Gans Ink & Supply Company, Inc.
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PRESS PROFILING TEST PROCEDURES

The following step-by-step procedures are intended to insure a printing condition that will generate the most accurate print characteristic information attainable for establishing a press "fingerprint" or profile. Please note: Press "Fingerprinting", or profiling, is at minimum a **2 step process**, the ***initial*** print test and a ***follow-up*** test to insure the proper results.

These procedures are designed to completely "zero out" the press in order to produce a ***repeatable*** print test. The goal is not to create the "average" printing conditions, typical of any production day, but to establish a "baseline" that can always be re-created, when necessary, at any time. Once this "baseline" has been properly established, all variables in the printing process can be quantified and process controls can be established to aid the printer in all future color management decisions.

THE TEST FORM

1. There are many different test form templates available to the color printer today. GRACoL and GATF test forms can be purchased online, or simple measurement "patches" can be created in-house. At a minimum the measurement "patches" necessary to create a meaningful fingerprint are as follows: For each color 100%, 95%, 75%, 50%, 25% and 5%. Overprint patches of 100% magenta on top of 100% cyan, 100% yellow on top of 100% cyan and 100% yellow on top of 100% magenta. Additionally, 3 color neutral gray patches to match 75%, 50% and 25% black.
2. **Gans Ink has a useful test form that may be downloaded at no charge** if desired. It is important to note that there are no currently accepted industry standards (or guidelines) for any AM screening above **175 lines**, and there are **no industry standards at all for any FM "stochastic" or XM hybrid, co-resolution screening.**

THE PROOF

1. For the INITIAL print characteristic press run NO PROOF should be used *at the press*. At this time any proofed image will NOT resemble the image that the press will generate under these conditions.
2. Every print characteristic press run should be run to specific ink densities ONLY, in order to gather meaningful measurements for profiling, or confirming a profile. Standard solid ink densities are as follows: Black-**1.80**, Cyan-**1.50**, Magenta-**1.50** and Yellow-**1.05**.

THE PAPER

1. Paper stock should be a **grade #1 or #2 gloss stock** commonly used as a "house" sheet. Basis weight should be either **80# or 100# book weight** stock. The same brand and basis weight should be used for all future calibration print tests.
2. The paper should be acclimated to the pressroom climate for a minimum of **24 hours**.
3. Depending on how long it takes to balance out densities for all 4 colors across the sheet, enough paper must be available to achieve representative results at production speeds. Generally, a 40 inch press will require more paper than a 29 inch press and, if densities must be measured by hand, it will require more paper than if densities can be scanned

THE PAPER (CONT.)

mechanically. In most cases **consistent print characteristics cannot be achieved with less than 5,000 sheets**, and depending on how fast makeready speeds are on a particular press, **up to 10,000 sheets may be necessary** for accurate results.

THE PLATES

1. For the INITIAL print characteristic press run **all plates must be "linear"** or as close as possible. The target screen values to be measured should be as close to what they are identified as (50%=50%, etc.), or as close as the imaging device can be "zeroed out" to.
2. **Before** the plates are mounted on the press **accurate measurements must be made to exactly determine the screen values that are to be measured**. If these measurements cannot be taken before the plates are mounted on the press, they **must** be measured after the press run is completed and the plates have been CLEANED.

THE BLANKETS

1. **All blankets should be new or like new.**
2. If one blanket must be replaced, the other 3 should also be replaced.
3. All blankets must be checked to verify that they are **packed to the press manufacturer's specifications**, and have been properly tourqued.
4. If the blankets are new they must be re-tourqued after 500 sheets.

THE FOUNTAIN SOLUTION

1. **All fountain reservoirs must be drained, cleaned (flushed, if necessary), filled with fresh fountain concentrate** and allowed to chill to the proper temperature, approximately **55 degrees**.
2. If an automatic dosing unit is installed a test should be conducted before any print characteristic press runs to determine that the dosage is, in fact, correct.

THE PRESS

1. The press to be profiled must be in **proper mechanical condition**, according to the manufacturer's specifications, if consistent, repeatable measurements are to be obtained.
2. If ANY level of sheet movement or distortion is evident the print characteristic press run **must** be rescheduled until the problem can be identified and corrected. It cannot be stressed that NO dependable data can be obtained from a press that is not in proper mechanical condition.
3. For consistent measurements it is critical that the **densitometer or spectrophotometer to be used is properly functioning and calibrated** *before* testing can begin.

AQUEOUS COATING

If the press to be profiled has an in-line aqueous coating unit it is strongly recommended that all print characteristic press runs be **printed with aqueous coating**. Aqueous coating will increase the optical dot-gain of the printed sheet anywhere from 1% to 5% and this optical dot-gain must be quantified and compensated for in order to establish an accurate color space.

PROPERLY CONDUCTED PRESS PROFILING TESTS WILL AID IN EVERY COLOR MANAGEMENT DECISION, EVERY INK SUPPLIER DECISION, EVERY BLANKET AND ROLLER MATERIAL DECISION AND EVERY PRESSROOM SUPPLY DECISION YOU ARE FACED WITH FOR THE LIFE OF YOUR PRESS!