

Don Lancaster's

RESOURCE BIN

number sixty eight

Terribly tricky terrific toner techniques.

Our usual reminder here that the *Resource Bin* is now a two-way column. You can get tech help, consultant referrals and off-the-wall networking on nearly any electronic, *tinaja* questing, personal publishing, money machine, or computer topic by calling me at (520) 428-4073 weekdays 8-5 Mountain Standard Time.

I'm now in the process of setting up my new *Guru's Lair* web site you will find at (where else?) www.tinaja.com This is the place you go for instant tech answers. Among the many files in our library, you will find complete reprint sets for all of the *Resource Bin* and other columns. Plus a brand new [Synergetics Consultant's Network](#).

You will get the best results if you have both [Netscape Gold](#) and [Acrobat Reader 3.0](#) installed.

Terrific Toner Tricks

The toner that's used in most laser printers is a mixture of black stuff and hot glue. That black stuff (or carbon) part obviously could get used to dirty up otherwise clean sheets of paper. But that hot glue (or polyethylene) part is frequently ignored. Giving you all sorts of very unusual new toner based opportunities.

Let's review a few of the emerging possibilities...

Printed Circuits

The polyethylene toner component makes an excellent etch resist for use in printed circuit processing. After a number of false starts, we now have simple and effective ways of getting the toner out of the printer and onto the printed circuit board stock.

The *Toner Transfer System* by *Dyna Art Designs* is one good product. An alternative is sold by *Techniks*.

In either case, a 1:1 printed circuit positive is laser toner printed onto a magical transfer medium. Heat and pressure then get used to transfer the

toner onto your super clean printed circuit board material. Etching then proceeds as usual.

You'll get the best results when you use a real heat press to do the actual transfer. On older laser printers with a fusion wiper pad (such as a *Canon CX* or *SX*), it also pays to use a "dry" pad (rather than one providing a thin film of fusion oil) when you are using these materials.

Note that the *Dyna Art* address and phone number has newly changed.

Decals

The word "decal" can have different meanings to lots of different users. A traditional *water slide decal* was some artwork that you soaked in water till its glue softened. The artwork image then got slid off onto a suitable final home. Railroad and aircraft models have long used this type of decal.

These days, though, a decal could mean "any old stick-on". With fancier artwork backed by a more permanent adhesive and a release sheet.

You can easily make your personal custom decals. Note that a single dot in a 600 dpi printer at an HO model railroad scale of 87:1 is around *one sixth of an inch*. Lettering as small as a scale one inch high could in theory be accommodated.

NEXT MONTH: Don shows us how to use PostScript for PIC flutterwumpers.

Do note that waterslide decals are currently restricted to toner or micro dry ink methods. Inkjets tend to use inks that are not waterproof.

Several useful decal resources are sold by *Dyna Art Designs*.

There's also a new kid on the block by the name of Larry Boulet's *Labco*. *Labco* has a nice little booklet called

Making Decals on your Computer and Printer, along with reasonably priced materials and techniques. Larry has explored all sorts of different printers and color processes, and has come up with some real winners.

Contact him for further details.

One source for these decal stocks in larger quantities is *Andrews Decal*.

Transfer Papers

Special heat transfer toners are sold for most laser printers. The suppliers advertise in *Recharger* magazine.

A product called *Color Laser Copier Transfer Paper* can let you move any copier or toner images onto T-shirts, mousepads, caps, or whatever. Usual quantity cost is thirty cents a sheet.

One brand is *Photo Trans* available from *Pro Distributors*. There's also a *Photo Trans Opaque*. Which helps you apply transfers to dark colors or black T-Shirts. Basically, your opaque goes down first and creates a white surface the size and shape of your image or artwork. The regular *PhotoTrans* then overprints the image.

The final image transfer takes place with an iron or a suitable heat press. As before, a real heat press gives you more consistent results.

Usually, your images are printed backwards or *horizontally reversed*. So they end up *between* your fabric and the actual heat transfer material. Thus "locking them in" and giving you fair protection against normal wear and machine washings.

To backwards print in PostScript, use *-1 1 scale*. Lots more on this is stashed on the PostScript library shelf of www.tinaja.com

Special papers are optimized for heat transfer, inkjet, thermal wax, dye sub, or for color copier systems. Two other sources for these materials are *Conde* and *Alsina*.

Their web sites are www.conde.com and www.alsina-inc.com

Specialty Products

Carefully selecting what you print on or transfer your toner to can lead to all sorts of oddball and interesting product ventures.

For instance, one source for mugs which accept slide-in inserts is *Neil Enterprises*. Two suppliers of badges and buttons are *Badge-a-Minit* and the *Super Button and Badge* folks.

All of the direct mail paper outfits now offer all kinds of color matched business cards, letterheads, or unique announcement stocks. Typical sources include *Technique*, *Great Papers*, *Paper Access*, *Paper Direct*, or *Premier Papers*. There is also the national *Paper Plus* retail chain that I've personally found to be highly useful.

For *really* strange printing stocks that include prismatics, holographics, and related wild effects, try *Coburn*. Puzzle blanks are newly resold by *Pro Distributors*. Sandblasting photoresists are available from *Cooper Graphics* and *National Sandblast*.

Resources for a wild assortment of precuts are *Die-O-Perf*, *Ticket Express* and *Blanks USA*. Such as tickets, door hangers, and table tents.

Specialized single color toners, mag stripe or "banknote" toners, and heat transfer toners are often advertised in *Recharger* magazine.

Your leading certificate supplier is *Goes Lithography*. It is usually better to get their products through *Paper Plus* or a direct mail outfit.

Your own rubber stamps are easily done these days. Thanks to those new photopolymer systems. Two sources of kits and supplies are *Grantham* and *Justrite*, while bulk materials are sold by *Merigraph*.

Special carriers that let you directly inkjet print onto fabrics are available from *Micro Format* as their *Imaging Gallery* product line.

Flock? The older "cabbage duster" style is available from *Don Jer*, while newer *hot split plastisols* are available from *Gerber* or *Stahls*.

Stahls has pretty near everything you need for school or sports lettering materials and supplies.

Those hot split plastisols are really neat. You'll print them like ordinary silk screen ink. Then, you violently rip them apart *while still wet*.

Your final result from this sudden shearing is a warm and fuzzy "felt" effect. With none of the time, labor, or mess of loose cut fibers.

Great for gimmie caps and such.

Cross Linking

Uh, I am not allowed to say too much about this, because it is still in development. But the polyethylene in toner is a *polymer*. One that can get *chemically modified* for any desired degree of adhesion or sticktocticy.

Thus, you could toner print onto a suitable transfer sheet, spray on the special glop to convert your toner into *real* self-stick adhesive, and then stick the toner to your final product.

Stay tuned for details on this one.

Laser Buddy

One example of a *temporary* cross linking is that *Laser Buddy* spray. This makes toner way glossier and much blacker. At nine dollars per can, it is particularly useful for improvement of camera ready art or certificates.

A solvent dissolves a portion of the toner and adds some extra plastic to it. When your solvent evaporates, the toner gets blacker, shinier, and more durable. More gooder.

But note that a little of this goes a long way. Too much and you'll lose resolution. Halftones and greys do not usually improve and may end up blotchy and a lot worse. Use this only in a well ventilated area. And note that *Laser Buddy* is *not* suitable for printed circuits since it deposits both on the printed and unprinted portions of the final page.

Great stuff otherwise, though.

When the Pressure is On

As with nearly anything else, there are two ways to melt toner: heat and pressure. You can apply lots of heat and little pressure. Or you can get the same effect with little heat and lots of pressure. The older *ColorBus* system is rather pricey, since this one is mainly intended for printshops and specialty advertisers. What it does is take any black and white or color copier or a toner print and literally force it into the surface of a hard substrate. Such as a wooden plaque or whatever.

Only modest temperatures (of 200 degrees or so) are combined with very high pressures. This is far below the standard toner melting point of 375 degrees Fahrenheit.

You could probably do the same thing yourself by working out some suitable tensioning scheme and some sort of pressure roller. No reason that your machine should cost more than \$99. Note that it is much easier to get high pressure along a line contact,

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SOME SELECTED TONER RESOURCES

A&E 2800 Midway Bloomfield CO 80020 (303) 469-0424	Coburn Corp 1650 Corporate Rd Lakewood NJ 08701 (201) 367-5511	Gerber Scientific 83 Gerber Rd S Windsor CT 06074 (203) 644-1551	Laser Buddy 117A Commercial Drive Thomasville GA 31792 (800) 873-9758	Paper Plus 4101 McEwen #800 San Antonio TX 75244 (888) PAPERPLUS	SignCraft PO Box 06031 Ft Myers FL 33906 (813) 939-4644
Alps Electric 3553 North First St San Jose CA 95134 (408) 432-6000	Colorbus 18261 McDermott West Irvine CA 92717 (800) RGB CMYK	Goes Lithographing 42 W 61st St Chicago IL 60621 (312) 684-6700	Merigraph/Hercules Box 3064 Naperville IL 60566 (800) 323-1832	Premier Papers PO Box 64785 St Paul MN 55164 (800) 843-0414	Stahls 20600 Stephens Dr St Clair Shores MI 48080 (800) 521-9702
Alsina Box 640058 Kenner LA 70064 (504) 441-5050	Conde 7851 Schillinger Park West Mobile AL 36608 (800) 826-6332	Grantham/Polly-Stamp 418 Central Ave NE E Grand Forks MI 56721 (218) 773-0331	Micro Format Inc 830-3 Selton Court Wheeling IL 60090 (800) 333-0549	Printwear 1008 Depot Hill Rd Broomfield CO 80020 (303) 469-0424	Super Button & Badge 2338 W Burnham Milwaukee WI 53004 (800) 328-8272
Andrews Decal 6552 N Avondale Ave Chicago IL 60631 (312) 775-1000	Cooper Graphics 234-C East Johnson St Cary NC 27513 (800) 996-MASK	Great Papers PO Box 8465 Mankato MN 56002 (800) 287-8163	National Sandblast 4421 Prospect NE Albuquerque NM 87110 (505) 883-1151	Pro Distributors 5135 A 69th Street Lubbock TX 79424 (800) 658-2027	Synergetics Box 809 Thatcher AZ 85552 (520) 428-4073
Badge-A-Minit 384 N 30th Rd LaSalle IL 61301 (815) 224-2090	Die-O-Perf Inc 1721 E Pioneer Dr Irving TX 75061 (800) 843-2807	Impressions 1515 Broadway New York NY 10036 (212) 669-1300	Neil Enterprises 940 Forest Edge Dr Vernon Hills IL 60061 (800) 621-5584	Quick Printing 1680 SW Bayshore Blvd Port St Lucie FL 34984 (407) 879-6666	Techniks Inc 45 J Ringo Rd Ringoes NJ 08551 (908) 788-8249
Banner American 42381 Rio Nedo Temecula CA 92590 (909) 699-0872	DonJer Ilene Ct Bldg 8 Belle Mead NJ 08502 (800) 336-6537	Inside Finishing PO Box 56652 Washington DC 20040 (202) 882-7949	Oxbridge 150 5th Ave #202 New York NY 10011 (212) 741-0231	Recharger 4218 W Charleston Blvd Las Vegas NV 89102 (702) 438-5557	Technique 10 Post Office Sq #600S Boston MA 02109 (800) A-PAPERS
Blanks/USA 2722 Fernbrook Ln N Minneapolis MN 55447 (800) 328-7311	DynaArt Designs 4707 140th Ave N #212 Clearwater FL 34622 (813) 524-1500	Instant Printer Box 368 Northbrook IL 60065 (708) 564-5940	POP & Sign Design 7400 Skokie Blvd Skokie IL 60077 (708) 675-7400	Screen Printing 407 Gilbert Ave Cincinnati OH 45202 (513) 421-2050	Don Thompson 6 Morgan #112 Irvine CA 92718 (714) 855-3838
Brooker DIT PO Box 818 Chariton IA 50049 (515) 774-8847	Foiled Again PO Box 538 E Brunswick NJ 08816 (908) 238-1800	Justrite/Louis Melind 5240 Alhambra Avenue Los Angeles CA 90032 (213) 255-5683	Paper Access 23 West 18 St New York NY 10011 (800) PAPER-01	Screen Graphics Assn 10015 Main Street Fairfax VA 22031 (703) 273-0469	Ticket Express 366 Melody Lane Cassleberry FL 32707 (800) 544-8520
Cards of Wood PO Box 310 Belmont MI 49306 (616) 887-8257	FoilMax 6805 Alameda Ave #A El Paso TX 79905 (915) 771-7758	Labco 27563 Dover Warren MI 48093 (810) 754-7539	Paper Direct 57 Romanelli Ave S Hackensack NJ 07606 (800) A-PAPERS	Sign Business 1008 Depot Hill Park Broomfield CO 80020 (303) 469-0424	Transfer Print Foils PO Box 518 E Brunswick NJ 08816 (201) 238-1800

instead of over an entire surface.

There's also a new mystery super secret *Brooker DIT* toner process. I do suspect this is just a variation on the long available ColorBus system. Or perhaps at a different point along the temperature-pressure continuum. I did find their poorly done \$10 video demo to be singularly uninformative, since it just shows you a bunch of wooden blocks with toner on them. I'd also guess their high profile patent is totally useless as well.

More on how trivial it is to bust do-it-yourself patents can be found in [BUSTPAT.PDF](#) on www.tinaja.com

Wood Micro Veneers

There's another approach you can easily explore to put toner onto wood items. Simply and cheaply.

An outfit called *Cards of Wood* has created what they call *micro veneers*. Which are ultra thin sheets of wood glued together in one or two layers. In several dozen assorted flavors.

Yes, some of these are thin enough to run through certain laser printers.

Be sure to pick a printer that is heavy stock rated and has a fairly straight paper path option.

The ancient *Canon CX* might be a good choice. If you don't want to risk this, you can use one of the transfer sheet methods instead.

As their company name suggests, all these micro veneers are quite well suited to unusual business cards. But note they can also be glued or double stuck onto any other piece of wood, a trophy base, a letter opener handle, or whatever. Curved, even.

Several thicknesses and ply options are stocked. They also can do custom and specialty work.

Although made from interesting species of genuine wood, their grain patterns somehow do not seem quite as dramatic as I'd expect. Probably owing to how a veneer is made. The cards are surprisingly sturdy. Because of the "plywood" construction.

Prices are as low as a dollar per page sized sheet. A sampler of all the different woods is also offered.

Lots of possibilities here.

Some Magazines

Your single most important toner magazine is *Recharger*. Here you'll find tutorials and ads for all sorts of refill toners, specialty products, and assorted bits and pieces.

Several little known magazines outside of their specialty fields also offer lots of new opportunities and ideas here. *POP & Sign Design* is an example from the point-of-purchase display industry. Or check out *Awards and Engraving*. People who are newly discovering the power of powder.

As with just about any industry, the commercial T-shirt folks have their own trade journals. Two biggies here are *Impressions* and *PrintWear*.

Your foremost silk screen mag is apparently *Screen Printing*. There is also that *Screen Printing and Graphics Imaging Association*. You'll find them online at www.sgia.org

A favorite sign magazine of mine is *SignCraft*. *Sign Business* is also useful. The printshop pubs are *Quick Printing* with its great *Helene's Hotline* finder

service; and *Instant Printer*.

For books, videos, and training info on laser printer service and repair, your best source is *Don Thompson*.

One good way to pick up new mags and the insider pubs in just about any field is with the new and free online *Oxbridge Media Finder* you'll find at www.mediafinder.com

Foil Effects

This old opportunity has kind of just been stumbling along. It somehow just missed ever hitting the big time. Probably because it never ended up quite reliable enough and that most supplies and machines were always horrendously overpriced.

The "hot glue" part of toner can be used to grab hot stamp foils. Giving you brilliant colors, gold and silver metallics, and other special effects.

Early pioneers in this area were *Omnichrom* and *Kroy Color*. Neither firm still remains in the toner-to-foil business. But just about any of those specialty paper houses do offer small stick-on foil kits that can get used to add hot stamp effects to a letterhead or business card.

A two-step process gets involved, where you will run a foil carrier back through your laser printer or through a special heat fusion machine. Usually you'll tape a small piece of foil over only what you want to emphasize.

A supplier for roll fed production machines is *Banner American*. Selling a *Fuser 1200*. A second competing firm seems to be *Foilmax*.

One of many bulk foil sources is *Transfer Print Foils*. Hot stamping foil magazines do include *Inside Finishing*

and the aptly named *Foiled Again*.

But I've just found an exciting new replacement for these foil effects that seems much better and much cheaper for most users. And far more reliable. This involves new...

Micro Dry Inks

The smartest toner trick of all might be to not use toner at all. I've been playing with the *Alps* MD2010 printer and am quite impressed with its color capabilities. This \$370 street machine uses special ribbons of *micro dry inks*.

Their color is stunning.

You'll find a four ribbon series of black, magenta, cyan, and yellow. A second group of ribbons *directly* print foils as metallic silver, metallic gold, magenta foil, and cyan foil. And the third group of costlier *photorealistic* ribbons is for newer machines in the series. Which can give you results that are in every way comparable to "real" color photo processing.

Even to a glossy overprint.

Thanks to *Adobe Acrobat*, the Alps MD2010 is fully compatible with real PostScript. Its powerful print drivers automatically make color separations and even do retouching for you.

Specialized T-shirt transfer iron-on papers and photorealistic media are available.

Yeah, the print speed is somewhat less than glacial and your per-page costs are far higher than toner. But I am finding this beast especially useful for BOD book covers, shipping and disk labels, foil letterheads, fancy business cards, and specialty ads.

These Alps printers also perform extremely well with the Labco decal

materials. Their foils are truly opaque and thus can look good on any color background. Even black.

More on BOD in my *Book-on-demand Publishing Kit* and on the BOD library shelf of www.tinaja.com Per my nearby *Synergetics* ad.

This Month's Contest

For our contest this month, just tell me about any unusual new ploy for toner. Or some related product or a substitute technology that I may have missed out on.

There should be a largish pile of my new *Incredible Secret Money Machine II* books going to the dozen or so better entries, plus an all-expense-paid (FOB Thatcher, AZ) *tinaja quest* for two that will go to the very best of all.

Send all your *written* entries to me here at *Synergetics*, rather than to *Nuts & Volts* editorial.

Let's hear from you. ♦

Microcomputer pioneer and guru Don Lancaster is the author of 33 books and countless tech articles. Don maintains his no-charge US tech helpline found at (520) 428-4073, besides offering all of his own books, reprints, and consulting services. Don also offers a free catalog full of his unique products and resource secrets. The best calling times are 8-5 on weekdays, Mountain Standard Time.

Don is in the process of setting up his Guru's Lair at <http://www.tinaja.com>

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