Kodak

Geometric Correction

Aligning Devices in the Field Using GC Tool

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Revision History

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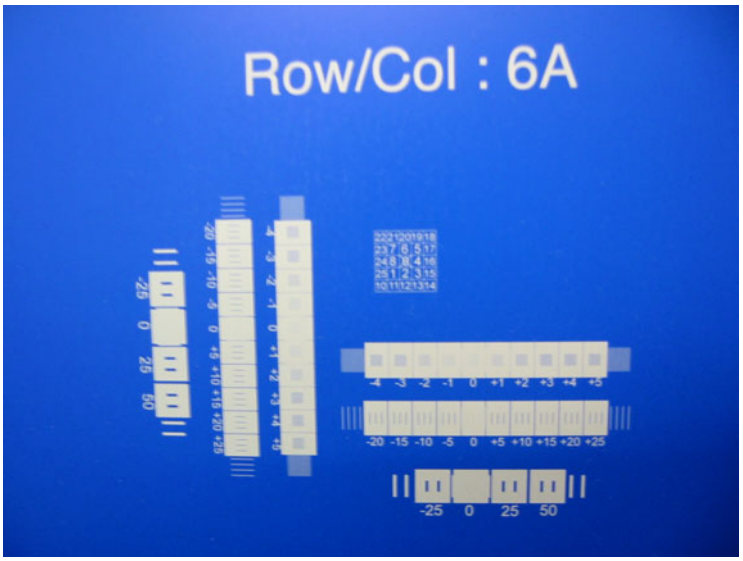
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1. INTRODUCTION

This document provides a procedure that can be used to align two Kodak® Quantum platesetters, or two different pin sets on a dual plate-loading device in the field. This procedure focuses on the use of the Geometric Correction (GC) tool that is available in Service Shell 3.6 and later.

2. ABOUT GC TOOL

Based on entering visual data points taken from a Master and Secondary plot, GC Tool calculates the GC adjustments required to match imaging on two devices, or on two different pin sets on the same device. It can also modify the GC parameters in the device's NVS.



One of the data points imaged by the master and secondary plot

GC Tool can adjust the following parameters:

Parameter	Units	Description	Default
Mshift	microns	Shifts the image up and down in the mainscan direction (around the drum)	On
Sshift	microns	Shifts the image left and right in the subscan direction (along the drum)	On
Mscale	PPM	Scales the image in the mainscan direction (around the drum)	Off
Sscale	PPM	Scales the image in the subscan direction (along the drum)	Off
Rotation	microradians	Rotates the image	On

By default, only the **Mshift**, **Sshift** and **Rotation** parameters will be adjusted by GC Tool. The **Mscale** and **Sscale** parameters normally do not need to be adjusted. If necessary, check the parameter box manually for GC Tool to perform theses adjustments.

The **Mshift**, **Sshift**, **Mscale**, and **Rotation** parameters are indexed for each set of registration pins that are used when imaging a plate. GC Tool will choose the correct index based on the pins selected.

For more information on GC Tool, see the Service Shell help.

3. LIMITATIONS OF GC TOOL

GC Tool can only be used for calculating and modifying GC settings on TMCE- and GMCE-based Quantum devices. Therefore, both master and secondary devices must also be TMCE- or GMCE-based. The following table shows where GC Tool can be used. For the procedure on matching two MPE devices, or two devices with different electronics, refer to the *Geometric Correction* (72-3511B) procedure at http://techplanet.creo.com/output/computer_to_plate/trendsetter_3244/content/docs/72-3511b-a-pr01.pdf

Master \ Secondary	MPE	TMCE	GMCE
MPE	No	No	No
TMCE	No	Yes*	No
GMCE	No	No	Yes

*You must use TIFF Downloader to image both your master and secondary plot.

Furthermore, GC Tool cannot guarantee an exact or stable match in the following circumstances:

- The rotation, mainscan shift, and subscan shift could be affected if the plate edge is not perfectly straight.
- The rotation, mainscan shift, and subscan shift could be affected if the plate sits on different pin sets for the master/reference and target images (if the pin spacing or where the plate touches the pins is different when matching two machines with different pin spacings, or when matching two pin sets on the same device).
- The subscan shift could be affected when matching two machines due to variability in the edge detection between the two lasers.

4. ALIGNING THE DEVICES OR PIN SETS

Before you start the alignment procedure, it is important to first verify that the imaging head is operating properly on all devices to be matched. See the thermal head troubleshooting guides on TechPlanet at http://techplanet.creo.com/output/heads/thermal/nav/troubles.htm or http://techplanet.creo.com/output/heads/thermal_2/nav/troubles.htm.

4.1 Imaging the Master Plot

1. Select a device or pin set (if matching two pin sets on the same machine) as your master or reference. This will be the baseline for the other device or pin set to match.
2. Start Service Shell.
3. If you are using a positive media, change the media **invert** parameter to **0**.

4. Click the **Test Plot** icon in the Service Shell Outlook Bar.
5. In **GC Tool Jobs**, select the appropriate **GC-Master job**.

   Note: If the master device is TMCE-based, refer to section 5 on how to use Tiff Downloader to image your master plot.

6. Image the master plot using a plate size that is sitting on the specific pin sets you want to match. Carefully load the plate so that it is centered on the two pins in use.
7. Once the device has finished imaging, unload the plate from the device. *Do not* process the plate.

4.2 Imaging the Secondary Plot

1. If you are using a positive media, change the media **invert** parameter to **0**.
2. Click the **Test Plot** icon in the Service Shell Outlook Bar
3. In **GC Tool Jobs**, select the appropriate **GC-Master job**.

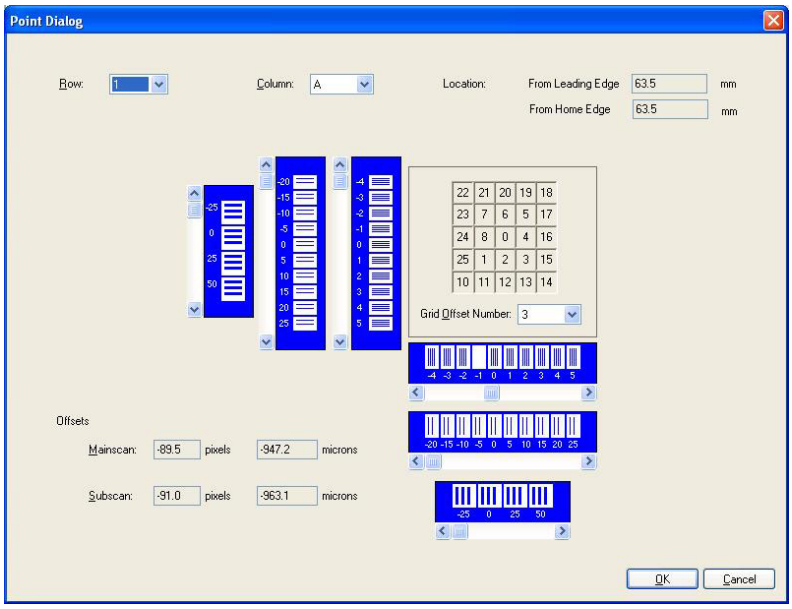
   Note: If you used TIFF Downloader to image your master plot, you must also use TIFF Downloader to image your secondary plot so that the images will match up.

4. Using the same plate that you used to image the master plot, image the secondary plot. Carefully load the plate so that it is centered on the two pins in use.
5. Once the device has finished imaging, unload the plate from the device, and then process the plate.

4.3 Using GC Tool to Perform GC Calibration

1. After the plate is processed, start **GC Tool** on the secondary device. You can use any Service Shell client connected locally or remotely to the device.
2. In **Calibration Menu**, select **New** and enter the desired values in the dialog box.
3. Click **OK**. GC Tool will load the current values to the GC parameter window.
4. Click **Edit plate** and enter the plate information. The **edge position** is printed near the home side of the plate if Test Plot was used for imaging the secondary plot. If Print Console was used for imaging the plot, use the **plot edge** command to find out the edge position of the secondary plot.
5. Click **OK**.

6. Select the **1A** point and click **Edit Point**.



7. Based on the 1A point on the imaged plate, select the **Grid Offset Number** (the number closest to where the **X** is imaged).
8. Move the sliders on each of the horizontal and vertical patterns so that they match the image on the plate.
9. Click **OK** when finished.
10. Select the next point and repeat the steps above for the remaining points located at each corner of the plate. Be sure to update the **Row** and **Column** of each data point.
11. Once the four points have been edited, GC Tool completes the calculation and the new parameters are shown in the GC Parameters window.
12. Select **Calibration Menu** > **Save As** to save the settings for future reference.
13. Click **Write Parameters to Device** to update the GC parameters.
14. Run a plot 100 on the master device (or pin set) and image the same plate on the secondary device (or pin set) to verify the results.

5. USING TIFF DOWNLOADER TO OUTPUT MASTER AND SECONDARY PLOTS

If your device is TMCE-based, you must use TIFF Downloader to output the master and secondary plot.

Note: Since TIFF Downloader and Service Shell Test Plot handle the image shift differently, you cannot output the two plots using different methods.

5.1 Imaging the Master Plot

1. In Print Console, create a print setup using a plate size that is sitting on the specific pin sets you want to match.

2. On the TIFF Downloader tab, set the **rotation** to **0** degrees and **mirror** to **None**.
3. Use this print setup to submit the file **\ServiceShell\Applets\Test Plot\Tiff Files\2400dpi_Master.tif**. For 1200 dpi devices, use the file TDL_1200dpi_Master.tif.
4. Approve the job and carefully load the plate so that it is centered on the two pins in use.

5.2 Imaging the Secondary Plot

1. In Print Console, create a print setup using the plate size that you used to image the master plot.
2. On the TIFF Downloader tab, set the **rotation** to **0** degrees and **mirror** to **None**.
3. Use this print setup to submit the file **\ServiceShell\Applets\Test Plot\Tiff Files\2400dpi_Secondary.tif**. For 1200 dpi devices, use the file **TDL_1200_Secondary.tif**.
4. Approve the job and carefully load the plate with the primary plot so that it is centered on the two pins in use.