AnaBRIGHT™ Ink Printing Tips

AnaJet®
Technical Support

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Revision History

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1.0	Initial release.	Mike McCulty – Author Director of Customer Relations Steeve Jacobs – Editor Training Manager Sal Venegas – Editor Member, Technical Support	October 5, 2010

Introduction

This document contains tips to address the factors that contribute to high quality commercial output from the AnaJet printer and the proper usage of AnaBRIGHT™ Inks. This document covers tips on maintaining the environment, image quality, pretreatment, using AnaBRIGHT™ White Ink, heat press and garment washability tips. If everything in this document is applied consistently this will result in commercially acceptable prints and long garment life.

Maintaining the Printer's Environment

Few factors have more impact on getting consistent high quality printing results with AnaBRIGHT™ Inks than maintaining the AnaJet printer's environment. Keeping a setpoint of at least 50% relative humidity near the printhead can eliminate issues of poor print quality, spotting, banding, dull or muted colors, and ink coverage. AnaJet recommends all the following to maintain the printer environment:

- Once ink is introduced to the printer it should remain powered on 24 hours a day for the user-set auto printhead maintenance to run. If the printer will sit idle for more than 3 days or for storage or transportation then flush ink out with cleaning solution.
- The printer must remain level at all times, gravity plays a huge role in ink flow and print quality. Use a level tool and adjust the feet as needed. See your User Manual page 3 for more detailed instructions on the procedure.
- Print table must be adjusted to the proper height using the gauge height adjustment block.
- Keep the printer away from heat such as direct sunlight or a heat press. The heat press dries out the air around it.
- Keep the Relative Humidity at the printhead above 50%, 24 hours a day while the printer contains ink.
- Purchase a certified hygrometer to monitor humidity. Inexpensive hygrometers are available at cigar shops or the reptile department in a pet shop. These gauges have an adhesive backing and can be stuck right on the hood of the printer within a few inches of the printhead.
- Air conditioning significantly dries out the air. If the printer is in an air conditioned room a humidifier is required. Having a humidifier though does not guarantee proper humidity. For larger spaces more than one

humidifier may be required. We recommend a commercial humidifier with a large reservoir that alerts you when low and will not require refilling over long weekends.
- In especially dry desert climates you can supplement the effort of humidifiers by adding a wet sponge on a dish inside the printer. Be sure to keep the sponge wet.
- Do not place the printer in a direct line with fans, air conditioning vents, exhaust ports from other equipment, or any focused air stream.

Image Quality – garbage in garbage out

- Artwork from websites use low resolution to accommodate download speeds. Thumbnails with 72 dpi are a poor choice for T-shirt graphics – once they are scaled up they become pixilated.
- The AnaJet Digital Apparel Printer prints at a resolution much higher than T-shirt fibers can support so we recommend using TIF or PNG image formats with a resolution of 200 to 300 dpi.
- All images for printing must be prepared as RGB not CMYK. The AnaJet RIP software will perform the conversion for printing.
- Many images are giant squares and don't make good T-Shirt graphics. If you are a designer we recommend the use of transparent backgrounds to limit ink use and produce better results.
- You can make images look bigger by printing them wider across the garment; this is easily achieved by using the landscape mode of the EKPrint Studio software.
- Did you know? AnaJet Techs are artists themselves who can assist you with your print settings and give advice on artwork designed for printing.

Pretreatment

Proper pretreatment is fundamental to the use of white ink and to get good print results on dark fabrics. Too little pretreatment leaves untreated areas where ink soaks in and fades. Too much pretreat causes ink to stand on the garment rather than curing into the fibers which impacts wash longevity. So how do we get consistent and proper results? Here is a list of tips to help:

- Dilute pretreat 50/50 using Distilled Water; do not use tap water.
- Shake pretreatment well before each use.

- For adequate coverage spray pretreatment evenly from about 12 inches away from garment. Spray until the garment has a wet shiny appearance without the pretreatment running or pooling.
- Squeegee pretreated area firmly in ONLY one direction to push the pretreatment into the texture of the garment and press the fibers flat.
- Hang garments until dry to the touch.
- If the back of the garment will also be printed, after drying, repeat the pretreatment process on the back side.
- Flush pretreat sprayer with hot water after use, periodically disassemble and clean with mild soap.
- If you are having trouble determining the right amount of pretreat to use try this. Pretreat three garments - on the first use the coverage you feel is right, on the second half as much, on the third twice as much. Permanently mark each garment then print and cure using the same settings and wash all three together and observe the results.
- Pretreated garments may be stored once completely dry.
- Before printing:
    - Use the heat press to fully press the print area for 10 seconds to remove excess water and flatten fibers.
    - Do not touch or brush the pressed area or it will risk raising fibers.
    - Place hoop over garment and *gently* tug loose edges downward to make garment flat. Do not pull tightly because stretched fibers slowly rebound over the course of the print causing the underbase and color layers to misalign.

AnaBRIGHT™ White Ink tips

The proper amount of AnaBRIGHT™ White Ink underbase is easy to achieve along with garment longevity. The principle factors are proper pretreatment, ink volume and heat press settings. Here are some tips to printing with AnaBRIGHT™ White Ink:

- Unused AnaBRIGHT™ Inks have a limited lifespan. It is not recommended to use inks beyond their lifespan.
    - AnaBRIGHT™ White Inks have a 6 month lifespan. These cartridges are marked with a manufacturing date. To calculate white ink expiration dates add 6 months to the manufacturing date.

  - AnaBRIGHT™ CMYK Inks have a 1 year lifespan. These cartridges are marked with an expiration date.
- Print on 100% natural fibers such as cotton, bamboo, and hemp.
- Do a nozzle check before starting a run of prints. If the check is poor, perform a printhead clean and recheck. Repeat a second time if needed.
- Shake AnaBRIGHT™ White Ink cartridges prior to a fresh job run or several times a week whichever comes first.
- If you have not used the white ink for a day or so, before starting a job run print a 4x4 square of white on a waste garment to get the white inks moving.
- Do not flood a garment with ink; use just enough to get a nice white.
- Reconsider any software settings where previously heavy ink saturation was used to overcome improper garment preparation or inadequate pretreatment methods which are covered in this document.
- Excessive ink levels on the white underbase which cause pooling of the ink must have sufficient time to dry before laying down color ink. If the color layer is printed on wet, puddle white ink then both layers will swirl together. On the next print adjust these white levels down so that the underbase is ready to be printed on immediately.
- AnaJet PolyBright™ CMYK Inks can be used on light colored manmade fibers such as polyester, nylon, and rayon. However, there are no AnaJet PolyBright™ white ink options so printing is not possible on dark manmade fibers. Some operators have achieved a measure of success on mixed blend fibers with high natural fiber and only 20%-30% polyester.

Heat press Considerations

- To achieve vibrant colors it is necessary to hover the heat press about a half an inch above the garment for 15 seconds to evaporate some of the water and flash cure the ink before placing the parchment and applying pressure to fully cure the ink. This causes some of the ink to remain on top of the fibers during curing and prevents a phenomenon where tiny ink fissures bubble up through the color layer.
- Use heat press settings of 330˚F for 90 seconds for garments where white ink is used.
- Periodically check heat press for proper temperature, pressure and a flat surface area when clamping down onto the garment. A poorly adjusted or damaged heat press with cool spots will not cure ink evenly. Visit the following link for information about how to fix this:

http://www.stahlsinternational.com/downloads/Heat-Seal-Machine-Test-Kit.pdf

Proper Garment Washing

- Read manufacturing labels on garments for special instructions.
- Remove items from garments and empty pockets.
- Turn garments inside out so printed areas are on the inside.
- Avoid color bleeding by separating lights and darks, do not wash together.
- Use gentle stain removers, detergents, and softeners.
- Use short machine wash cycle, cold water, and gentle agitation.
- Hang drying is ideal, however keep in mind wet garments may stretch when hung and colors may fade after short exposure to sunlight.
- Use coolest temperature settings when machine drying.
- Turn Garments inside out to iron and fold as desired.