



## Laser Printing Plates Instructions

Lithco Laser Printing Plates provide enormous cost and time savings by eliminating the need for dedicated hardware (camera, imagesetter/platesetter, processor) and consumables (films, chemicals, hazardous wastes). Digital files can now be output directly to your laser printer rather than sending it out to a service bureau.

The quality of the image and the performance of the plate are determined by the care exercised during imaging on the laser printer and the type of laser printer. Based on our experience with laser printers, we have prepared these recommendations to enable you to obtain optimum results while imaging and printing.

Quick-Start Procedures are provided for experienced users of laser printing plates and those who prefer to plunge into hands-on experimentation instead of reading through detailed instructions. We strongly recommend that you take the time to study these procedures.

### QUICK-START PROCEDURE

**HARDWARE:** A desktop PC or MAC and a laser printer with a minimum resolution of 600 dpi (1200 dpi is better). The laser printer speed should ideally be within the range of 4 ppm to 12 ppm. At higher speeds, it will be necessary to bake the plate after imaging to obtain the full run length. Good results can be achieved with an HP 5000, HP 5100 or equivalent.

**IMAGING:** After creating the page on the computer (or scanning) and setting appropriate gripper and trim margins, print out the page from your laser printer. You can image on both sides and expect similar performance, under proper conditions outlined in **PRINTING FROM BOTH SIDES**.

**DELETION:** Remove light toner scatter and unwanted image areas, if any, with a Correct-A-Plate Laser Deletion Pen. For large areas of toner scatter, use a plate cleaner formulated for laser plates.

**PLATE MOUNTING & CLEANING:** Wet the plate on both sides and mount it on the press. Apply Laser Plate Cleaner with a moist sponge using small circular movements with a gentle pressure; just enough to remove toner scatter from the background without lifting toner from the image areas. Repeat the application several times. Completely remove the Plate Cleaner with a wet sponge after the final application.

**START-UP:** For a press with integrated dampening, ensure that the plate surface is wet and start-up as usual. For a press with conventional dampening, run the press with only the dampening rollers for about 20 seconds before lowering the ink rollers. Maintain a fountain solution pH between 4.5 and 5.5.

### IMAGING ON A LASER PRINTER

**CLEAN PRINTER:** Make sure the laser printer is clean. Vacuum the printer and clean the corona wires with buds. This is to eliminate toner particles from falling onto the plate causing background specks.

**PAGE COMPOSITION:** Scan in originals supplied by the customer or create electronic pages on the desktop computer. Provide the required gripper and trim margins. Position the images per customer requirements. Ensure that all adjustments for printer settings, gamma corrections, halftone gradations, resolution, screen ruling and dot shape are made. Print out a laser printer proof on plain paper for inspection and approval.

**IMAGING ON BOTH SIDES:** The laser plate is coated on both sides. You can image it on both sides and use one plate for two different jobs. Should you plan to use both sides, it is necessary to image both sides, one after the other, prior to etching or printing. SEE: Printing From Both Sides, next column.

**INSPECTION:** Check the quality of the image and background of the plate for scratches, incomplete images, dirt and fingerprints. If there are none, the plate is ready for printing. If cleaning is required, refer to the section **PLATE MOUNTING & CLEANING**.

**HOLE PUNCHING:** Punch the plate if required, only after it has been imaged on the laser printer. This will prevent damage to the laser printer drum. We recommend the use of PlateStrips™ to prevent plate stretch. See next page.

**PRINTING FROM BOTH SIDES: IMPORTANT – READ FULLY.** After imaging both sides, it is necessary to apply gum (7°Be) to the side that is to be printed later. The film of gum will protect the image and the surface coating from damage while the first side is being run. For starting-up the print run from the rear side, remove the gum-film with a wet sponge. Follow the same procedure as used on the front side. Both ends of the plate must be attached in the clamps to prevent scuffing the second side of the plate. A thin packing sheet must be placed between the plate and cylinder to prevent ruining the second side. *Note: Although it is possible to image and run both sides of the plate following the steps above, you may wish to consider all factors involved. You might find it easier and similar in cost (time being considered) to simply image two different plates. By imaging two plates, you will be assured of having a functioning image on both plates.*

### PRINTING

**START-UP:** Follow the same procedures as outlined in the Quick-Start Procedure. Do not use alcohol, a fountain solution containing alcohol or electrostatic etch. If your press requires added wetting agents, an alcohol replacement may be used.

**ROLLER & CYLINDER PRESSURE SETTINGS:** It is a good practice to print with minimum roller and cylinder pressures to minimize dot gain and to maximize the run length of the plate. Minimum pressures will also help prevent creasing of the plate.

**WET THE PLATE:** To facilitate printing, it is recommended to completely wet the plate, either by dipping in a tray or bucket or rinsing under gently running water. This contributes significantly to a clean start-up. Moreover, the rear matte surface retains moisture and helps the plate cling to the cylinder. This is particularly helpful if the tail edge is not clamped.

**APPLY PLATE CLEANER:** It is a good practice to apply a Laser Plate Cleaner two or three times with a wet sponge after wetting the plate and prior to the start of printing. This will ensure maximum removal of background toner scatter. Remove the Plate Cleaner with a wet sponge prior to printing.

### IMPORTANT NOTE

We recommend the use of Burnishine Printers Pride Fountain Solutions with our Laser Printing Plates. They are all alcohol free for maximum compatibility. The Ultra Fount is formulated to run laser plates, Silvermaster or metal plates without the need for alcohol or replacements.

## Troubleshooting Guide for Lithco Laser Printing Plates

Problem	Cause	Solution
Blurred image. Improper or unmaintainable color registration. Plate slippage. Elongation of pinbar holes (plate stretch).	Uneven form roller pressures causing increased drag on the plate	Adjust and re-stripe form rollers to manufacturer's specifications. Apply PlateStrips® to the lead edge of the plate before punching. See below for additional information.
Poor toner adhesion	Moisture on the plate.	Heat-dry the plate before imaging.
	Toner quality.	Use fresh toner.
	Insufficient fusing temperature.	Consult the laser printer manufacturer.
Ghost images	Moisture on the plate.	Heat-dry the plate before imaging.
	Plate loose on the cylinder.	Ensure that the plate is fixed properly.
	Blanket tension insufficient.	Tighten the blanket correctly.
Scumming	Improper fountain solution.	Maintain pH of fountain solution between 4.5 and 5.5 during entire print run. Check with pH meter. ** Do not use electrostatic etch. Most silver and metal plate fountain solutions are compatible. Mix fountain solution with purified water.
	Improper ink/water balance.	Adjust ink/water balance. Check with pH or Conductivity meter. **
	Abrasive particles in ink.	Replace with better ink.
Tinting	Ink form rollers glazed or improperly set.	Adjust the setting to ensure desired contact with the plate and transfer rollers. Deglaze the rollers.
	Emulsification of ink.	Stiffen ink with varnish. Reduce water feed. Ensure pH of fountain between 4.5 and 5.5. **
	Dirty or worn dampener covers.	Clean or change the dampener covers.
	Dampeners badly set.	Reset roller pressures.
	Dampeners contaminated by solvent due to drips during wash-up.	Change working fountain solution and clean dampeners. Use better housekeeping procedures during wash-ups.
Premature image wear	Excessive plate-to-blanket pressure or roller pressure to plate.	Check settings and reduce to minimum levels.
	Blanket over-packed.	Check packing.
	Insufficient ink on image.	Run normal ink film to lubricate and protect image from wear.
	Fountain solution mixed too strong	Check with pH or Conductivity meter. **
Rapid image degradation	Plate may have been in contact with blanket wash, other solvent or alcohol	Remake plate. Avoid contact with solvents.
	Fuser temperature not properly set to the vellum setting	Adjust temperature according to owner's manual.
Creasing	Plate incorrectly fixed.	Remount the plate making sure back is wet.
	Rollers set too hard.	Re-set roller pressures.
Poor roll-up, image not taking ink	Solvents or detergents in fountain solution, dampeners, sponge or water bucket.	Ensure dampeners are properly rinsed after cleaning. Avoid wash-up solutions dripping into water system. Keep sponge and water bucket clean and solvent-free.
	Excessive fountain concentrate or acid content in fountain.	Mix fresh fountain solution monitoring with pH or conductivity meters. **
	Ink not feeding image (possible emulsification on start-up).	Consult ink manufacturer.

\*\* Lithco offers a complete line of pocket-sized and bench model pH and Conductivity meters to help you monitor your fountain solution. Ask your dealer for additional information.

### Helpful Tips in Cleaning Lithco Laser Printing Plates

1. Dedicate a sponge just for laser plates. This will prevent contamination of your system. (Lithco Fine Pore Sponge Part # SPO-6AF)
2. Do not use excessive plate cleaner. A 5 to 10 ml quantity is sufficient.
3. When cleaning the plate, start at the top and work your way down and across using small circular motions, much like polishing the plate.
4. Apply just enough pressure to clean the plate. Background scatter will come off with very little pressure. Too much pressure will affect the image.

### PlateStrips®

PlateStrips are a unique problem solver. They are adhesive-backed aluminum strips that are applied to the lead edge of paper or polyester plates to prevent hole elongation, or "plate stretch". They should be utilized whenever close registration of two or more colors is involved. The adhesive on PlateStrips resists fountain solution and blanket washes. They are available in packages of 25 or 100 strips, part numbers MIS-PS25 and MIS-PS, respectively.