

Recognition Systems, Inc.
30 Harbor Park Drive
Port Washington, NY 11050
Phone: 516-625-5000; Fax: 516-625-1507
www.dotworks.com



DOT WORKS UNICORN PLATES START UP GUIDE

1. Objective

The intention of this document is to provide the information to a trained plate specialist for a successful start-up with the Unicorn plate. We recommend you read the Quick guide in this document before starting the Unicorn demo at the customer site. We are finding setting expectations and explaining how the plate works to the pressman is critical for a successful demo or start-up.

2. Methodology and Test Results

Ideally, it would be preferred if we could provide a standard start-up sequence that works on all presses under all conditions. We have found this isn't really practical in all cases, due to the amount of different variables such as; fountain solutions, inks, dampening systems, types of presses and press conditions. For customers using process-free plates we are recommending that the Unicorn plate be cleaned-out using the current sequence the customer is using. Customer's not currently using process-free plate we recommend increasing the water setting by three units in most cases. This will provide us a baseline on how the Unicorn plate is performing on that particular press under those printing conditions. In most cases by evaluating the first 25 sheets you can determine how successful the clean out of the Unicorn plate was. Included in this document are pictures of three common clean-out sequences we have seen. By comparing the customer's start-up sheets to these picture samples should provide guidance on how to proceed. Each of the pictures will have information describing the clean-out results and provide troubleshooting guidance.

Quick Guide: Press

Before Unicorn on Press

- Explain to the printer about the unique startup method (with movie – booklet)
Startup toning on non-image and start-up framing are normal for Unicorn
- Show a manual cleanout of Unicorn to convince the printer what happens on press
- Check possible risks on light conditions in the printshop
- Check the conditions of the blanket before starting a new production job
- Check appearance of the dampening rollers

First Unicorn Startup on Press

Current Plate: Process free plate

- Use the same startup settings as the current plate. Vs. Sonora X you can slightly increase the dampening levels.
- Find the optimal dampening setting during the run. Dampening level will be slightly higher for Unicorn vs. Sonora X
- If the cleanout is far away from the expectation, start checking the basic parameters (chapter: “Parameter check list”)

Current plate: Non-Process free plate

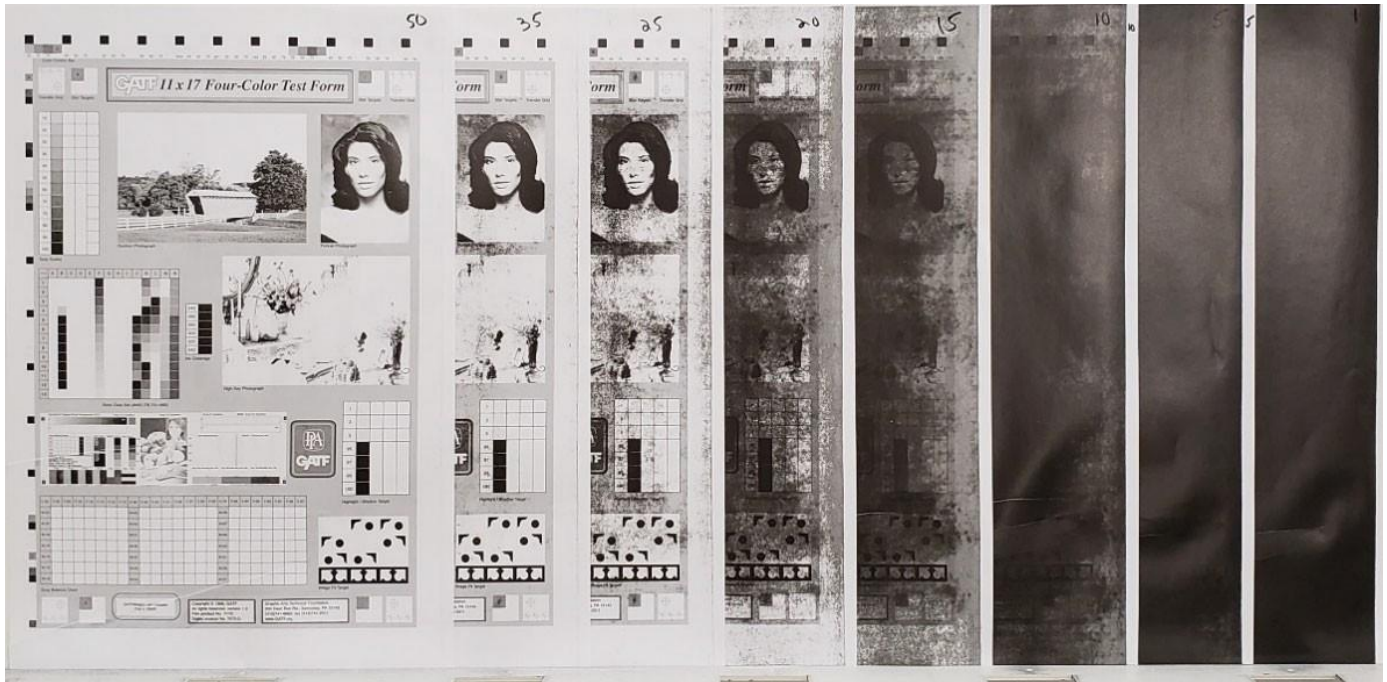
- Increase the pre-dampening (+3 revolutions)
- Increase the dampening level slightly
- Make sure that the blankets are clean and dry (esp. in UV / LE UV conditions)
- Check the ink stripes on plate from the ink and damp form rollers
- Find the optimal dampening setting during the run.

Next: Unicorn startup on press

- Normal cleanout speed on press (“sellable”) is between 10-25 sheets
The following parameters are taken into account:
 - No toning on the background
 - Cleanout of the image is almost complete
 - Visual on acceptable density
- If cleanout is not within the expected range, check the startup parameters.
 - Cleanout of non-image area too slow:
 - Full plate is too slow: increase pre-dampening
 - Specific zone is too slow: check damp roller condition and ink stripe
 - Cleanout of image area too slow (shadow plugging):
 - Reduce amount of water during the startup
 - Make sure that the blankets are dry before the startup

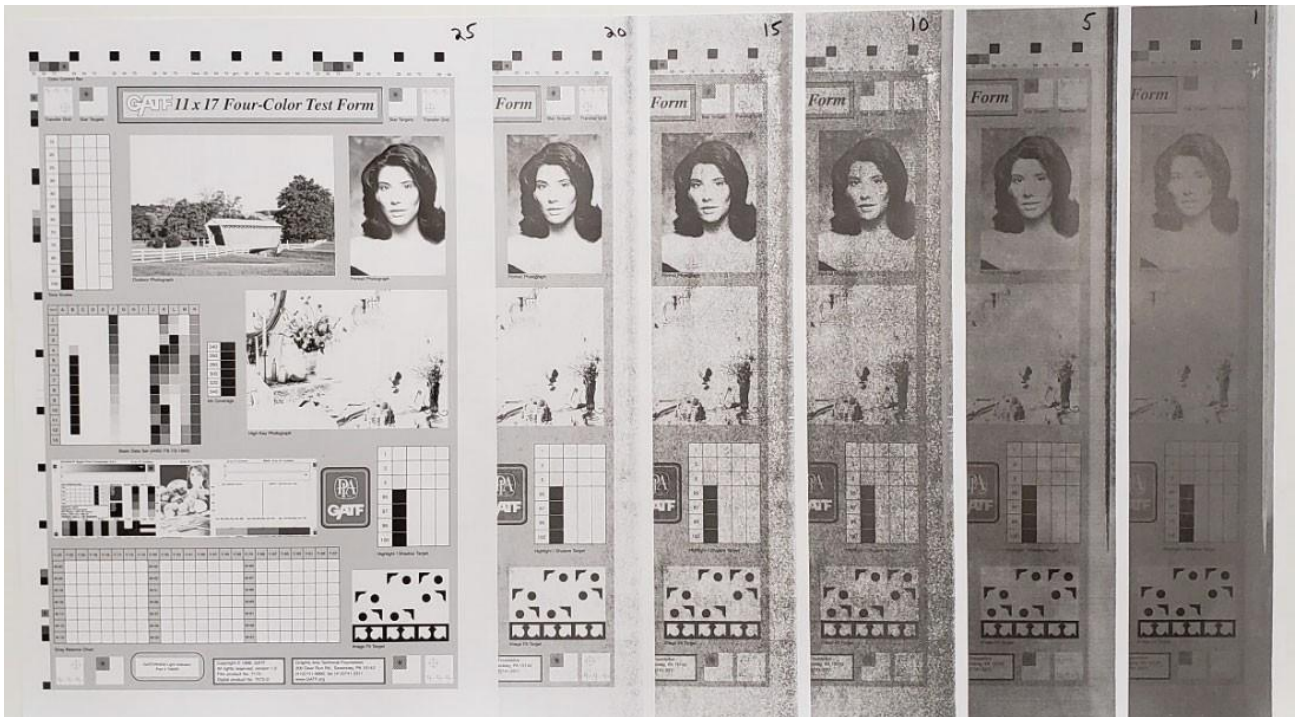
1. Pictures of Different Start-up Sequences

- Sheets too dark during the initial roll-up



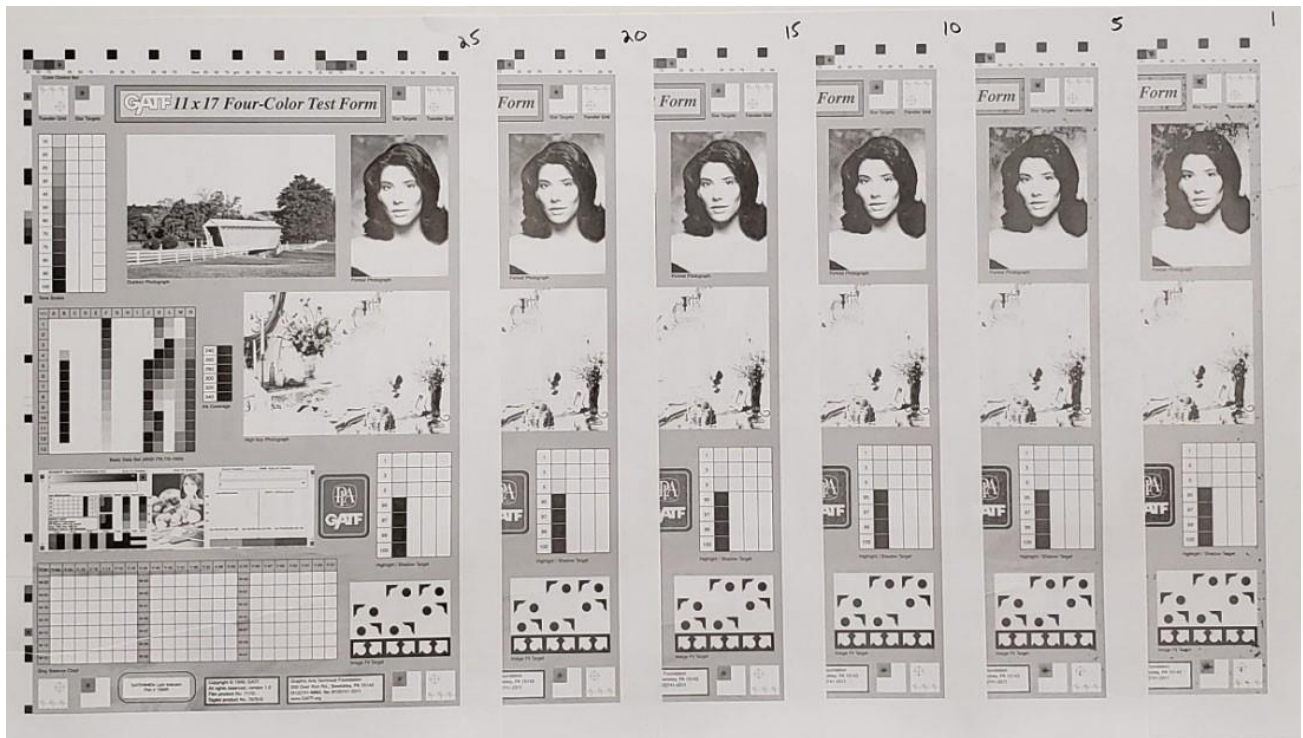
- **Rootcause:**
 - The overcoat wasn't removed fast enough causing the delay in sellable sheets
 - This will generate excessive waste sheets.
 - This will cause the solid ink density to drop and you will need more sheets to achieve correct density
 - This could also cause possible screen plugging
- **Solution:**
 - Adjust the roll-up sequence by increasing the amount of dampening revolutions or water demand setting.
 - Reduce the amount of ink during the initial roll-up. Too heavy of an ink film on the rollers will cause a delay in removing the over-coat and cause screen plugging.
 - Confirm both dampening & ink rollers are set correctly to each other and to the plate.

- Sheets slightly toned during the initial roll-up



- *This should be considered the preferred roll-up sequence result.*
 - The slight toning seen during the roll-up ensures the plate coating has been transferred from the blanket to the press sheet. This will provide this least amount of risk of possible press contamination.
 - Sometimes there is confusion from the pressman when he sees this and feels the need to increase the dampening setting to resolve the toning. This must be avoided because this will cause slower clean-out and generate more waste.
 - If you see that the start-up toning is uneven across the sheet, this is a good indication of possible rollers setting might need to be adjusted.

- Sheets print clean during the initial roll-up



- **Rootcause :**

- The overcoat has been removed completely prior to printing
 - This indicates that most of the plate coating has gone into the press and dramatically increases the risk for press contamination.
 - This could cause in some cases washed out press sheets (ink & water balance issues).
 - This could cause possible slower clean out of the screens and generate more press sheet of waste.

- **Solution:**

- Adjust the roll-up sequence by decreasing the amount of dampening revolutions.
- Confirm you have an adequate amount of ink in the roller train for the job that is about to be printed.
- Avoid trying to clean-out the plate prior to printing. Allow the coating to be removed by blanket & paper transfer.
- Confirm both dampening & ink rollers are set correctly to each other and the plate.

- In some cases, you will find pressman prefers this type of clean up because they don't want to waste press sheets. It's important that they clearly understand the increased risk of possible press contamination by choosing to have sheets come out clean with the Unicorn plate.