

Cutters

The True Cutting Edge

In today's shops, cutting graphics is more than just wielding a blade.

BY DAVE KING

What do you use when you want to cut graphics? A blade and a ruler, or a full in-line slitting system? Maybe you are looking for a solution that is just a little faster and more accurate than what you are using today. Well, sit back and enjoy the *true cutting edge*.

MORE THAN JUST A BLADE

As I travel from trade show to trade show, I see very little interest in cutters from the show attendees — and I often wonder, why is that? I know that in the early days at my shop we had to make some decisions about cutters, and for us it was a very straight-forward decision. But, as I ask more and more people about what *they* use for cutting, I generally get the same answer — a *utility knife*.

Well, this a huge area that needs to be given more consideration in your shop. Cutting graphics is more than just wielding a blade. It requires a knowledge of the mate-

rials being cut, knowledge of the accuracy needed in the cut, the time needed to cut and the decision of cutting boards before or after the graphics are mounted.

CUTTING BOARDS

I like to cut boards using a panel saw — Safety Speed Cut, Saw Trax, Speedpress and Saw Systems are a few companies that spring to mind. Many years ago we needed to cut many boards each day and, of course, we needed them to be all the same size. At that time the only system we could find was the Safety Speed Cut system, so we purchased it and fell in love with this type of production cutting.

Panel saws are designed to cut hundreds of boards every day, with great accuracy. They come in different sizes but I recommend you purchase a big one so you can cut any size board you might need. A good panel saw supports both vertical and horizontal cut-

ting. One operator can cut 200 30" x 40" Gator boards in one hour and all boards will be absolutely perfect. *I kid you not!*

Here's how it works. First, figure out how many boards you can get out of one sheet and the ways the sheet needs to be cut. Let's say you need 300 22" x 28" Gator boards. Set the cutter (worm drive circular saw) at 22" horizontal and then start pushing the 4' x 8' sheets through the saw as fast as the saw will let you go.

Since you can get six 22" x 28" boards from a 4' x 8' sheet you will have to cut 50 sheets of Gator. Each board will have to be cut twice the horizontal way (this will give you 100 96" x 22" boards), then you attach the stop (a metal block) that allows you to slide in two of the cut sheets until they hit the block (28" in). Then do one vertical cut across the two boards. This process takes only 10 seconds per two sheets. As I said before, after about one hour you have 300



Wall-mounted panel saws, such as this one from Safety Speed Cut, are ideal for cutting mounting boards. Look for ones that can cut vertically and horizontally.

The Multi-Material Cutter from Fletcher-Terry can handle boards including FoamCore, Mighty Core and Coroplast. It only cuts vertically, but employs a number of different blades suited to cut different materials.



22" x 28" boards ready for mounting. The panel saw type wall-cutter is best for cutting boards such as Gator, Sintra, Duraplast, Plexiglas, Lexan, etc. The system we have sells for around \$4,500. I've estimated the total annual labor-savings at about \$17,000.

However, for boards such as .040 Bright White, FoamCore, Mighty Core and Coroplast, you should consider using a cutter like the Multi-Material Cutter from Fletcher-Terry. This wall-mounted unit only cuts vertically, but employs a number of different blades suited to cut different materials. We also use the Fletcher cutter for all our shipping cardboard. This system retails for around \$1,800. Total labor-savings per year is estimated at \$9,000.

VINYL AND PAPER CUTTING

The next cutting system is the rotary type — ideal for cutting thin materials like banner, paper and adhesive-backed vinyl, etc. Good products are available from companies such as Keencut and Neolt/Digital ES. We use an 80" electric rotary cutter from Rotatrim.

The material is slid into the cutter. Then, once you step on the foot pedal, the material is locked into place with a bar and the blade flies along and cuts the material. When finished, the bar lifts and you are free to remove the cut material. This cutter only cuts right-to-left. The system retails for around \$1,200 to \$4,000. Total estimated labor-savings per year is around \$1,200.

My favorite cutter in our shop is the Durst Autocutter X-Y. This is a very cool (and expensive) cutting system that has a direct relationship with our Durst Lambda photo imager. Océ makes a similar X-Y device, the SharpCut 50, for its LightJet photo imagers.

In the Durst system, the Lambda's Cheetah RIP server has an option that sets

up the prints with a bar code on the top of each print. Once the material is imaged and ready for cutting (with or without laminate on the prints) we insert the media into the cutter. Touch the *Go* button and the cutter pulls in the media and reads the bar code.

The bar code tells the cutter where to place the Y-axis blades (these are the blades that cut the material as it is fed through the cutter) so the material can be slit. There are five slitting blades so you can't cut more than four images up.

Then the bar code tells the cutter how many inches to pull through before the X-axis blade cuts off the prints. The interesting thing about this system is that the Cheetah RIP server *knows* that it must cut the material, so it automatically takes the image to be cut and extends the last five pixels out by nine more pixels (on all four sides of the print). That way, when the cutter cuts, it creates a true full-bleed of the image.

This cutter is so fast and so accurate, it wins my *Best Cutting System* award! This system retails for around \$60,000. Total labor savings per year in my shop (factoring in savings from not having to do reprints based on cutting errors) — \$30,000 per year.

SLITTING SYSTEMS

The next cutters to consider are slitting systems. In our shop we use two kinds that basically do the same thing — but as you'll see, they're pretty different. The first is a feed-slitter system that works in conjunction with our laminators. Many laminators today offer an on-board slitter of this type as an optional add-on feature, and they're very handy.

Here's how ours works. After we print vehicle graphics we must laminate them, pre-mask them, and slit them. We use our

laminators for this function. First, we liquid laminate the prints using our 8-foot wide AquaSeal 3000 machine. After the print is coated, it runs through the laminator part of the machine where the pre-mask is applied, and then it gets slit on the fly. The tailings fall onto the floor and are discarded.

We can pre-mask and slit a 300-foot roll of vehicle graphics (three 53' trailer wraps) in about 20 minutes. Most good laminators (not just liquid laminators) come with an optional slitting system. Total labor savings per 53' truck is about \$20.

The other slitting system we have is one we actually *invented* to fit onto the back of the NUR Fresco solvent printer we use to create our SunJet prints. It required a little American ingenuity, but it works great. This system has six in-line blades that slit the graphics as they come off the machine. Each fully adjustable blade is locked into place, and as the printer prints, the material is slit and the finished graphics are wound up on the machine's take-up reel. The tailings fall onto the floor and are discarded when the job is finished. This system was built by Castle from parts found at Home Depot — total cost, \$52 — total labor savings per week, \$900!

CUTTERS WITH A TANGENTIAL BLADE

The next cutter is a large vinyl cutter that has a tangential cutting blade with an electronic bomb-site system. Mikkelson Graphics and Allen Datagraph/Maran are among the companies making these types of cutters. You can print the graphic with bomb-site marks on the graphic to indicate where the cuts should be.

The software then loads up the printed image and the bomb-site software finds the

Cutters

marks on the film and then starts to cut out the image, based on those markings. This system can cut in every direction and is only limited by the thickness of the material being cut. This system retails for around \$12,000. Total labor savings per small job on average is \$45.

The final cutting system that we *don't* have (but that I really *want*) is the i-Cut system from Zünd. This is, without a doubt, the coolest cutting system I have ever seen. This cutting system is a flatbed table with a tangential cutting blade (or a router) that cuts just about anything.

To set up a file for cutting on this machine, you place small, round dots (black in color and .25" in size) on a number of points in the graphic file that needs to be cut. If you want to cut out a mounted beer-bottle graphic, for example, you would scan the beer bottle image into your computer, then create a mask (a vector line around the bottle) to indicate



Durst's Autocutter X-Y system works in conjunction with the Cheetah RIP in the Durst Lambda photo imager. It places a bar code on the print that tells the cutter where to make the X- and Y-axis cuts. Interestingly, it automatically takes the image to be cut and extends the last five pixels out by nine more pixels (on all four sides of the print) enabling the machine to cut a highly accurate full-bleed image.

the cut-line. Along the mask-line you place the black dots — more dots for complicated cuttings and fewer dots for simple cuttings

such as squares and circles.

Print the graphics, mount them, or do whatever you need to do to finish the image. Once you have the final graphic you're ready to i-Cut it! Drop the image on the cutter table, set up the software to *see* the file that has your vector mask and dots. Then tell the i-Cut system to *go!*

The cutter head goes out to the graphic and finds the first dot, then it looks for the next dot. Once it has established the location of the two starting dots (this takes only a few seconds), it starts cutting out your graphics.

In just a few minutes it has cut out a complete 4' x 8' sheet of mounted graphics in complex shapes and they are all perfect! The system is so smart that if you just drop the graphics on the cutting bed and the board is not straight, the cutting system will *still* cut it perfectly! I saw this i-Cut system demonstrated at the SGIA and PMA trade shows, and I was just amazed. I watched it cut out hundreds (maybe thousands) of guitar shapes, beer-bottle shapes, Bart



Rotary cutters, such as this one from Rotatrim, are ideal for cutting paper, banner and adhesive-backed vinyl.

Simpson images, playing cards, and many more — with no mistakes. This cutting system gets my *Cutting System of the Year* award. Way to go i-Cut! The system I want costs about \$120,000, but I know you can get smaller units for less money. Total labor savings per year is estimated at a whopping \$60,000.

LEST WE FORGET

The final cutting system I want to talk about (one we should not forget) is the one employing the standard Breakaway Knife and the Big Yellow Ruler. This is a must-have system for all shops. The Breakaway Knife features snap-off points that you break off when they become dull. The Breakaway Knife comes loaded with 13 points and is sold at Home Depot for about \$5 a knife. The Big Yellow Ruler is a great device for cutting because it is very accurate and has a no-slip pad on the bottom of the



This is a six-bladed in-line slitter that we created to fit onto the back of our NUR Fresco printer. Parts were obtained at Home Depot for about \$52, and it saves us about \$900 a week in labor costs.

ruler, so your graphics do not move when you are cutting. The ruler retails for about \$50 and is worth every cent!

As you have seen, each cutting system has its specific use and application. Clearly, no single cutter is perfect for all applications. If you feel your finishing department is taking too long to get the work out, then you might consider investing in the right tools for the job.

'Til next time, keep your blades sharp.



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The i-Cut automated cutter from Zünd is on my Christmas wish-list. It can cut complex mounted shapes automatically with a high degree of accuracy.