

Printing Borderless Posters – Best Practices

Using the Epson® SureColor® P10000 | P20000 Production Edition powered by ONYX®

with Epson Poster Paper Production (175) | (200)

OVERVIEW:

This document provides the background information and steps required to set up an Epson SureColor P10000 or P20000 printer and ONYX Thrive or RIPCenter software (v18.5) for optimal high-speed printing of borderless posters. The highest quality posters are made using the borderless double-cut mode. Double-cut yields a full-bleed, trimmed poster ready for pack and ship. Borderless Single-cut requires additional settings and job conditions geared toward maximizing roll paper yield by printing and cutting continuously with no space in-between.

OBJECTIVES:

- Produce sellable-quality, fully finished borderless posters at fast print speeds
- Minimize borderless overprint for improved borderless print pad life
- Yield more prints per roll with borderless with single-cut

STEPS:

- Prepare the SC-P10000 | P20000: Update to the latest firmware revision and confirm the print head nozzle check
- Create a Custom Paper Setting: Using the printer control panel to build a custom paper setting with cutter adjustments
- Configure a Borderless, Double-cut Quick Set in Onyx: Understand how to use and configure specific settings in ONYX Quick Sets
- Understanding differences in configuring a Borderless Single-cut Quick Set in Onyx

STEP 1 – Prepare the Epson SC-P10000 | P20000:

1. Check the Epson support site (epson.com/support/p10000 or epson.com/support/p20000) to download the Firmware Update Utility. The Firmware Update Utility checks your printer for the latest firmware and updates it if necessary. Launch the utility and follow the prompts. The utility will locate all online SC-P10000/P20000 printers in a ready state
2. Before proceeding to the next step, print a nozzle check and clean the print head if needed

STEP 2 – Create a Custom Paper Setting for Poster Paper Production (175) | (210):

1. Background:

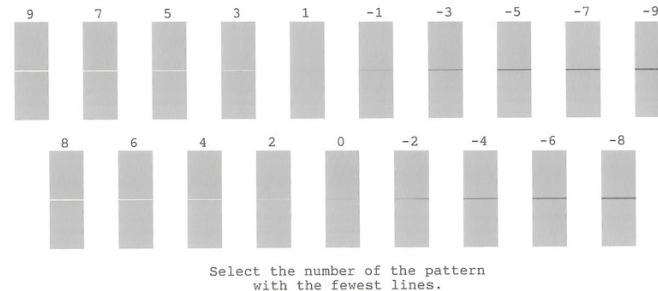
- a. For best results, creating a custom paper setting is recommended for all media.
- b. Adjusting settings (e.g. platen gap, paper thickness, feed rate adjustment, etc.) must be done from the Control Panel under the custom paper setting. Creating a custom paper setting overrides all physical paper-related settings made in the Epson printer driver or RIP software

2. Step-by-step process:

- a. Use the printer control panel to create a custom paper setting and change four key settings: name, reference paper, paper thickness, and paper feed. All other settings can remain at the reference paper default values
- b. Press the Menu button, select Paper, and then press OK.
- c. Select Custom Paper Setting, and then press OK. Press the up or down arrow button to select a paper configuration number from 1 to 20 (if you only see 10 your firmware and LFP Remote Panel 2 software need updating), and then press OK
 - i. Use the control panel keys to enter a meaningful name (e.g. Poster Paper 210)
 - ii. Choose Select Reference Paper. For both Poster Paper Production (175) and (210) use Premium Glossy Photo Paper 170. *The base media type establishes values for ink duty and feed characteristics and should be consistent with the media used for ICC profile creation*
 - iii. Select Platen Gap, for Poster Paper (175) or (210) use a Platen Gap setting of 1.6
 - iv. Select Paper Thickness, and then press OK. Both Poster Papers (175) and (210) use a thickness of 0.2mm or print the target and select the best setting using a high-powered loupe. (Paper thickness controls the critical dot timing of bi-directional (high-speed) printing. A simple way to test this is to print a graphic with fine vertical line detail or small type in both uni-d and bi-d. If there is thickening of fine elements on the bi-d print between the two modes, then the paper thickness setting requires adjustment.)
 - v. Select Paper Feed Adjust > Block Pattern and then press OK
 1. Background: Two things are accomplished by accurately setting paper feed adjustment on your specific printer for a given media.
 - a. The length of a print is accurate to the file dimension
 - b. The best quality for high-speed printing occurs by minimizing feed step banding lines
 1. Note: At the highest print speeds it is not possible to eliminate all paper feed step banding. If quality is not sellable, step-up to a higher quality mode

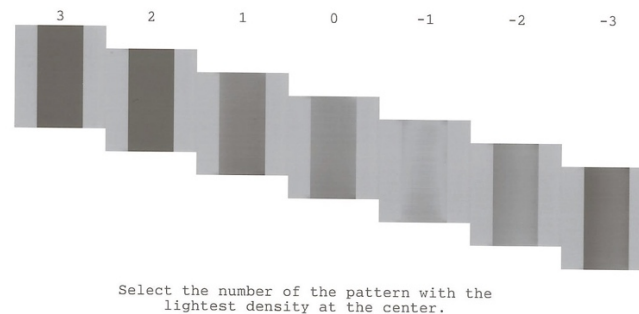


2. A pattern similar to the one below prints.



a. Examine the pattern and select the number of the pattern with the least separation (a white line in the middle) or overlap (a dark line in the middle).

3. A second pattern will print. Select the number of the pattern with the lightest density.



2. Manual adjustments based on actual prints

- If there are complete thin white gaps (usual most noticeable in blocks of solid color) between passes of the printhead the paper feed value is too large, decrease the numeric value.
- If there are dark lines, the value is too small (passes are overlapping) increase the value

3. **Activate the Custom Paper Setting**

- Note: Once activated, adjusting settings such as platen gap, paper thickness, feed rate adjustment, etc. MUST be done from the Control Panel under the custom paper setting. Creating a custom paper setting overrides all physical paper-related settings made in the Epson printer driver or RIP software*

STEP 3 – Configure a Quick Set for Borderless, Double-cut in ONYX:

1. Background:

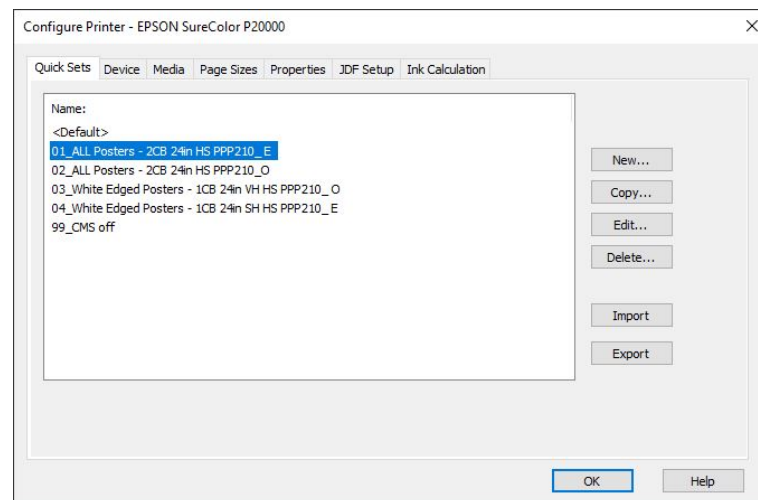
- a. Double-cut is the easiest method to setup within ONYX
- b. There is a productivity benefit to double-cut: print jobs do not require grouping, can be release individually and automatically without delay
- c. Using double-cut yields the cleanest borderless poster with no bleed overlap from the next job in the queue. It comes at the expense of a paper chad between each job. This chad can only be reduced or eliminated by using a single-cut workflow outlined further down in this document

2. Create a Quick Set:

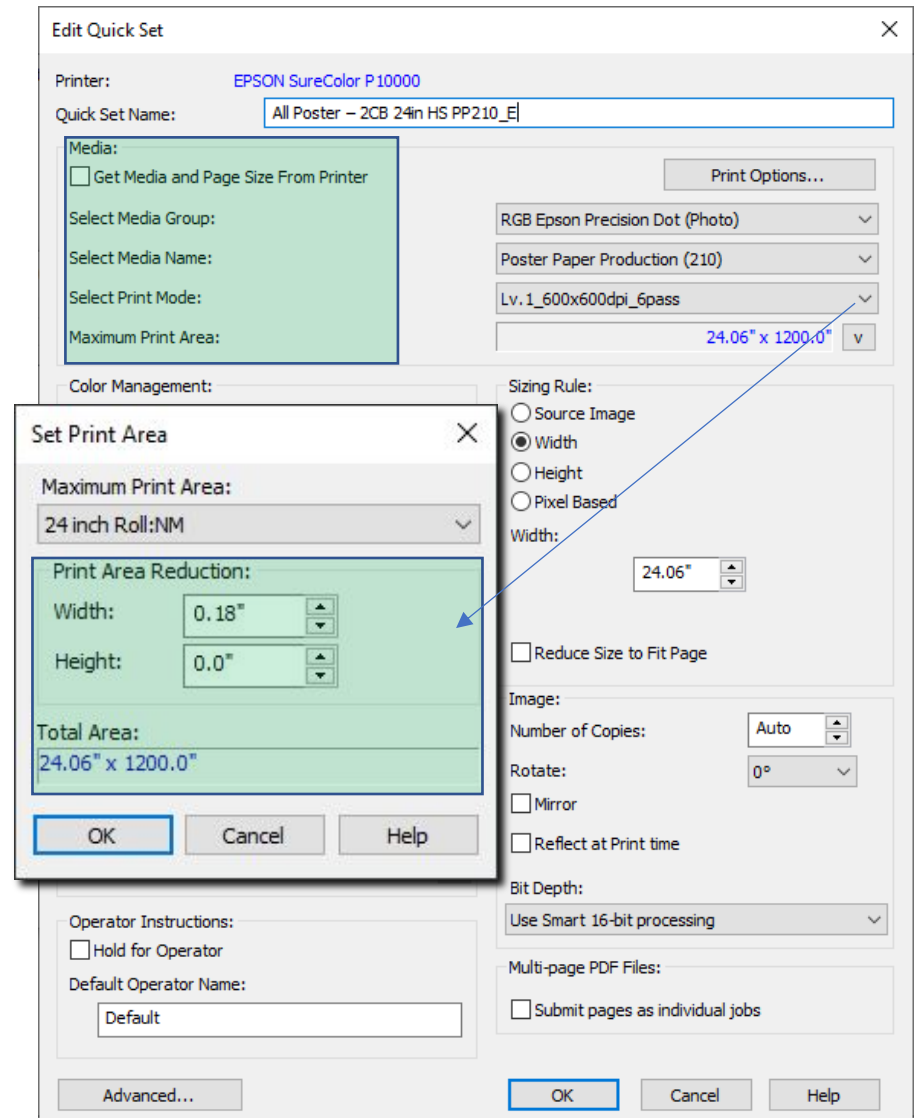
- a. If creating the initial ONYX quick set, Select Configure Printer (it requires taking the ONYX RIP server off-line). Select “New” and give it a name. The following is an example of how to include critical details in the name of the Quick Set; you can use any convention you choose

i. Name: **All Poster – 2CB 24in HS PP210_E**

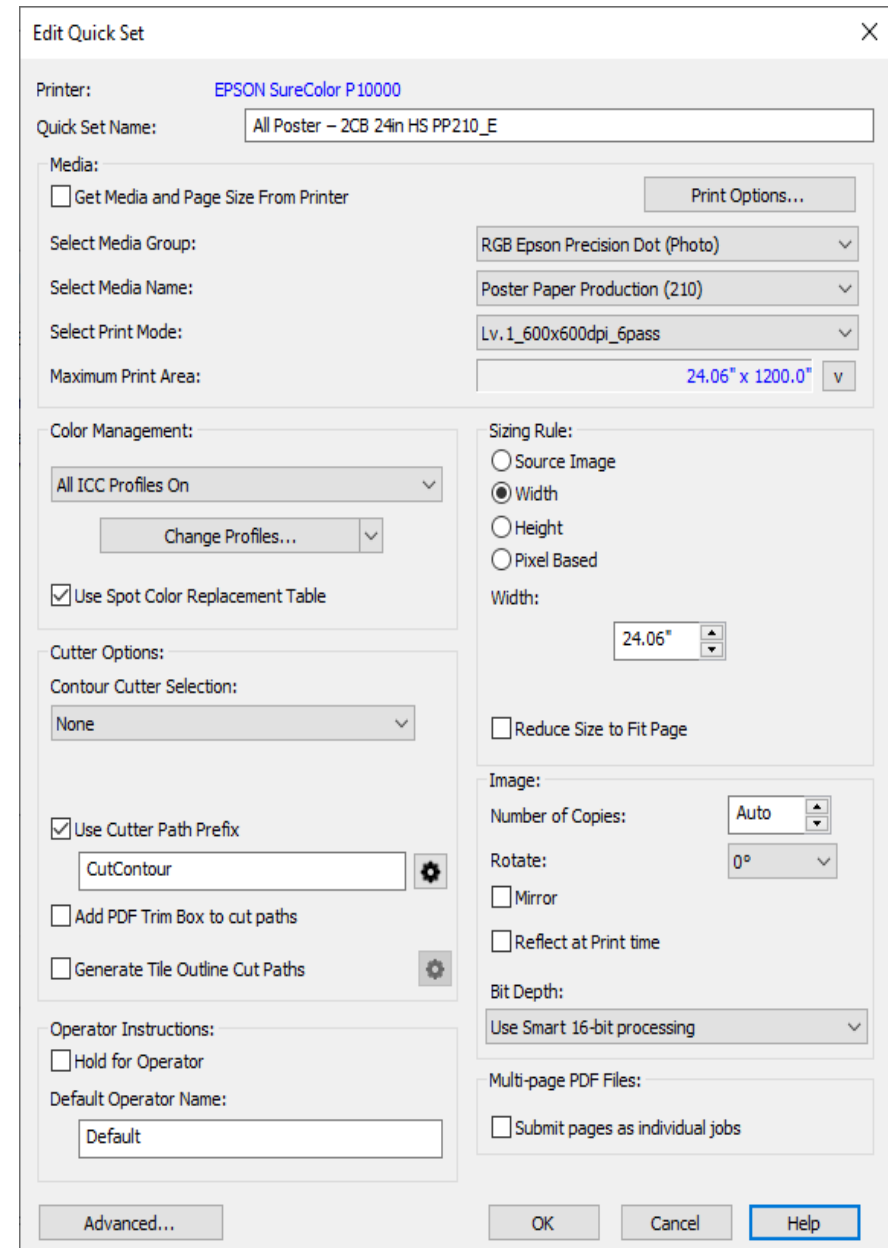
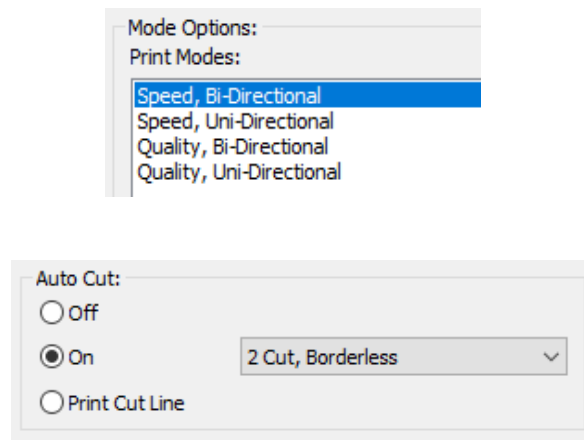
1. All Posters = This quickset can be used for any 24” wide poster
2. 2CB = Double Cut, Borderless
3. 24in = the width of the media and one dimension of the poster
4. HS = High Speed, fastest sellable
5. PPP210 = Poster Paper Production (210)
6. E = Epson halftone module
 - a. Optional O = ONYX Halftone.
 - b. Note: There is no significant productivity difference between the fastest speed of the Epson and ONYX halftone modules



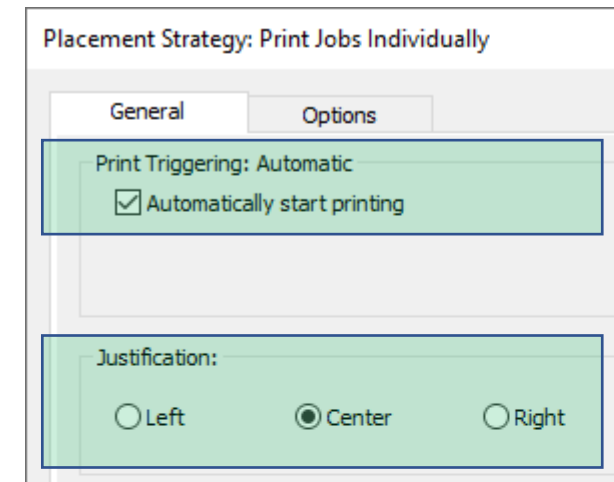
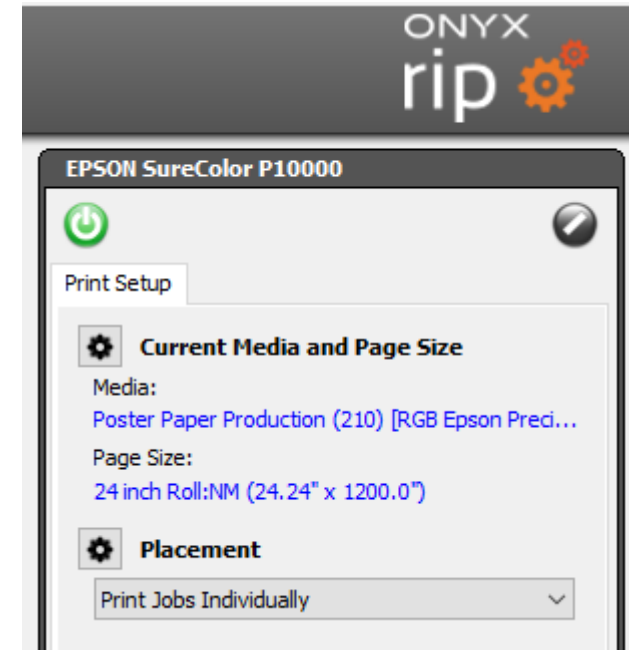
3. Edit the Quick Set, working down the right-hand side
 - a. Uncheck Get Media and Page Size from Printer
 - b. Select Media Group: RGB Epson Precision Dot (Photo)
 - c. Select Media Name: Poster Paper Production (210)
 - d. Select Print Mode: Lv.1_600x600dpi_6pass
 - e. Open the Maximum Print Area drop-down menu.
 - i. Select the NM (No Margin) setting for your paper
 1. Ex: 24 inch Roll:NM for 24 x 18" posters or 36 inch Roll:NM for 36" x 24" Posters
 - ii. Set Print Area Reduction
 1. **This reduction is the critical setting to minimize overspray and extended borderless pad life**
 - a. The default overprint is 0.24in equating to 0.12in/side
 2. Set "Width:" to 0.18in and press OK.
 - a. This restricts the overprint on each side to just 0.03in (0.12in default less 0.09in reduction)
 3. Leave "Height:" at the default of 0.0"
- f. *Note: If posters at this setting show signs of paper white left and right edges (direction of print head travel) decrease the Print Area Reduction value by .02" to 0.16" and reset the Sizing Rule to 24.08". Repeat in increments of 0.02" as needed*



- g. Set “Sizing Rule:” to Width
- h. Using the up arrow, set the numeric Width: field to its maximum. It stops at the No Margin media width less the Print Area Reduction. Example 24.06”
 - i. Optional Reduce Size to Fit Page
 1. Use of this dialog depends on the size of the originating graphic
- i. Under Print Options set:
 - i. Print Modes: Speed, Bi-Directional
 - ii. Auto Cut: On, 2 Cut Borderless
 - iii. *Caution: always set Print Options as the last step, if the Media Group, Media Name, or Print Mode is changed, the Print Options revert to the default “Normal Cut”*
- j. Click OK, select the Quick Set, and click OK.

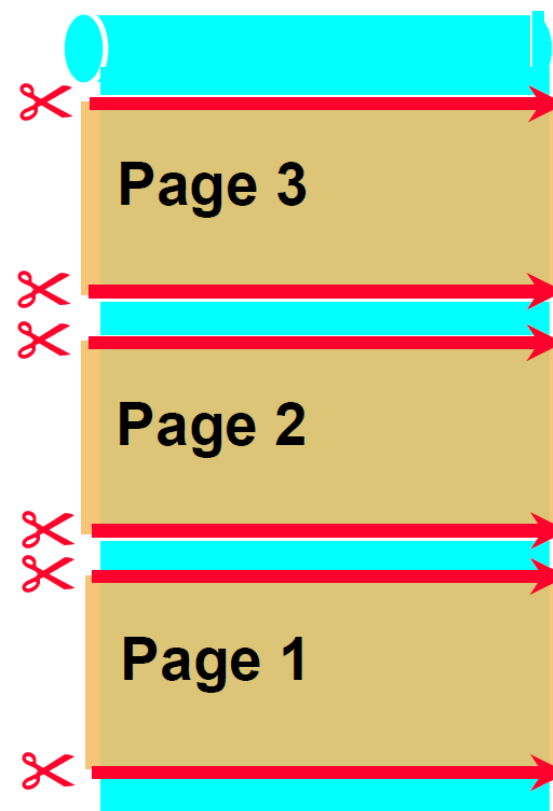


4. ONYX Placement (Upper Right side of Main RIP Screen) not in Quick Set settings
 - a. Set Current Media and Page Size
 - i. Click the Gear Icon for Current Media and Page Size
 - ii. Select your Media Group (e.g. RGB Epson Precision Dot Photo)
 - iii. Select your Media (e.g. Poster Paper Production (210))
 - iv. Select your Page Size (e.g. 24-inch Roll:NM (24.24" x 1200.00"))
 1. *Note: 24.24" reflects the paper width plus the default maximum borderless expansion width (0.24") This overprint is cut back in the Quick Set*
 - v. Click OK
 - vi. Under the Placement drop down menu, select Print Jobs Individually
 - vii. Click the Gear Icon for Placement
 1. On the General tab, check Automatically start printing
 2. Under Justification, select the Center radio button.
 - viii. *Note: Do not use "Conserve Media" or "Group Jobs Together" when setting up for borderless double-cut posters.*



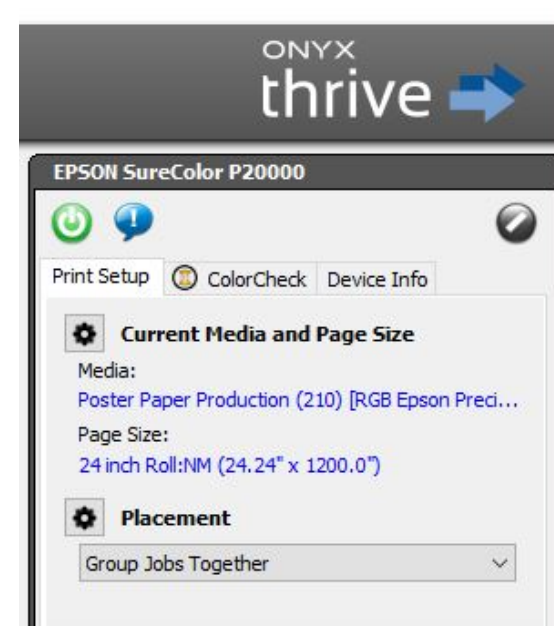
Summary of Borderless, Double-cut key settings for Epson Poster Paper Production (210):

- Custom Media on Printer (using Printer LCD Control Panel)
 - Media Name: Poster Paper (210)
 - b. Base Media Type: Premium Glossy Photo Paper 170
 - Paper thickness: 2
 - Paper feed (24) Example value, yours can be different
 - Platen Gap: 1.6
- ONYX Quick Set
 - Example Name: All Poster – 2CB 24in HS PP210_E
 - Media Group: RGB Epson Precision Dot (Photo)
 - Media Name: Poster Paper Production (210)
 - Print Mode: Lv.1_600x600dpi_6pass
 - No Margin Setting for Paper Size
 - Print Width Reduction: 0.18in
 - Sizing Rule: Width (reflects NM size less reduction area)
 - Speed, Bi-directional
 - Auto Cut: On, Double cut
 - Optional Uncheck: Hold for operator
- ONYX Placement
 - Print Jobs Individually
 - Justification: Center
 - Centering combines with the Print Width Reduction setting to ensure posters are centered
 - Optional: Release automatically

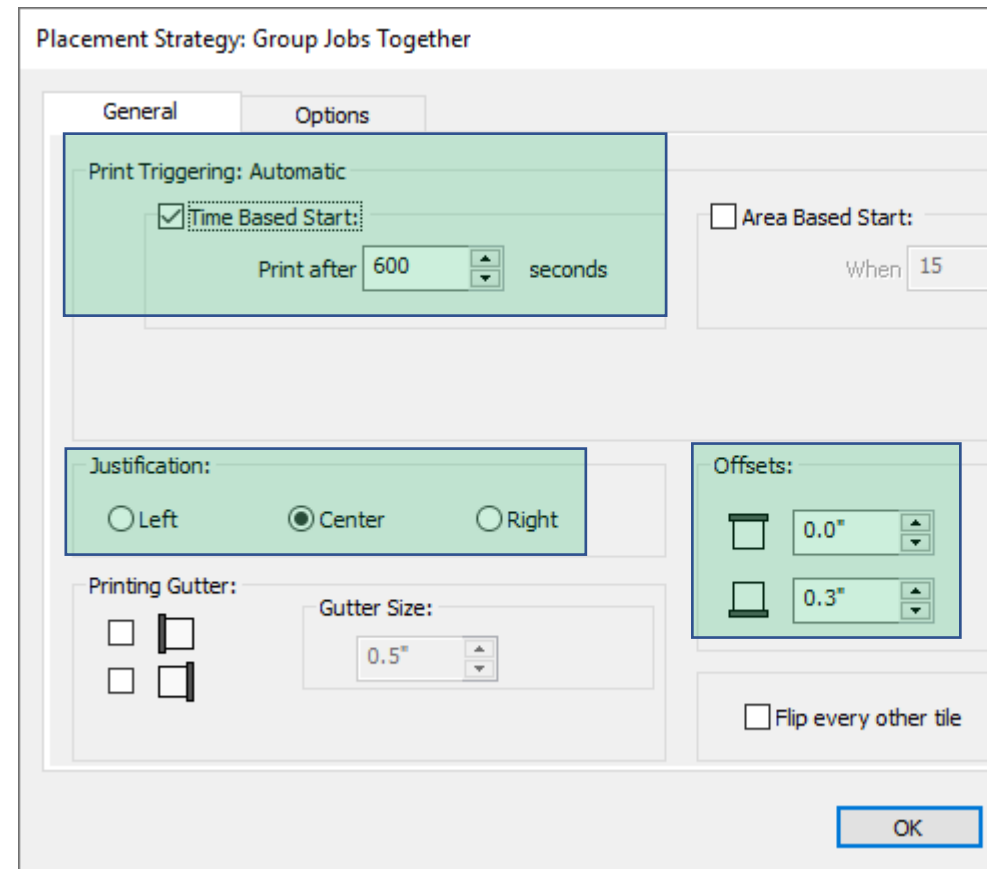
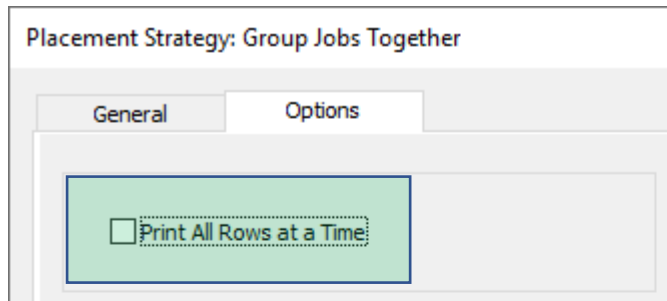


STEP 4 - Additional Information and Settings Required for Borderless, Single-cut:

1. Single-cut Benefit: Using single-cut configured with grouped placement eliminates the 3.25" media "chad" between jobs
 - a. Grouping just two jobs together will reduce chad generation by 50%
 - b. Ganging seven 24" x 18" jobs together yields one additional 24" x 18" poster print
 - i. Eliminating six chads between seven jobs, yields 19.5" of media available for production (6 x 3.25")
2. Single-cut Limitations:
 - a. For prints made without a gap between them, it is normal for one graphic to bleed into the next as it is impossible for the printer to make a perfectly exact cut between two adjacent prints. You can minimize this by:
 - i. Grouping dark-edged and light edged graphics separately
 - ii. Setting a Bottom Margin offset that minimizes white gap or overlap between successive prints
 - iii. Perform a cutter adjustment on the printer to achieve the best case
 - b. **Note: All grouped jobs for single cut MUST be the same height. If job height varies, the entire group prints without cutting**
 - i. If required, variable height single-cut processing is supported by using a Media Setup based on the ONYX halftone module. Example media libraries are included for Poster Paper Production (175) and (210)
3. Single-cut Specific Requirements:
 - a. Follow all the previous Double Cut settings except for:
 - b. In Printer Options within a Quick Set, Set Cut to: On, 1 Cut, Borderless
 - c. In ONYX Placement
 - i. Group Jobs Together
 - ii. Grouping is required, as only jobs in a continuous group can single cut



- d. Set Time Based Start:
 - i. This value used depends on the workload, if jobs release as single pages there is no benefit
 - ii. When setting a high value, jobs can always be manually released
 - iii. **Do NOT use Area Based Start**
 - 1. For roll media, it is the % of width filled, and one poster fills 100%
- e. Like double-cut, set Justification: Center
- f. Set bottom Offsets: for best abutting of jobs. Perform several multi-print test runs and adjust as required
- g. **In Options, uncheck Print all Rows at a Time**
This is critical for 1 Cut, Borderless. If left checked, all jobs print together, without cutting



4. Printer Cutter Adjustment

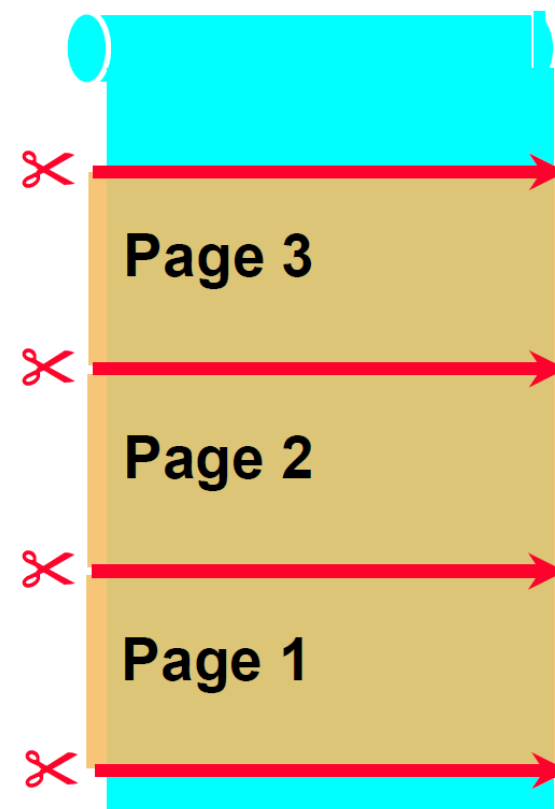
- a. On the printers control panel, under Cutter Maintenance>Adjust Cut Position, fine tune the cut position
- b. If the bleed overlap is more prominent on the trailing prints, go minus, if on the leading print go plus



Summary of Borderless, Single-cut Settings for Epson Poster Paper Production (210):

Settings listed below in green differ from double-cut, settings in blue are unique to single-cut

- Custom Media on Printer (using Printer LCD Control Panel)
 - Media Name: Poster Paper (210)
 - Base Media Type: Premium Glossy Photo Paper 170
 - Paper Thickness: 2
 - Paper Feed (24) Example value, yours can be different
 - Platen Gap: 1.6
- ONYX Quick Set
 - Example Name: White Edged Posters – 1CB 24in SH HS PP210_E
 - Media Group: RGB Epson Precision Dot (Photo)
 - Media Name: Poster Paper Production (210)
 - Print Mode: Lv.1_600x600dpi_6pass
 - No Margin Setting matching the Roll Paper Width installed in the printer
 - Print Width Reduction: 0.18in
 - Sizing Rule: Width (reflects NM size less reduction area)
 - Speed, Bi-directional
 - Auto Cut: On, 1 Cut, Borderless
- ONYX Placement
 - Uncheck Print all Rows at a Time
 - Justification: Center
 - Bottom Offset (example: 0.03)
 - Group Jobs Together
 - Set Time Release Value (example: 600 seconds)
- Cutter Adjustment on Printer
 - Adjust + or – for best cut alignment between jobs



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