

De-Mystify Special Effects

BY ED BRANIGAN

Used to be that screen-printed special effects were the province of the few and the exceptionally talented. Prior to the explosion of technology in the late '80s and early '90s, only plants that had the resources to invest heavily in R&D—both at art and print stages—had the competitive edge. Otherwise, reducing inks or changing mesh counts were, in many respects, the only tools available to do something “different.” All that’s changed, now.

SFX history

Puff additive could rightly be called the first special-effect ink. The ability to create a texture and raise the ink off of the surface of the shirt where it could be felt has been around since the 1970s. For many years, that was

it. Discharge was available, of course, but notoriously foul smelling and unstable, leaving most unwilling to use it. Then came metallic shimmers and clear gels. While shimmers are comprised of synthetic flakes and are, therefore, not true metallics, they nevertheless give the illusion of metal and, when used creatively, are excellent sources for creating interesting looks.

With the coming of clear gel more possibilities were opened up to achieve looks and applications previously unattainable. The development of true metallic inks made with real metal flakes that rise to the surface of the carrier when cured—rendering a chrome effect—put the icing on the cake. These did not arrive on the scene until much later and are still problematic, being subject to tarnishing after washing. The

crowning glory was the development of high-density ink. Three-dimensional sharp-edged prints on T-shirts became available and this opened up a world of possibilities.

Advances in automated-press technology, inks and stencil-making techniques have transformed the T-shirt industry from its perception as somewhat low-budget—tied to the carnival, resort, concert and sports-team merchandise scenes—to a multi-billion dollar, sophisticated and creative adjunct to the fashion industry. The wealth of knowledge and experience gained over the past several decades coupled with the technological innovations mentioned above have transformed the textile screen printer into an artist enjoying the same credibility as the designer. In many cases, some of which are outlined below, special effects can

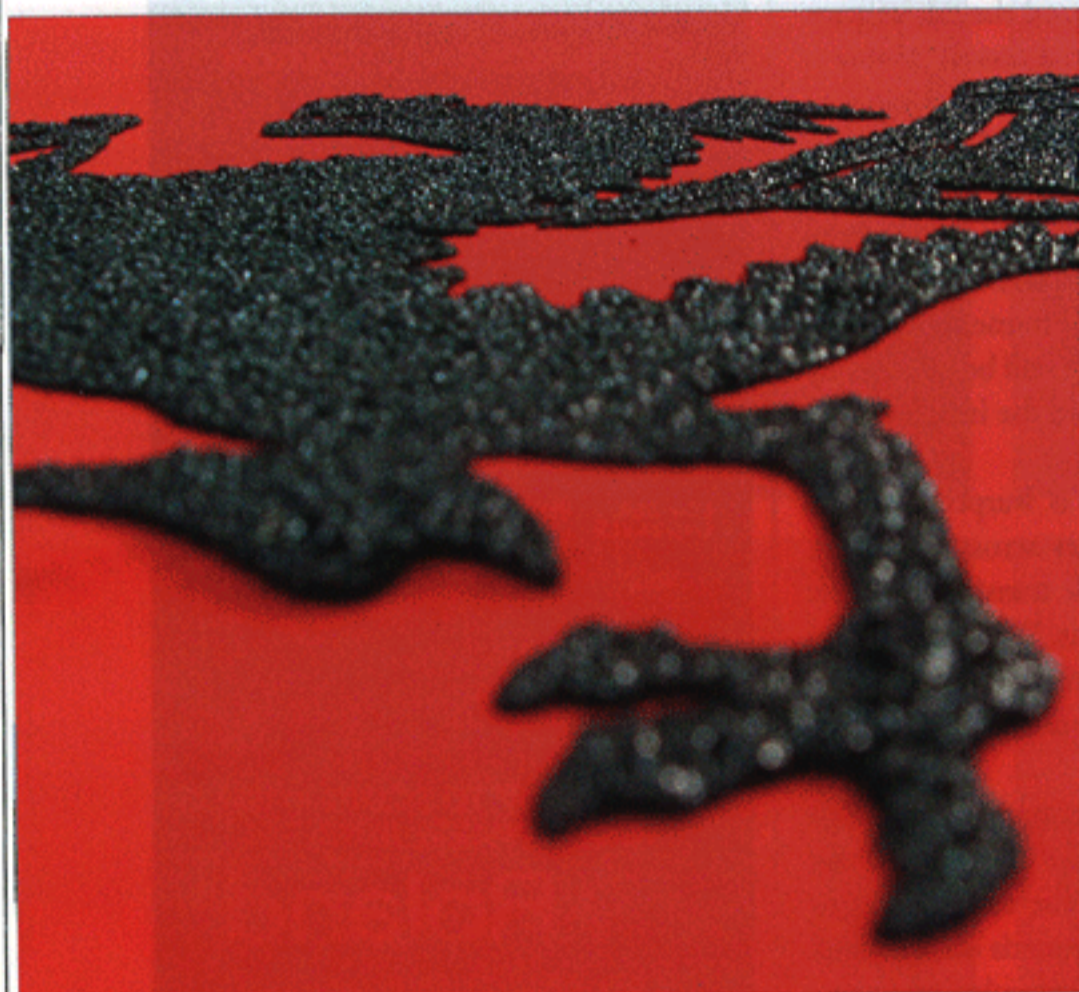


Figure 1



Figure 2

be created and original finished looks designed and executed right on the press itself, with minimal digital art required.

Useful tools

When asked to list special effect inks or applications, most printers, designers or buyers will mention most of the well-known varieties: high density, gel, puff, metallic, suede and discharge. The range of application using any of these singly is quite wide. But when combined in a well-designed graphic by an artist with knowledge of the processes, some truly amazing effects may be achieved. The ability to replicate faux stitches, fabric patches and different types of material such as leather and metal plate using screen printing inks is available to those who have the resources and experience. A talented and knowledgeable designer, a well-trained separator and an experienced printer are all prerequisites for executing finished and well-polished prints that will reproduce easily in production using the products mentioned above.

But what of the smaller (or possibly larger) company lacking one of these three, or other resources to gain the competitive edge made possible via special-effects prints? How to create that one print that will garner attention to their company and give them an intro into the bigger game?

There are many useful tools available in and around the workshop of even the smallest printer that require either minimal investment or none at all. A simple willingness to try something different or that seems counterintuitive is all that's necessary.

An added factor in stocking the arsenal is the development in recent years of bases and additives specifically for printing special effects onto T-shirts; additives that either soften the hand or reduce the ink, give dimension and texture or that harden when

cured. Gaining knowledge of these products and their range of application is critical to anyone wishing to enter the special-effects printing arena.

With all of the talk about great designers and designs, talented separators, inks and printing-machine technology, there are a couple of other very useful tools that are often overlooked and yet are in existence in almost every screen printing plant. These are the heat-transfer press and the conveyor dryer. Several of the techniques outlined below were achieved using one or both of these with minimal art input.

Print specifics

The print shown in Figure 1 was achieved using a layering technique with two different bases and three screens. In the first screen, a special-effects plastisol base utilizing the latest developments in blowing agents was used with the addition of concentrated color additive through a 25-tpi mesh. After flashing, a thermosetting plastisol base was tinted with concentrated color additive through a 40-tpi mesh. This was flashed also, then repeated. The dryer was set at 375°F. The resulting bubbling effect was created by using a combination of the two bases, one which puffs out (the blowing agent) and one which hardens (the thermoset). The texture was created by the low mesh counts used (see detail in Figure 2). Even though three screens were used, only one piece of film was required. The texture is created and controlled entirely by the combination of inks used, correct layering and dryer setting.

The unusual texture in Figure 3 was achieved by placing a crinkled piece of copy paper across the platen, covering it with platen-peel, then printing over it. An 86-tpi mesh and 300-micron capillary film were used. Three ingredients were used in the ink

formula that, when combined, provide the patina effect. These include the thermosetting base (used above), metallic silver and concentrated color additive. Off-contact was set at zero. After curing, bronze foil was applied using minimal pressure (15-psi) for two seconds. The shirt was then cured again at 350°. The second curing causes the foil to melt over the edges of the ink.

Figure 4 shows a close-up of the same print. Figures 5 and 6 show the same technique applied, but using a multiple-foil application instead. In each successive foil application the pressure was increased for each hit—specifically, 15-psi, 30-psi, 45-psi and 60-psi. Figures 7 and 8 show a close-up of this design.

Figures 9 and 10 show the same technique applied using a 40-tpi mesh only, but with the metallic silver omitted. The mesh marks are clearly visible. One additional feature of this application that is also part of its allure is that the crinkled-platen aspect causes the ink to move around slightly leaving no two prints looking the same. This gives it an added appeal, especially when recent trends toward individually customized garments and accessories—particularly in fashion—are taken into account.

Recharging discharge

Discharge has made a comeback in recent years thanks to improvements in ink technology. The odor has been greatly reduced and the soft-hand vintage effect that can be achieved more than compensates for what little remains. Discharge may be used as an underbase for plastisol or can be tinted and used as a stand-alone product. Figure 11 shows a simple effect that can be achieved using discharge with a pigment tint. After the image is printed and while it is still wet, use a water spray bottle to apply a mist of water over the print. Allow to sit for 10

De-Mystify SFX

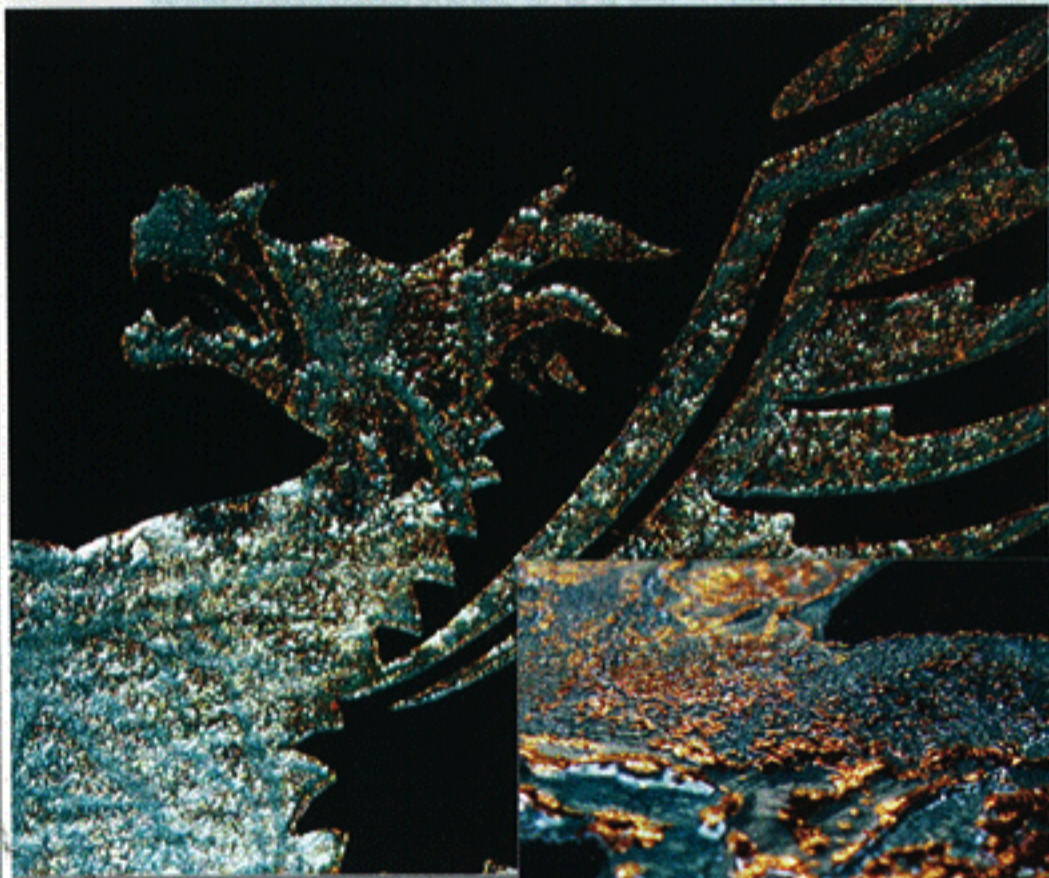


Figure 3

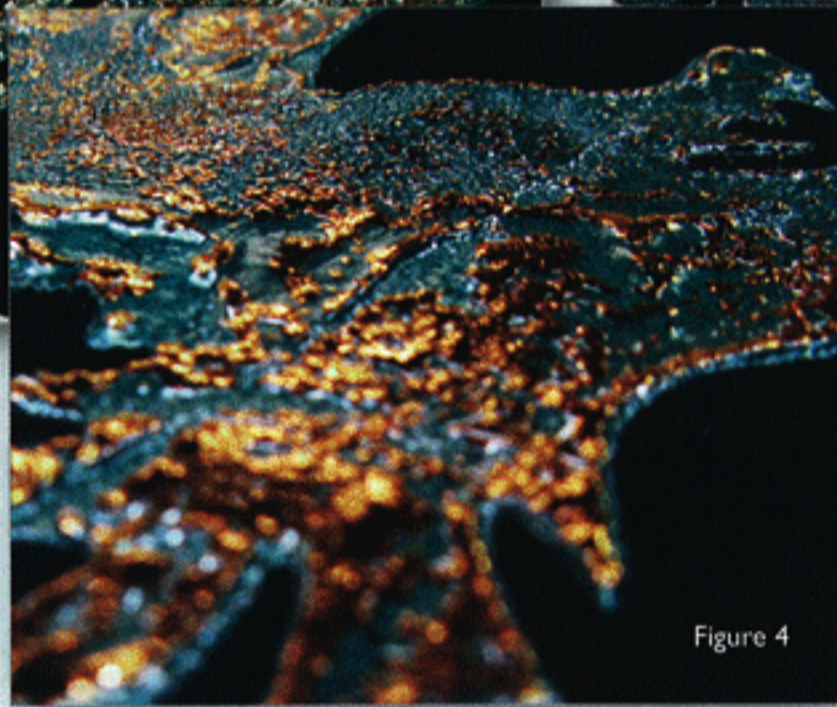


Figure 4



Figure 6

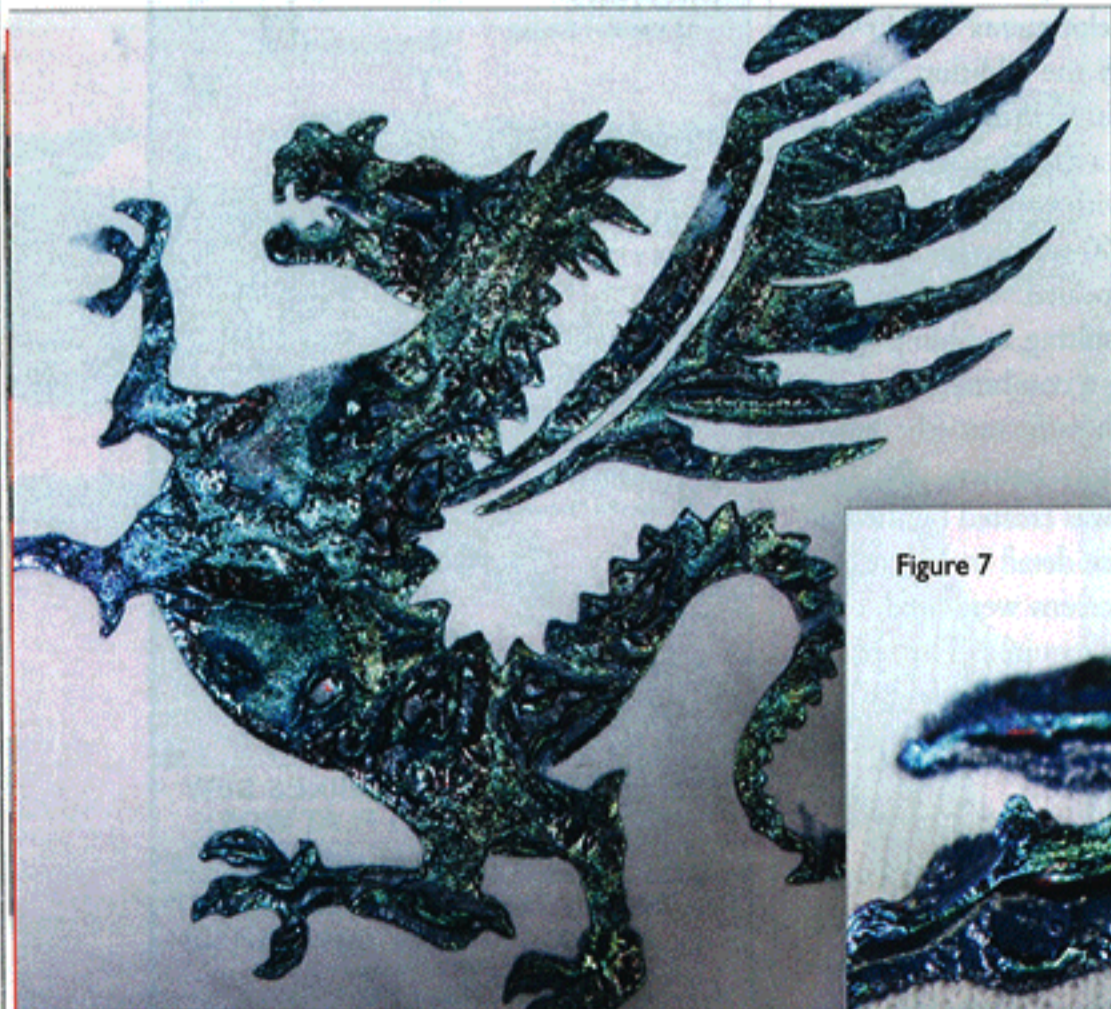


Figure 5

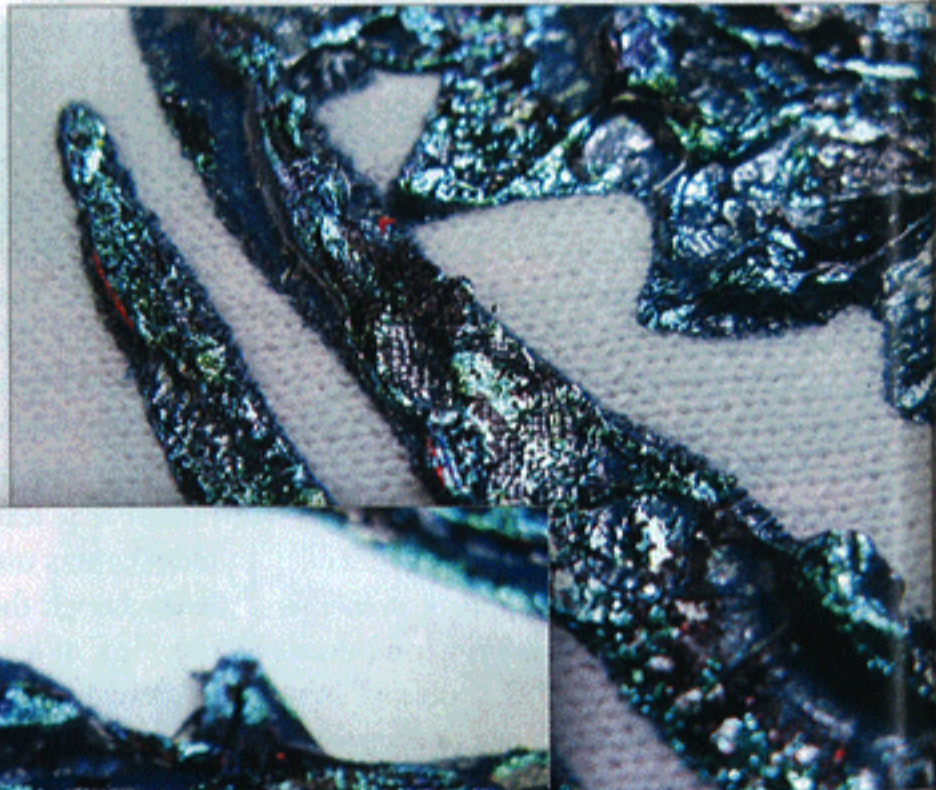


Figure 7



Figure 8

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Figure 9

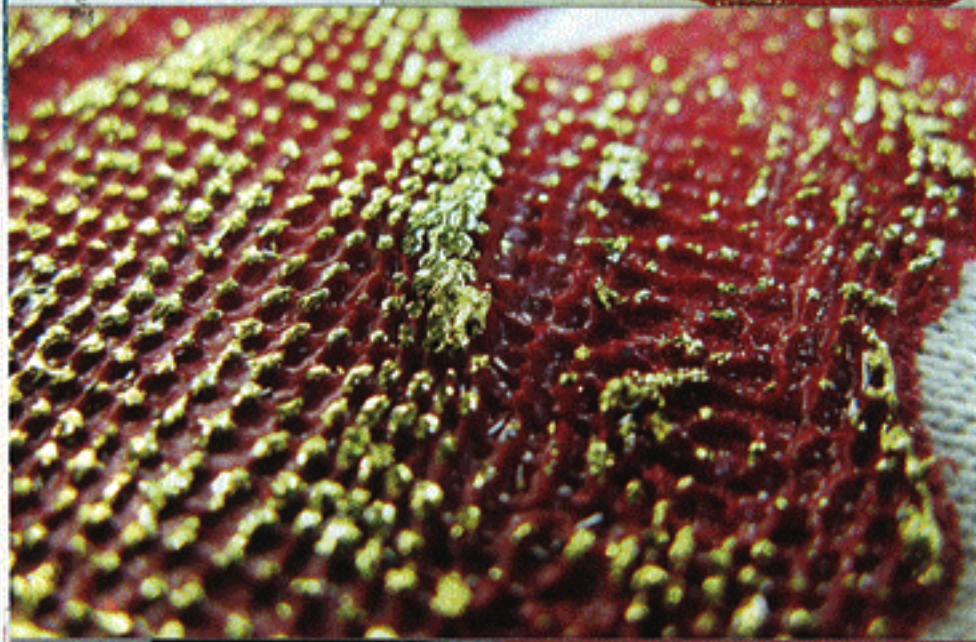


Figure 10

Figure 11



Figure 12

seconds before curing. The added moisture causes the discharge to bleed, creating a halo around the entire print.

The trend towards environmentally friendly products and systems has also opened up new challenges and possibilities for screen printers. Advances in water-based technology have led to opaque ink systems that rival plastisol for look and feel but do not readily dry in

the screen. The challenge now is to bring these inks into the special-effects arena. Figure 12 shows a special creased effect using an eco-friendly high-solids water-based white ink. After printing and curing, a heat-transfer press was used to apply a piece of crinkled paper to the print area.

Open to all comers

The capability to achieve special effects in printing has come a long way and is available to any printer who has the ability and imagination. With some simple ingredients and tools available to anyone who cares to look around, the processes can be completely de-mystified. Prints that may have once been considered too expensive to even attempt can now be produced giving

hugely added value to a shirt at minimal cost to the producer. There are many more examples of easily produced effects using some of the layered techniques outlined above and some creative uses with metallics and discharge.

Special effects are now open to anyone who has the will and imagination.