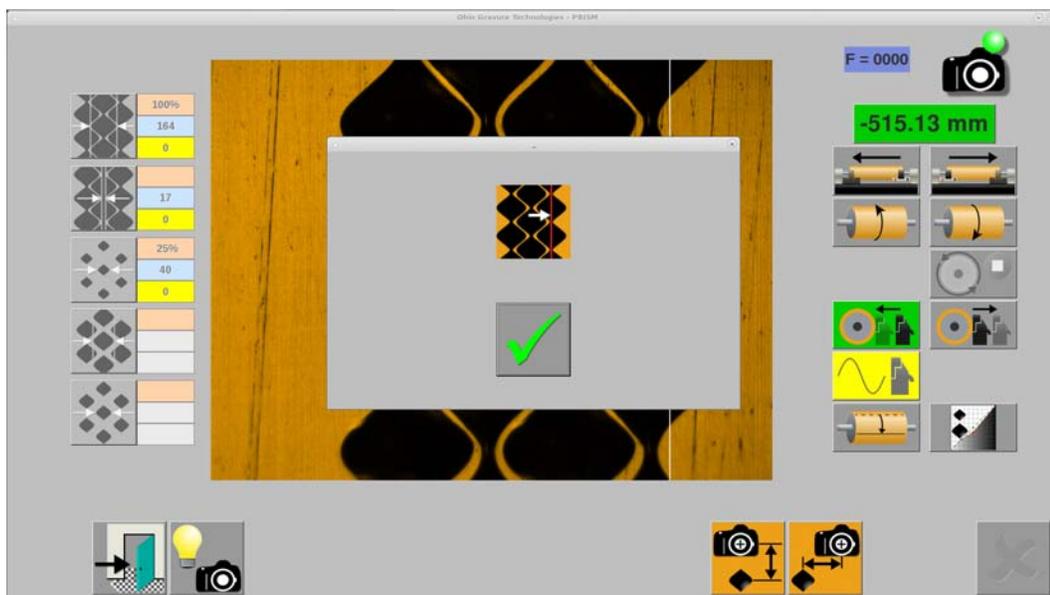


Figure 1 Horizontal Alignment shown with alignment sub-window

A camera positioned at the correct location has the last row of the test cut aligned with the white alignment line. Figure 1 shows the display with the alignment sub-window visible. Figure 2, with the sub-window removed, provides an easier view of how the last row of cells should fall with respect to the blue alignment line.

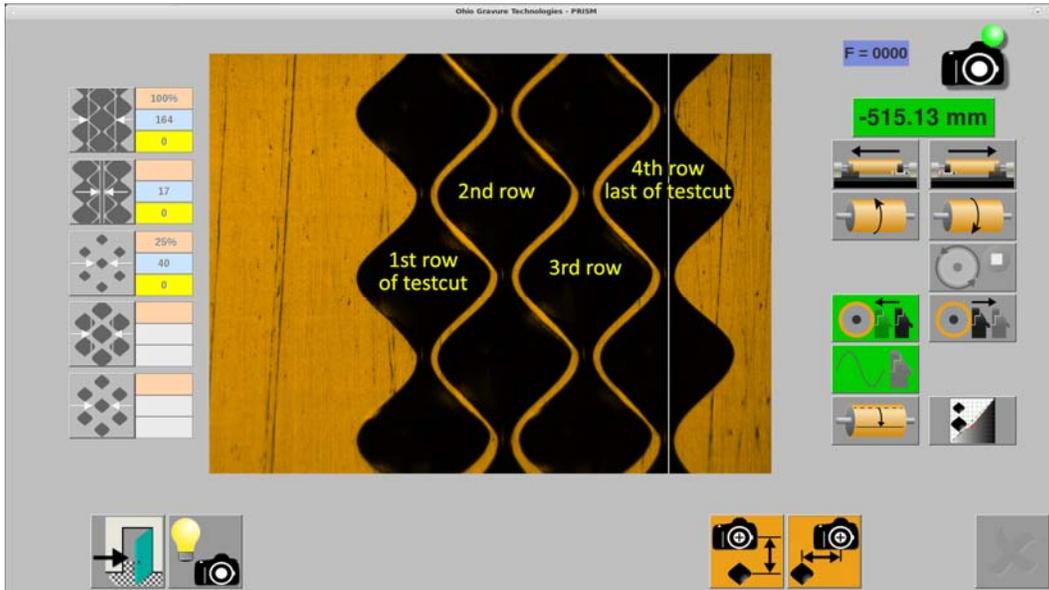
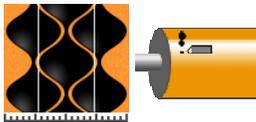


Figure 2 A properly aligned VISTA camera

## Aligning Camera on Engrave Head

1. Un-select any cylinder currently loaded on the Engrave page.
2. Load a cylinder into the machine.
3. Set the proper cylinder size on the Screen page. Also set the screen and angle to 70 l/cm screen 45° screen angle.



4. Open the Cell Setup page, then make a test cut.



3. Touch the Find Start button to position the test cut in front of the engrave head.



4. Open the Vista page, then turn on the VISTA camera function. The head lowers against the cylinder.

5. Position the cylinder so you can see the full cell area of the testcut. Either the Nested or Stripe area will work.

DO NOT move the carriage horizontally, only vertically.



6. Touch the Camera Utilities button then touch the Horizontal Alignment button.

A sub-window appears on the screen showing you the location where the vertical line should cross the cells, shown in Figure 1. Press OK to remove the window and see the cells and line position.

If the line is centered through the last row of cells, as shown in Figure 2, you are finished and alignment is not necessary. Go to step 10.

If not, go to step 7.

7. Slightly loosen the large shoulder screw on the top of the camera block using a 9/64" hexkey. This screw clamps the camera to prevent movement. See Figure 3.

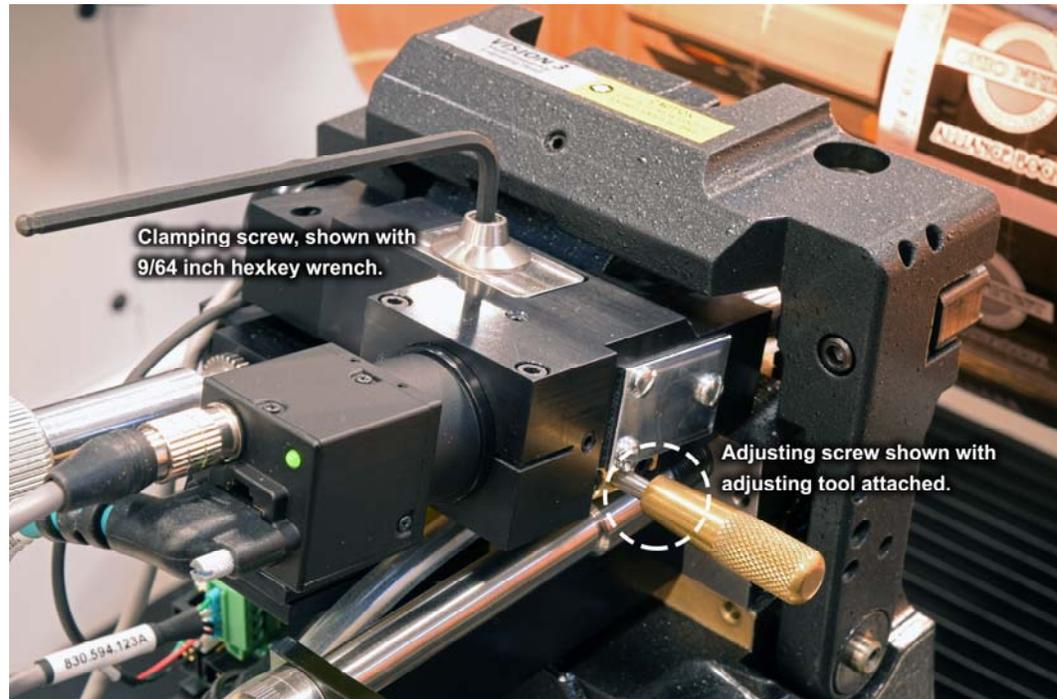


Figure 3 Adjusting and locking screws

8. Turn the adjusting screw on the right side of the camera block to shift the image left or right. Use the adjusting tool (D370029-01) from the Prism tool kit, or a 9/64" open-end wrench, for adjusting the screw. The location is shown in Figure 3.

**CAUTION:** Use extreme care not to damage the adjusting screw if using a wrench.

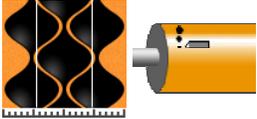
To move the image:	Turn adjusting screw:
← Left ←	↺ Anti-clockwise
→ Right →	↻ Clockwise

9. Tighten the clamping screw. Do not use excessive force when tightening the screw. The camera may shift slightly while tightening the clamping screw, which is normal.
10. Exit the Vista page.

## Camera Magnification Calibration

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1. Load a cylinder into the machine and enter the cylinder's diameter or circumference on the Screen page.
2. Enter a 70 l/cm 45° raster on the Screen page.



3. Open the Cell Setup page and then engrave test cuts. Cell size is not critical in this operation. We will be measuring the spacing of the cells and not the cell widths.



4. Open the Vista page and then turn ON the Vista camera function.

5. Move to the highlight cells of the test cut and measure from the center of one cell to the center of another. Using the tip of a cell is a good location to ensure consistent measurement. The row to row spacing is 101 μm; use as many rows as possible to increase accuracy. Multiply 101 by the number of rows being measured.

If the measured value is not correct, you will need to adjust the horizontal resolution of the camera. Determine the error between the target and measured sizes:

Example

$$(\text{Target Size} / \text{Measured Size}) = \text{Correction Factor}$$

$$303 / 312 = 0.971153$$

6. Exit the Vista page and go to the Configuration page. Slide across the tabs until the Vista Measure tab is shown. Find the Horizontal Resolution value. Multiply the resolution by the Correction Factor.

Example

$$\text{Current Horizontal Resolution} * \text{Correction Factor} = \text{New Horizontal Resolution}$$

$$0.697933 * 0.971153 = 0.6678$$

Enter this new value into the Horizontal Resolution. Go back to step 4 and measure the cells again to confirm the new value is correct.

Once confirmed, return to the Configuration page and set the Vertical resolution to the same value.