STARTING SMART WITH UV PRINTING



The Country Porch Swing

STEPHANIE MURPHY

WHAT YOU'LL LEARN

- What UV printing is, types of UV Printing, and alternatives
- What materials work, don't work, and how to know
- How lasers and UV can be used together
- Product ideas and transitioning your line
- Equipment, cost, what you'll need, and what to expect
- Other tidbits, common issues and concerns, maintenance



WHERE ARE YOU?

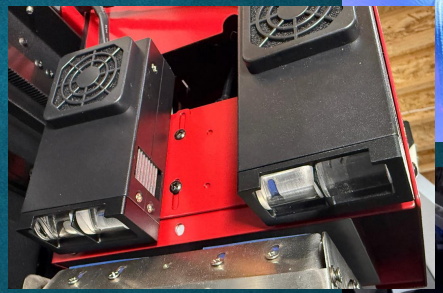
- ALREADY USE A UV PRINTER IN YOUR BUSINESS
- CONSIDERING IT, BUT STILL UNSURE IF IT'S WORTH IT

WHAT IS UV PRINTING?

- LED Inkjet Printer + Instant-Curing UV Light
- Supports CMYK + White Inks (and sometimes Gloss/Clear, Some have onboard jettable primer)

- Prints directly onto products, roll fed materials, or onto film for transfers









TYPES OF UV PRINTERS

TYPE	PRINTS ON	COMMON USE
UV Flatbed	Rigid, Flat materials Cylinders (with rotary)	Signs, plaques, acrylic, tumblers, wood, and more!
UV Roll to Roll	Flexible media (vinyl, film)	Banners, stickers, window clings
UV DTF	Film → Hard surface (via adhesive)	Tumblers, metal, glass, plastics (can be done on roll to roll or flat bed)



UV AND OTHER WAYS TO ADD COLOR

Know the Difference

UV:

- UV Flatbed: Direct to substrate full color printing
- UV DTF: Film transfers for hard goods
- UV Roll-to-Roll: Stickers, Labels, banners, flexible ,materials

Not UV:

- Sublimation: Heat transfer on to polyester or coated surfaces only
- DTF (Direct to Film): Film transfers applied to fabric
- DTG (Direct to Garment): Ink printed directly to fabric
- Eco-Solvent Roll to Roll: Inkjet printing to vinyl for stickers, decals, banners, flexible materials

DON'T MIX THESE UP: UV DTF, DTF, AND DTG

METHOD	UV?	PRINTS ON	NOTES
UV DTF	YES 🟢	FILMS THEN TRANSFERRED TO HARD SUBSTRATES	CAN BE DONE ON FLATBED OR ROLL TO ROLL
DTF	NO 🔴	PRINTED ON FILM THEN TRANSFERRED TO FABRIC	USES HEAT PRESS + POWDER ADHESIVE, DIFFERENT INK
DTG	NO 🔴	DIRECT TO GARMENT/FABRIC	NEEDS PRE-TREATMENT, NO TRANSFER









UV PRINTING MATERIALS: WHAT'S POSSIBLE

RECOMMENDED

- Wood
- Acrylic
- Metal
- Leather and Leatherette
- Some Plastics
- Glass
    - Ink type and adhesion matter
    - May require primers or adhesion promoters
    - Not recommended for dishwasher







NOT RECOMMENDED

- Clothing or fabrics
- Silicone
- Anything that comes into contact with food







ADHESION TIPS: WILL IT STICK?

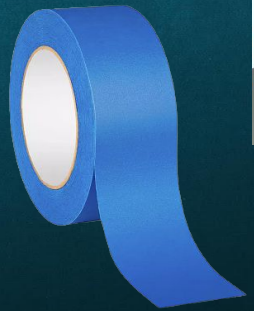


- Surface Matters
- Clean it well
- Use primer or adhesion promoter if needed (Ex: Red Hot, Mean Green)
- Flame Treatment
- Test with tape test/cross hatch











PRINT FIRST OR CUT FIRST? USING UV AND LASERS TOGETHER

CUT FIRST, THEN PRINT: USING JIGS FOR ALIGNMENT

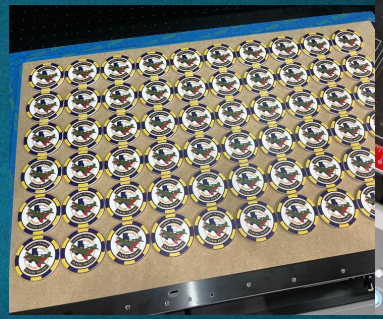
- When you cut materials first, accuracy comes from how well the part is positioned for printing either with a jig, printed template, or a positioning bracket

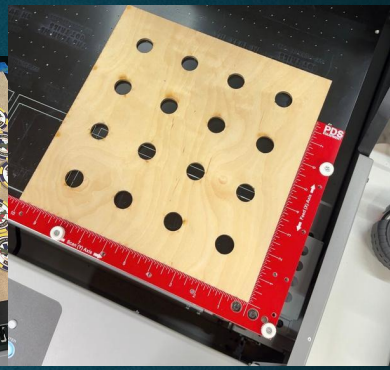
PRE-MADE CUT JIGS

- Laser-cut jigs made from wood, acrylic, or other rigid materials
- Hold parts in a fixed position for repeatable prints
- Ideal for small items, batch runs, and consistent shapes

PRINTED JIGS

- Printed guides on cardstock, paper, or other flat substrates
- Used as a visual placement reference for product alignment
- Helpful for quick setups







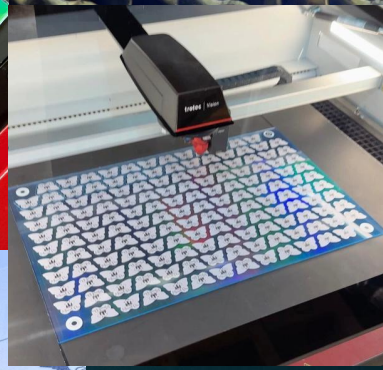


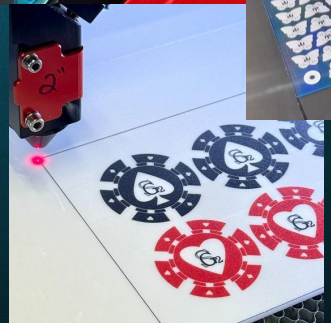
PRINT AND CUT: DIFFERENT WORKFLOWS

Print and cut workflows vary based on laser software and hardware features.









MANUAL PRINT AND CUT (SOFTWARE-BASED)

- Print first, then align using registration marks
- Alignment is done manually or with a basic camera setup
- Common for printed sheets and custom blanks

AUTO-SCAN / VISION-BASED PRINT AND CUT

- Uses camera systems built into certain laser brands
- Automatically locates printed registration marks
- Higher accuracy with less manual adjustment

MARKETING POSSIBILITIES AFTER ADDING UV PRINTING



- Add full color personalization to existing products
- Refresh and upgrade current product lines without replacing them
- Create branded packaging, inserts, and presentation pieces
- Expand into products like ornaments, signs, awards, jewelry, and hat patches

TRANSITIONING YOUR PRODUCT LINE:
ENHANCING WHAT YOU ALREADY SELL WITH UV

- Cut production time by printing instead of engraving
- Less masking, clean-up, and post processing
- Expand customization options
- Photos, logos, and full-color graphics
- Increase perceived value
- Charge more for the same base products
- Visual impact does the selling
- Differentiate your business
- Offer options beyond laser-only designs
- Stand out without reinventing your product line



WHAT YOU ACTUALLY NEED TO GET STARTED

A PLAN!

WHAT YOU PLAN TO MAKE

- Products, materials, and sizes

YOUR PRODUCTION LEVEL

- Hobby, part-time, or full production

ENTRY-LEVEL VS PRO EQUIPMENT

- Match the printer to your needs

SET EXPECTATIONS

- There is a learning curve
- Plan time for learning, testing, and set-up

NEEDS CONT'D...

A Printer

- Choose a printer that fits your plan
- Product types, sizes, and materials matter
- Match speed and capability to your production level
- Skill level and support access should factor into the decision

RIP Software & Windows OS Computer

- Required to run the printer
- Varies by brand and printer model
- Often included with the machine
- Controls color, white ink, and print settings

NEEDS CONT'D...

Inks

- CMYK plus white, clear or varnish, jettable primer if avail
- Use brand-approved inks only
- Ink types vary in hardness and flexibility
- Ink choice affects adhesion and material compatibility
- Most inks are printer-specific



Daily Maintenance Tools

- Cleaning solution and swabs
- Lint-free cloths (REAL lint-free, not microfiber, Tex wipes)
- Transparency sheets - for test prints
- Gloves and droppers
- Basic supplies are required for daily upkeep

OPTIONAL ADD-ONS

Rotary attachment

Used for cylindrical items like cups and bottles

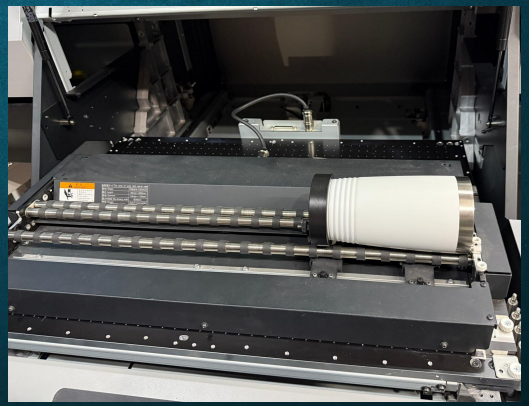


Adhesion promoters

Primers, wipes, or sprays as needed

Used for harder-to-print materials





SOFTWARE

RIP Software

Controls how your file prints

Sends the job from your computer to the printer

Included with most printers, capabilities vary by brand

Most Common Design Programs:

Adobe Illustrator – best for vector design

CorelDRAW – common with many UV brands and Lasers

Photoshop – for full-color graphics, spot layers, or photo prep (included in adobe suite)

Canva/Silhouette – not ideal for professional UV setup, but okay for basic design

WORKSPACE REQUIREMENTS

STABLE STAND OR WORKTABLE

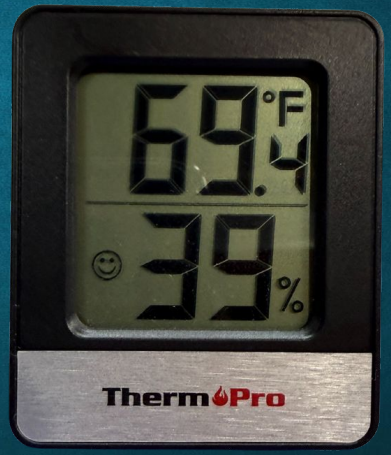
- Printer must be level and secure

CLEAN, TEMPERATURE-CONTROLLED SPACE

- Ideal temperature: 65–75°F
- Humidity 40–60% - Humidifier or dehumidifier may be needed

VENTILATION

- Most UV printers do not require special ventilation
- Always follow manufacturer's guidelines
- Some users choose to vent if sensitive to odors or if they work in a small enclosed space



MAINTENANCE & CARE: KEEPING YOUR UV PRINTER HAPPY



- Follow the manufacturer's daily, weekly, and monthly maintenance routines
  - Daily cleanings usually takes 5-10 min after printing at the end of the day
  - Weekly maintenance takes 5-10 Min
  - Easy to do and prevents issues later



- Use the printer regularly based on your model's requirements
- Run nozzle checks before production
- Maintain proper temperature and humidity for consistent print quality
- Use OEM inks and cleaning supplies to protect performance and warranty



COMMON HICCUPS (HOW TO SPOT THEM)

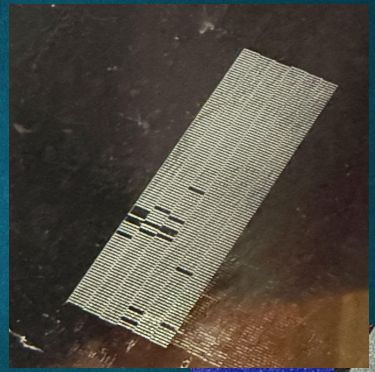
HEAD GAP – If it's too high, print loses detail, too low can cause head-strikes

CLOGGED NOZZLES – Missing lines in test prints = cleaning time

STATIC – Can pull ink mist, cause overspray, or mess with adhesion

BANDING – Often caused by clogged nozzles or incorrect print settings

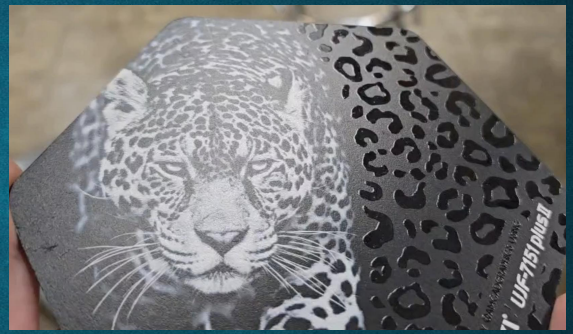
COLOR SHIFT – Can be file set-up, ICC profile, or printer calibration





OTHER TIDBITS: SMALL THINGS THAT MAKE A BIG DIFFERENCE

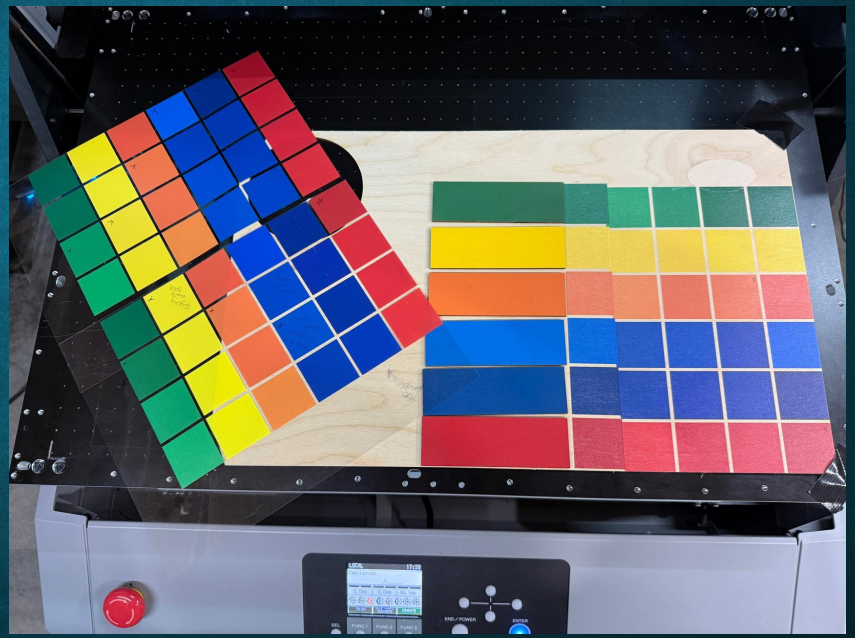
- UV ink is transparent
- Use white ink to make colors visible
- Clear ink does more than protect
- Use clear ink first on absorbent materials like unfinished wood to reduce bleed
- Use it for gloss, matte, or textured effects
  - Adds visual interest and value
- File prep is different than laser engraving
- You may uses multiple layers: Color, white, and clear
  - EXAMPLE: Reverse printing on clear acrylic by printing color first then white





OTHER TIDBITS CONT…

- What you see on screen may not perfectly match the print - expect to test and adjust colors
- Some materials need color tweaks to look “right” when printed
- Overprints and density changes can affect the color appearance



COSTS & CURVEBALLS

LEARNING CURVE

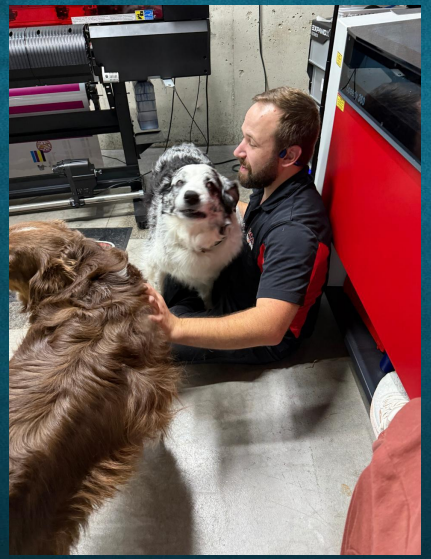
- RIP Software
- Materials Testing
- Design software

INK

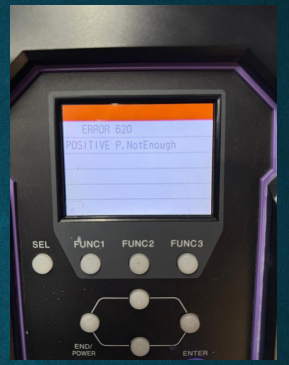
- Ongoing cost based on usage
- Pricing varies by brand and ink types
- Ink expires, standard shelf life is one year

SUPPORT AND REPAIRS

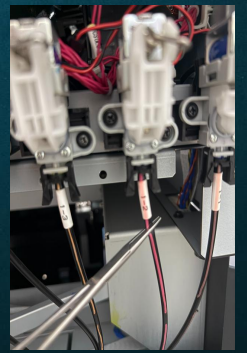
- Support quality
- Plan for maintenance, repairs, and consumable parts





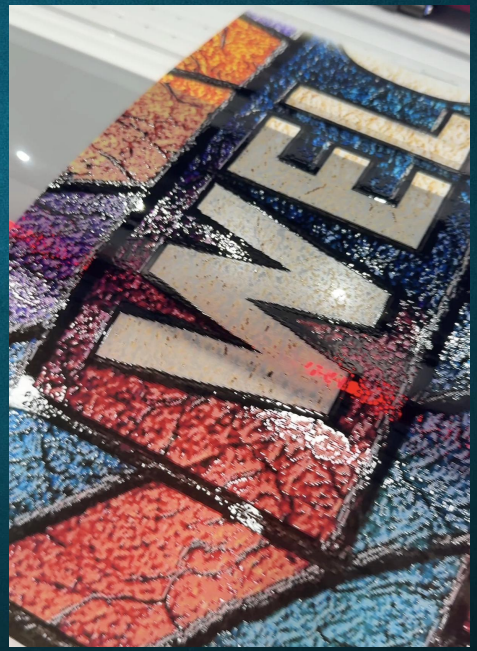






IS UV RIGHT FOR YOU?

- Do you want to offer full-color products?
- Are customers asking for color or customization?
- Do you have time to learn, test, and troubleshoot?
- Have you budgeted for ongoing costs such as maintenance and repairs?
- Are you ready to market and sell something new?



YOUR NEXT STEPS

Research printer brands (compare warranties, ink costs, service levels, features and accessories, capabilities)

Request samples (send samples to brands to print on to see how it responds to your products)

Demo machines in person

Talk to users who do what you do in your business

Consider the level of support you think you'll need

Think about *your* product line — not just what others are doing

Outsource prints/products to test the market



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Please complete your session evaluation

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This is session number 213: **Start Smart – What to Know Before Adding UV Printing to Your Laser Business**

