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JUNE 2022

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AWARDS & ENGRAVING | PRINTWEAR | SIGN & DIGITAL GRAPHICS

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In this issue:

**FLATBED
PRINTING**

**LASER ENGRAVER
MAINTENANCE**

**WRAP
INSTALLATION**

**PROMOTIONAL
PRODUCTS**

SUMMERWEAR



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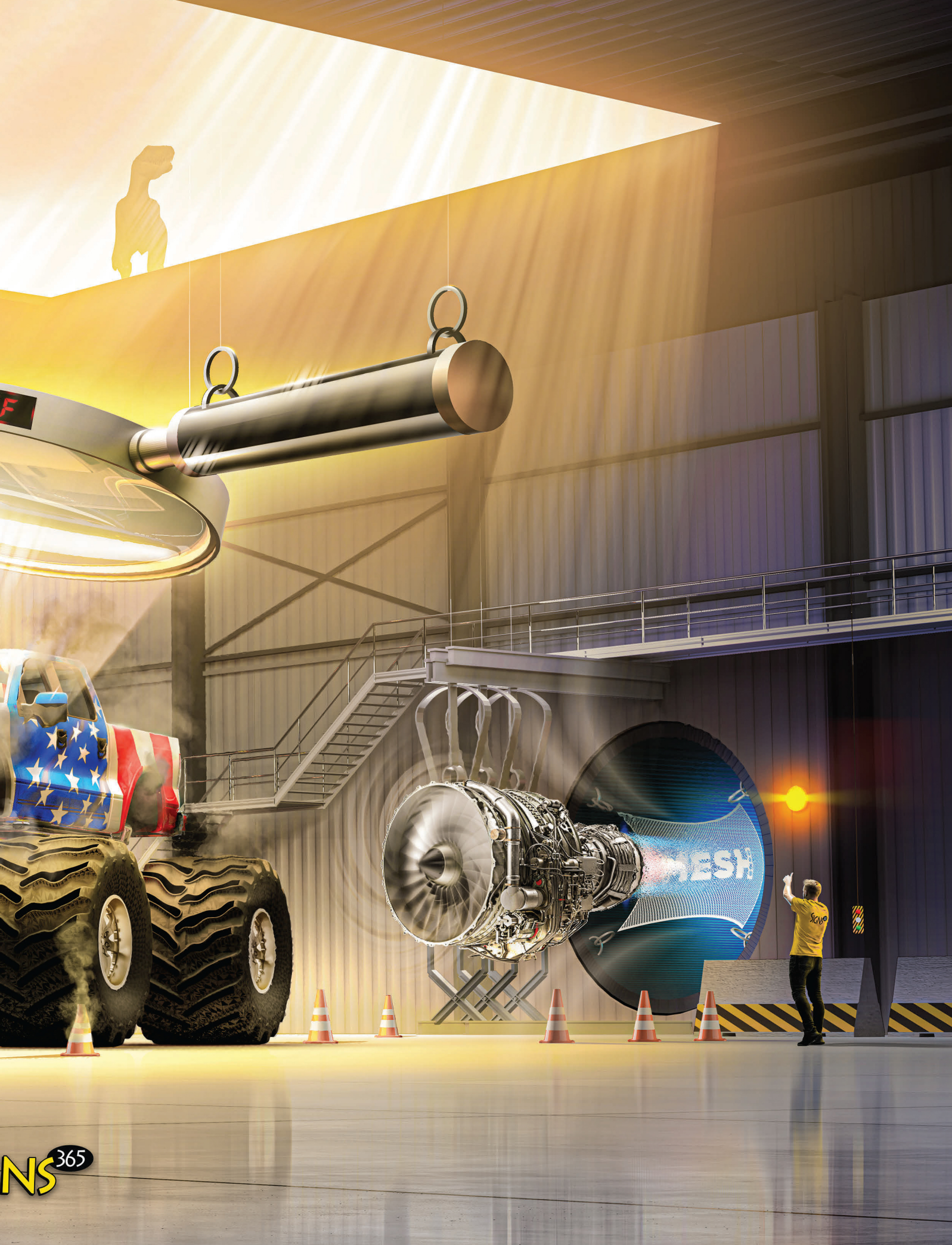
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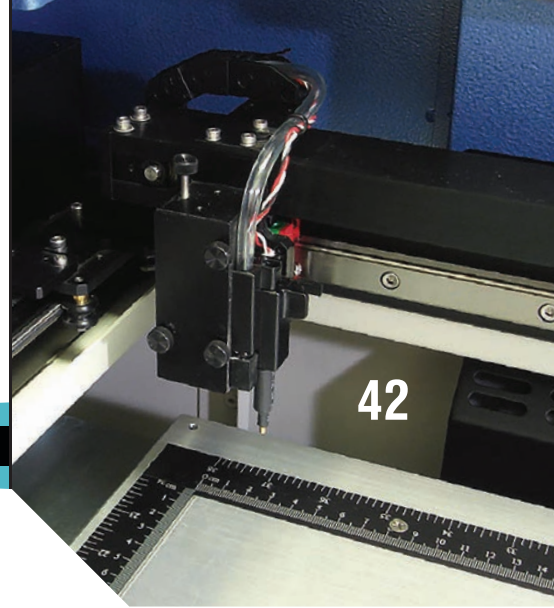
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“The pandemic inspired a sense of escapism, and this has come through in decoration.”

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DECORATING



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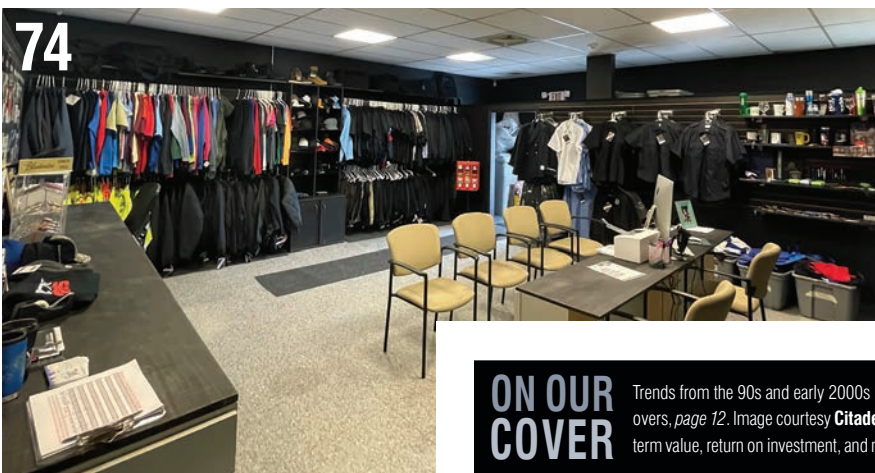
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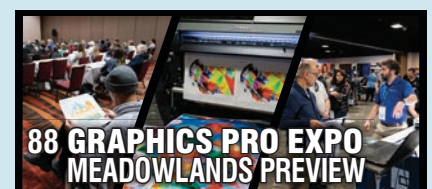
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Trends from the 90s and early 2000s influence various apparel categories, including cropped T-shirts and pull-overs, *page 12*. Image courtesy **Citadel Brands**. Below left: When it comes to promotional products, create long term value, return on investment, and make the world a better place, *page 28*. Image courtesy **AMB3R Creative**.



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EDITORIAL INTERN

NATHAN STROMBERG nstromberg@nbm.com

HOW'S THE WEATHER?

Traveling to as many trade shows as I do, it's pretty common in every neck of the woods for people to use the phrase, "If you don't like the weather, just wait five minutes."

As if this world didn't throw enough things at you to worry about these days, the last thing you need is weather not cooperating. But the truth is that weather is turning out to be less and less cooperative every year. And that's a troubling thing for the signage industry that makes a healthy chunk of its living outdoors.

Some people are entertained when they hear about record-high temperatures or record-low temperatures. I'm not. I find it unnerving because I know that everything we build has specific tolerances in which they are supposed to exist. Do we have safety protocols in place

to make sure there's plenty of leeway? You bet. But would you like to bet any money that the cheapest-bid contractor is strictly following those protocols? If so, I have a nice bridge to sell you, going cheap, and totally up to code!

While temperature is a concern, what really worries me is wind. Here in Colorado, where *GRAPHICS PRO* is based, a few months ago our news was abuzz with record wind gusts. One gust up in the mountains was recorded at 148 mph.

If that number sounds alarming, it's because most of the wind-load formulas we use to create our signs have previously assumed wind speeds, wind pressures, and gust effects. And our grade school-teachers all told us what happens when you assume. As the gusts increase, those "assumptions" need to increase, which will mean more intense engineering and more expensive sign construction.

The economic term "inflation" is usually figurative, giving the impression of air filling a balloon, but for exterior signs that forced air is literally going to end up costing us more. **GP**

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WANT TO KNOW MORE? Feel free to give me a call directly at 720-566-7286 or email me at mdixon@nbm.com.

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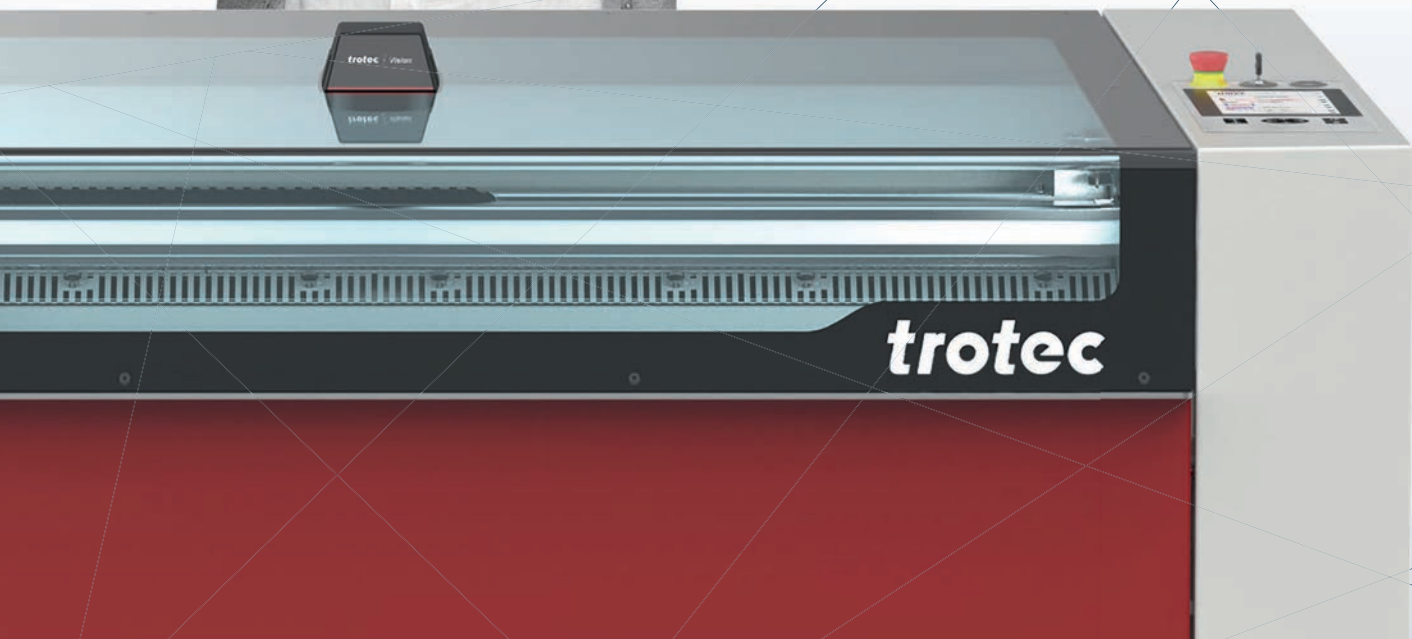
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STRANGE TIMES AND STRANGERS

There were five of us little boys, from 6 to 10 years old or so, including my three cousins who we were staying with at their Garland, Texas, home. It was summertime, and we slept a bit late, then were just hanging around laughing and teasing each other until we heard voices coming in our direction from down the hall.

One was a man's voice, a stranger's voice, and the other was my Aunt Alice, and for a minute or two we could tell they went into another bedroom, and maybe the bathroom. What were they talking about? Where were they going? Where did this stranger come from?

Then the voices came closer and were right at the bedroom door. Were they coming in here? Yes, they were, and in a flash, five little boys in their tighy-whities scampered into the only closet in the room, quickly closed the door and got quiet. In a couple of seconds, we could tell Aunt Alice and her guest were in the room, moving around, talking about this thing and that. But surely, they would not come into ... and the door knob to the closet was turned, then yanked open, and a group of nearly naked little boys exploded out of the closet

in a blur, whizzing around the two adults like bullets, intent on moving faster than the human eye could keep up with.

"Oh mercy!" cried the stranger. "They're comin' out of the woodwork!" My aunt gasped, and then started laughing, and so did the stranger, their voices fading as we made good our escape.

And that, friends, was my first experience with a real estate agent.

I don't know what the real estate market was like back in the '60s, when my cousins left Texas for a 10-year stint in North Carolina, but I know the real estate market today is crazier than it was back then. Houses going up 30% in a year? Not enough inventory to go around, homes selling in a day, and agents making more money on higher prices than ever before.

The price of everything is crazy right now, even in the sign business. Some of our materials, what we make signs with, have literally doubled just in the last year. Price increase notices are sent by our vendors just about every week. The cost of aluminum, vinyl, MDO, plastics, fuel, and everything else we buy just makes no sense today. And some of what we need, there just isn't any to buy. But what can we do about any of it?

Well, like every other business, we must pass the costs on to our customers and be diligent about it, which we often are not. The lag time costs us money. The lack of supply can cost us jobs.

We were on hold for over a month on a screen print job of pipeline warning signs made of prefinished aluminum because the double-sided caution yellow aluminum we needed was not to be found. Some of our other materials, particularly laminate materials in certain colors, don't exist anymore either. Or they exist on a slow boat from somewhere that COVID has crippled the crew of. I may have been a boy in the '60s, and a sign maker since the '70s, but I have never seen anything like this.

The past couple of years have been the craziest ever, the politics, the pandemic, the shutdowns, and meltdowns. But fortunately, the sign orders have kept on coming, and at least here in Texas, we could stay open and keep working, so we're thankful. Recently, with a crew of just three and a half, we had our best month ever. How did that happen?

Of course, adjusted for inflation, who knows what it really was. When we buy our next round of supplies or fill the shop trucks with gas, our profits might disappear just as fast as those little boys did way back when.

But we'll adjust and go forward. I hope your shop is busy, you're adjusting fast too, and you and your crew have a really good month. We're sure going to try.

—Rick

RICK WILLIAMS owns Rick's Sign Company, a commercial sign shop in Longview, Texas. He has been in the sign industry since 1973 and has been a contributing editor to *Sign Business* and *Sign & Digital Graphics* since 1986. Contact Rick via email at ricksignco@aol.com.



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Summertime and the Living's Easy



CASUAL AND COM-FORTABLE FASHIONS ARE ALL THE RAGE FOR SUMMER HEATWAVES

BY CARLY HOLLMAN

Summer is typically a time to slow down and take advantage of more predictable weather and vacation time while also constantly being on the go. With so many activities and events while fitting in work/life responsibilities on any given day, it's no wonder our summer attire needs to be able to handle a multitude of tasks, often within a 24-hour period without ever looking out of place.

Fortunately, the latest trending looks allow for easy days, breezy nights, and stylish offerings.

Image courtesy
Citadel Brands

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Image courtesy Hanes



Soft, comforting colors are all the rage for the season. (Image courtesy Fruit of the Loom/JERZEES/Russell Activewear)

THROW IT BACK

As we've experienced, many of us are still working from home, which has led to a more casual idea of what our day to night look entails. This translates to comfortable silhouettes, softer colors, and the ability to layer, all with a bit of throwback flair.

Blame it on Gen Zers entering more of the workforce and their stronger share of the spending dollar, but turn-of-the-millennium styles are having their moment. "We are starting to see the 90s and early 2000s trends influence all categories," says Jennifer Oleksik, director of apparel design & quality, LAT Apparel.

For women, this includes cropped styles; for everyone, it means oversized, unisex T-shirts like those that became popular with surfer streetwear the first time around, wide-legged pants, and roomy pullover hoodies in lightweight fleece that allows for year-round wearing and layering. Taryn Rosen, Fruit of the Loom/JERZEES/Russell, adds that classic fleece shorts for men are also a top seller, which gives another substrate to help build branding. But regardless of the design, its ability to be worn across multiple seasons and allow for layering, diverse wearing, and a certain classic appeal is important. Which also transfers over to decorations and strategic branding, although there are very different routes one can take.



Image courtesy Infinity Her

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Image courtesy
RTP Apparel

Unisex items such as lightweight hoodies are a staple even in warmer summer months.
(Image courtesy Next Level Apparel)



Soft pastels help sweeten the summer vibes for big and little kids alike. (Images courtesy LAT Apparel)



Image courtesy Sportsman Cap & Bag

According to Eric Simsolo, director of business development, Next Level Apparel, decorators shouldn't overwhelm the garment with too much added weight to keep the entire look on-trend. "Going light on the color spectrum and size of the design can keep a literal airiness to the product," he says.

See this through with more monochromatic and simplistic graphics that can be dressed up or down, says Rosen. This can be done in tonal embroideries and simple screen prints that focus on brand identity and heritage appeal.

If you want to keep it old school but add a little camp, Rosen says there is also a big tourism and resort movement with inspiration coming from the '70s and other decades past. "The pandemic inspired a sense

“WITH A FOCUS ON MORE SIMPLISTIC COLORS AND DESIGNS, DETAILS SUCH AS CONTRAST HEMLINES, CUTOUTS, AND ASYMMETRICAL SILHOUETTES CAN GIVE LOOKS DEEPLY ROOTED IN VINTAGE DESIGN A LITTLE EXTRA SOMETHING THAT HELPS PROMOWEAR STAND OUT.”

**– JENNIFER OLEKSIK,
LAT APPAREL**

of escapism, and this has come through in decoration," she says.

Whether you're looking for a simple graphic or an over-the-top, airbrushed boardwalk look, the color story that will make any decoration stand out is actually a more neutral design.

CASUAL CORNER

When it comes to color, the less "in your face" shade you choose — whether it's a basic crewneck T or oversized sweatshirt — the better.

Most companies are erring to the neutral side, whether that is an oatmeal, heathered color, pastel neon, or soft primary. Whatever hue the apparel is, much of today's look is inspired by nature, whether that's hue or composition.

"One of the main buying trends that has taken off is buyers requesting styles with sustainable fibers and more transparency," explains Rosen. It could be harkened back to the buying ethics of Gen Z, the stress of the pandemic, or just an overall change in preference, but recycled, organic, and reused apparel is all the buzz. We are all

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DON'T FORGET TO ACCESSORIZE!

No easy, breezy look for the summer months can be complete without the proper accouterment.

"One of the key items for all markets is the apparel classic baseball hat, refreshed in pastel tones," says Taryn Rosen, Fruit of the Loom/JERZEES/Russell. She suggests it can be decorated with vintage-inspired sports graphics to feel fresh and pairs well with any graphic hood or denim jacket for a throwback look. Further, the bucket hat is still going strong, especially in soft terry cloth and other summery fabrications.

The mini shoulder bag has been a hot item for women with no signs of slowing down. "When paired with casual sweats, it provides an unexpected dressy element."

Another item is the popular streetwear slide shoe, updated in terry-cloth for summer to provide a fun, unexpected finishing touch. These shoes can be customized with logos or graphics through printing which would leave the design in sand or soft surfaces to help further an advertising campaign or leave a lasting impression!

Whatever the accessory is, the key is to encourage layering. If it's a subtle graphic branding or bold design across a bag that adorns your back, putting it all on display is the best way to make the most of today's current trends. **GP**

GP



Image courtesy Atlantis Sportswear



Even though more neutral ones are popular, bold colors still have a place in the market, but neons are out, according to Taryn Rosen. (Image courtesy Fruit of the Loom/JERZEES/Russell Activewear)



Image courtesy Citadel Brands



Image courtesy Kati Sport-cap & Bag

looking for more sustainable and thoughtful purchasing options. Especially with such a focus on nature and earth-inspired colors, this trend aligns with the most simplistic aspects of apparel desires. However, while we see end-users move towards more sustainable and organic practices, it hasn't drastically changed overall purchasing habits, says Taylor Young of Next Level Apparel.

"Most purchases are still made online, so it is important for garments to have defining features that are easily translated through online imagery," stresses Oleksik. This puts even more importance on the color palettes used and the physical appeal of the actual object.

For tactical interest, especially during summer months, this means breathable fabrics that encourage activity, and items with odor-control, moisture-wicking, and wrinkle-resistant properties, states Rosen.

Whether it's in soft and subtle vintage looks or offering a collegiate wink, this summer will provide end-users a casual feel while also, hopefully, giving decorators an easy way of delivering elevated but relaxed looks that embody the best of summer. **GP**



Image courtesy Hanes



The '90s continue to influence trends with crop tops prevalent in women's apparel. (Image courtesy Next Level Apparel)

CARLY HOLLMAN is the former editor of *Printwear* magazine with over nine years of experience covering the decorated apparel industry. She currently works as a freelance writer and artist based in Denver, Colorado. She can be reached at carly.hollman@gmail.com.

PRODUCT SPOTLIGHT: SUMMERWEAR

For more on the suppliers featured in this section, please see website and phone information following each product.



WOMEN'S FESTIVAL TANK

Next Level Apparel offers the 5033 Women's Festival Tank as part of its festival collection. It is made of 65/35 polyester/cotton, and according to the company, works well for sublimation, DTF, and screen printing.

310-631-4955

nextlevelapparel.com



MEN'S GOLF POLO

Burnside Sierra Pacific Apparel offers the men's Burn Golf Polo, made of 100% polyester. It features a two-piece self-collar construction, back modern yoke, hemmed bottom, and is available in sizes S-3X.

713-688-4455

burnsideapparel.com



MEN'S FLEECE SHORTS

Independent Trading Co. offers the IND20SRT men's Midweight Fleece Short in eight new colors: classic navy, royal, sandstone, army, mint, light yellow, light pink, and lavender. The shorts are made of ring-spun cotton in an 8.5-oz. three-end fleece. They feature

an elastic waistband with a shoestring draw cord, sewn fly detail, and jersey-lined hand pockets. Sizes range from XS-2X.

877-366-9911

independenttradingco.com



TRI-COLOR TOTE

Sportsman Cap & Bag offers the Q-Tees 11L Tri-Color Tote (style QT-125900), which is available in six color combinations. It is made of 12-oz. 100% heavy cotton canvas material. It also features a 20" natural webbed handle and an 8" handle drop. Each case comes packed with 144 items.

913-541-0901

sportsmancaps.com



CROP TOP

Cotton Heritage's W1085 Crop Top is a cropped, mid-weight shirt made in a 5.5-oz., soft-washed fabric from 100% combed ring-spun cotton.

323-722-5592
cottonheritage.com



LOW-PROFILE CAP

Infinity Headwear offers the Charlie, made of 100% cotton micro-canvas front panels and mesh back panels. It is available in 13 color combinations and features a structured, low-profile with six panels. It also has an Elude moisture-wicking sweatband.

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PRODUCT SPOTLIGHT: SUMMERWEAR

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TIE-DYED TANK TOPS

Carolina Made carries tie-dyed tank tops. The tanks are made of 5.3-oz 100% pre-shrunk cotton, featuring a banded neck and arm-holes. The product is available in 14 colors in sizes S-3X.

800-222-1409

carolinamade.com



BUCKET HAT

Atlantis Headwear offers the GEOB bucket hat, made of 100% certified recycled polyester. It features a 3 1/2" crown and a 1 7/8" brim. It also has an unstructured design, sewn eyelets, and a QR code to trace the product. It is available in five colors.

347-324-6558

atlantisheadwear.us



PERFORMANCE T

Johnson Plastics Plus offers the Vapor Solar Performance Tees, which are moisture-wicking shirts that provide UPF 50+ sun protection. The product features quick-dry and odor-resistant properties and works well for sublimation printing.

800-869-7800

jplusplus.com





ATHLETIC SHORTS

JDS Industries Inc. adds Subli-Tru athletic shorts to its Subli-Tru apparel line. The product is made of spun polyester and is available in nine colors. The

white stripe on the side can be sublimated with graphics. This product is available in adult sizes S-2X and youth sizes S-XL.

800-843-8853

jdsindustries.com



OUTDOOR CAP

Kati Sportcap & Bag offers the PNY100M Outdoor Cap Ponytail Mesh Back hat. The mid- to low-profile cap has washed cotton twill front panels, soft mesh back panels, and a pre-curved visor. It's adjustable with a micro hook-and-loop closure and is available in 14 colors.

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The Justice League is a team of superheroes, published by DC Comics, who first appeared in 1960. It is an all-star ensemble cast of established superhero characters. These superheroes usually

operate independently but occasionally assemble as a team to tackle especially formidable villains. The cast of the Justice League usually features a few highly popular characters like Superman, Batman, and

Wonder Woman alongside lesser-known characters. Beyond comic books, the Justice League has been adapted to television, cable, movies, internet, and video games. For decades, the Justice League has saved humanity from the worst threats it has ever faced, from alien warlords to ancient demons and powerful sorcerers. And every time, they have overcome the odds and saved humanity. Although the Justice League is not the world's only superhero team (we're partial to the Avengers), it is nevertheless the standard by which superhero teams are measured. When the chips are down and the earth needs its greatest heroes together on the frontlines, the League always answers the call to duty.

Several years ago, for demo purposes we put a red cape on a guy in his blue jammies just like Superman. Rather than the iconic S on his chest the shield would say GSG. He later became "GSG Man," spoken in a loud deep voice, of course. It's super to attend trade shows like GRAPHICS PRO EXPO and print in real time to get that hands-on experience. As you know, that's what we do, among other things.

Our client rode the trend of the superhero phenomenon for several shows and had us create a hero of their own to symbolize its might in the industry, so to speak. He had an incredible physique, a square jaw, that perfect smile, and was able to leap tall buildings. You get the idea. Continuing with that theme, later we created a new character. Our Batman as it were. First a symbol must be developed for his chest and one we could wear, too. By using the client's logo and shapes, we created the hero symbol layout in Illustrator and added a ton of layer effects in Photoshop to add glows and dimension alike.



GSG Man in all his glory. (All images courtesy Lon Winters)



Power Up Man, fighting injustice on a T-shirt near you.



First a symbol had to be developed for Power Up Man's chest. By using the client's logo and shapes, we created the hero symbol layout in Illustrator and added a ton of layer effects in Photoshop to add glows and dimension alike.

Since many comics are still hand drawn and inked manually, what better way for us to handle this additional hero. The black line practically gave us nearly a perfect template in Illustrator. It cleanly outlined our shapes and allowed for quick coloring and a clean look with sharp edges. We used the Pen Tool to create the path work for the objects and then colored them accordingly. We would be printing on a smallish eight-color press, somewhat limiting screens. Heads were reserved for our white printer or baseplate, a flash, a smoothing station, and a highlight white. Since blue and red were used on our last hero, we chose purple, orange and gold for our hero appropriately named Power Up Man for obvious reasons and the theme for the show. For highlights and shadows, we created recesses and additional shapes in the costume, for selecting areas for painting in

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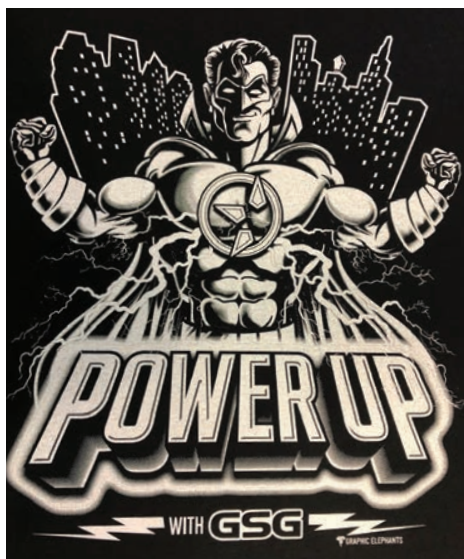


GP0622

SOFTWARE TO SUBSTRATE

Photoshop. We selected the paths in Illustrator, copied and pasted, making sure Path was highlighted in the Palette and renamed the Work Path layer for saving.

This hero would be flexing like he might look on a comic book cover with a city scape in the background. We also used those big clunky halftones common in the old comics. Such a great look. Multiple tones were achieved using the base, utilizing the substrate to give us at least two values with each color. To add light and shadow to bring him to life, we took advantage of the black garment for additional values. The base did most of the work for the pop and drama of the bright colors. We also removed image from the colors to give us heavy shadows and to intensify the depth of his muscle tone. We selected paths and removed density utilizing the Levels Palette. Using the Output option, we moved the lever to bring down our solid opacity to percentage of halftone that darkened the tones. We left some areas at 100% to add bright pop. The white printer becomes a grayscale illustration by itself, albeit not as colorful. This is always the magic ingredient within a good print.



Since many comics are still hand drawn and inked manually, what better way for us to handle this additional hero.



For highlights and shadows, we created recesses and additional shapes in the costume, for selecting areas for painting in Photoshop.

Once seps were completed we outputted on CTS at that chunky old school frequency of 45 LPI at a 22.5-degree angle. To get the most out of the printing process, we ran the white printer on a 156 TPI screen stretched to 35

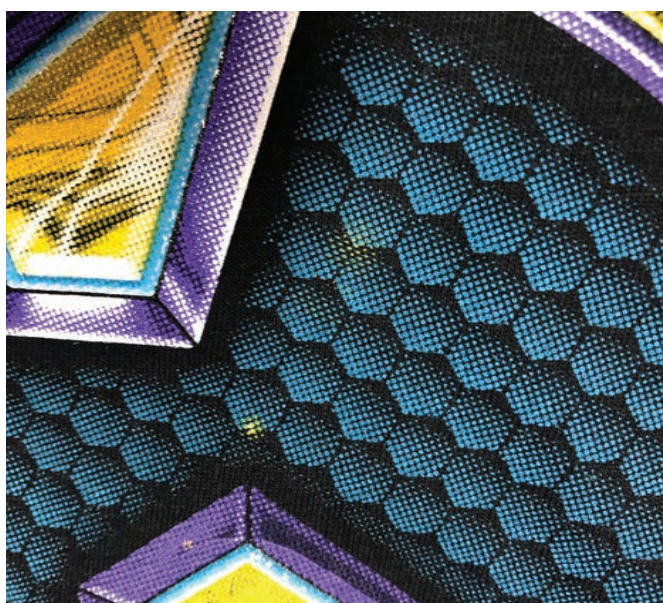
N/cm. A 65/90/65 triple-ply dual-durometer squeegee with soft edge and hard backer did just the trick for a clean opaque first white down on the surface of the fabric. We flashed just long enough to gel the ink and kept it



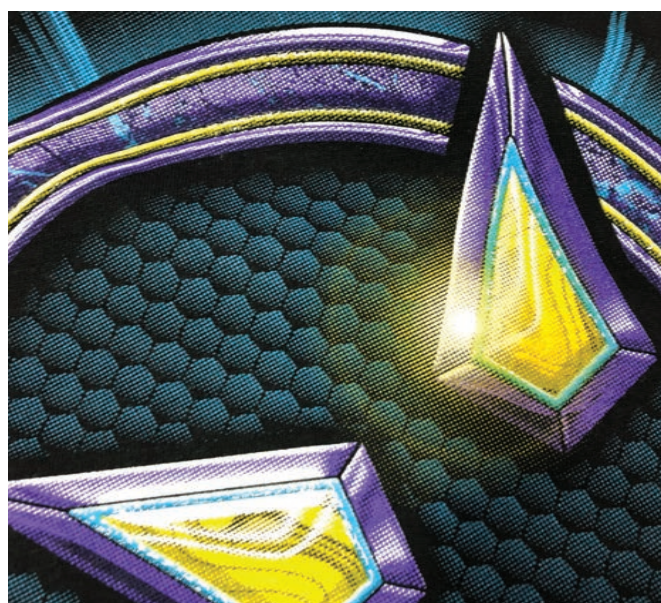
Using the Output option, we moved the lever to bring down our solid opacity to percentage of halftone that darkened the tones. We left some areas at 100% to add bright pop.

hot long enough to make it to the heated iron and Teflon screen to matte down the fibers. This created a nice smooth surface for the rest of the ink to sit on.

All the colors in subsequent heads were run wet on wet on 230s at the same tension, using 75/90/75s. And lastly, the highlight white.



Heads were reserved for our white printer or baseplate, a flash, a smoothing station, and a highlight white.



Multiple tones were achieved using the base, utilizing the substrate to give us at least two values with each color.

Separately, Superman, Batman and Wonder Woman are the greatest fighters for truth and justice the world has ever known. Collectively, however, they are a force of nature, leaders of a team of heroes who are only rivaled by the pantheons of gods from ancient mythology. The League is the earth's first line of defense against threats too large for humanity to face alone. We have our Superman and Batman. Gotta have a Wonder Woman for our Justice League. And as she famously said in the movie, "You can be anything you want to be!" **GP**

At 21 years old, **LON WINTERS** was the production manager for Ocean Pacific and started his 30+ year career reclaiming screens. He's the president and founder of Colorado-based Graphic Elephants, an international consulting firm and apparel decoration studio specializing in screen printing technical advances, plant design, layout, troubleshooting, productivity, quality analysis, and complete apparel decorating solutions. Learn more at www.graphicelephants.com.



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START HERE

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PRO

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Learn more at [GRAPHICS-PRO-EXPO.COM](https://www.graphics-pro-expo.com)

If the company touts its eco-friendly packaging, consider reusable straws or water bottles over plastic tchotchkes. (All images courtesy AMB3R Creative)



Promotional Products: From Trash to Treasure

BY JEREMY PICKER



In the production of promotional products, companies often lose sight of the original goal of creating such a product in the first place. Somewhere along the process, “create long-term value, return on investment, and make the world a better place” shifts to “put our logo on as many things as possible for as cheap as possible.” These goals are often in direct competition with one another.

A promotional product should be customer focused. Through innovative design, the product strives to create a positive as-

sociation with a brand and a useful outcome. Nobody wants a stress ball with a mortgage company logo on it. Nobody. In contrast, a customer who receives a high-capacity power bank with their favorite colors that saved their flight when their phone almost died — that is memorable. That is what people want. That is what will make a company money.

So, how does a company elevate the impact of its promotional product offerings? Step up the design game.

DRINKWARE, NOT STINKWARE

Sure, any brand can slap its logo on a Yeti mug, and people will use it because the mug is great.

However, if the budget is tight and doesn't allow for high-end merchandise, one major way to elevate a brand is to avoid the logo slap and associate the brand with highly intuitive design and decoration. A small investment in design time can pay off tenfold in customer loyalty and brand recognition, but it's often overlooked. By



Consider creating a full custom cut-and-sew digitally printed bag instead of just embroidering a logo.

slapping a logo on a subpar mug, a company is only investing in the profits of its local thrift store and hurting its bottom line in the long run. Instead of creating “a mug,” create “the customer’s new favorite mug.” This can be achieved without breaking the bank with small, thoughtful design changes. For example, consider replacing a logo drop on a water bottle with a full wrap design that any customer would love to take to the gym with them. A small logo hit within a full-color wrap or brand color association within a niche

design will do much more for return on investment when the product resonates with the end-user.

BAGS TO BRAG ABOUT

Consider creating a full custom cut-and-sew digitally printed bag instead of just embroidering a logo. If a company is lazy in its design, a savvy customer will perceive the lack of thoughtful design and associate this laziness with the company’s offerings, consciously or not. Considering different locations, design creative, and decoration

options will elevate your brand above the competition in a way that is memorable and representative.

Looking for a quick litmus test to see if current promotional products are hitting the mark? If the customer would prefer a blank product to your decorated product, a company is not cultivating positive associations in the minds of its customers. Customers are not in shock and awe. They may even be disappointed, which is the last association a company wants.



Above: Utilizing everyday objects that an end-user might need creates a greater likelihood of success within a promotional product campaign. **Opposite:** Consider putting together custom coloring books with branded crayons in a full custom zipper pouch.

GO THE TECH ROUTE

Utilizing everyday objects that an end-user might need creates a greater likelihood of success within a promotional product campaign. In 2022, consider decorating usable power banks, speakers, and headphones. Consider the battery life, usability, and aesthetic of the tech products selected. Remember, if a power bank with a logo on it only charges their phone halfway, an association between the logo and the awful charging capabilities is created in the mind of the consumer.

GET CREATIVE

Everyone has a printed business card. Instead of opting for the usual in the next round of business cards, opt for the memorable. Remember, the goal is to create an impression on the customer that leads to a sale, not to clutter their desk with a small rectangle they keep meaning to do something with until they throw it away.

Consider printing on nonstandard mediums, such as metal business cards. Make cards relative to the company niche. Perhaps create box office tickets for an entertainment company or lip balm for a mountain hiking store. Generally, handing someone a matchbox or a pack of gum with contact info on it is much more likely to wow and much less likely to be lost.

REFLECT BRAND VALUES

If the company touts its eco-friendly packaging, consider a product like reusable straws or water bottles over plastic tchotchkes to resonate with the customer. Adding branding elements in a botanical design and forgoing the plastic in the packaging are small but thoughtful changes that will be noticed by the end customer with similar values.

Is your brand family-friendly? Don't forget the kids! Happy kids make for happy parents. A company's kid-friendly offerings should not end up in the trash or shoved to the back of the toy box. Consider putting together custom coloring books with branded crayons in a full custom zipper pouch!

Remember, the goal of promotional product offerings is to create a

positive association with the brand in the mind of the client. Investing in design, thoughtful product curation, creativity, and small details will make all the difference in the success of any promotional product campaign. **GP**

JEREMY PICKER is the creative director and CEO at AMB3R Creative, a Colorado-based apparel design firm. He has over 20 years of experience in the fashion industry and brings a depth of knowledge in custom design, screen printing, embroidery, appliqué, finishing, and promotional products. He is a cancer survivor and a co-founder of ESTAINE, a high-end accessory line to support cancer education. You can reach him at jeremy@AMB3R.com and 303-304-9948.



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Memorial Products

CREATING LASTING PIECES WITH YOUR LASER ENGRAVER

BY RUTH DOBBINS



A green urn offering the possibility of planting a tree for the future. The vessel will decompose once put into the ground. (All images courtesy Ruth Dobbins)

The engravable memorial products market includes a board range of options, and I will cover a good portion of what is available out there, however, there are more than can be covered in one single article. Product choices will depend on the process of engraving you're performing, whether it be abrasive blasting, rotary engraving, or laser engraving. On top of that, there is the whole field of sublimation, bronze casting, or other metal finishing processes, that I won't be touching on here. Memorial products may not be your preferred choice of product, but this is a huge industry with the possibility of earning a steady income if you like working with a variety of materials, or even if you prefer to specialize in only one or two materials. In our studio, we primarily work on stone, brick, and glass. Even though the designs are usually not the most creative ones, we regard our work as a service to the families who have lost a loved one. So, let's look at what we commonly run into for requests from one of our local funeral homes.





Left: A gray granite stone, abrasive blasted and filled with black paint for contrast. **Below:** Another type of green urn made from paper-like, environmentally friendly fiber products, which will deteriorate over time.

GRANITE

We really enjoy working on polished granite stones, since the smooth surface makes it extremely easy to apply any type of stencil to if you are abrasive blasting. In lasering, that does not matter so much but still makes the job easy all the way around. When contracting for monuments, you need to have a clear understanding of size and weight limitations. Our largest stones are 36" X 24" X 8". These go up to 150 lbs., and that's really all I want to be pushing around in my blast room. Dealing with items this heavy require sturdy dollies and carts and a blast room. There is no way you can lift such a stone into a cabinet like you would with a smaller granite plaque.

NATURAL STONE

In our area, natural stone often means chunks of sandstone which are rough cut into rectangular shapes and generally measure about 24" X 12" to 14" X 8" or 10". These are nice, natural looking stones but present you with an uneven surface, making it somewhat of a challenge to apply any stencil material. Often these stones are stored outside and are covered with dirt and dust. To use one of these specimens, you must scrub and clean the surface and then



Right: A natural sandstone blasted and color filled. These are usually embedded in the ground. **Below:** A different natural stone chunk standing upright, blasted and color filled.



let it dry thoroughly before attempting to apply a stencil. The uneven surface can have a negative impact on designs and lettering, but there is not much that can be done about that. These rocks are usually embedded in the ground.

Another type of stone we get is a natural stone of basalt or other type, which is a natural split off chunk from a big stone and are shaped to be used as a vertical stone. These also must be thoroughly cleaned before attempting to add a stencil. I am not sure how a laser would deal with such a surface.

Besides these natural stone chunks, we also encounter stone tiles, which traditionally are mounted in a wall arrangement, either as a plaque by itself or as a front to a compartment that houses an urn. Again, these tiles can be of natural stone with the same properties as mentioned above or can be smooth marble or travertine tiles which make an engraver's life a whole lot easier. You would not use ceramic tiles as they will not do well in temperature changes in the outdoors.

River rocks are also popular items, especially in the pet memorial business, where they are blasted, as well as bricks used to pave a walkway.

On all the stone products you can use abrasive blasting, laser engraving, or waterjet cutting as your process of choice. All these



Stone tile with a smooth surface makes for easy stencil application and processing.

items will require color filling, or the engraved/blasted text and images won't show up with enough contrast to be seen. Some engraved stones also add sublimated images in a small oval, like a cameo. There are so many possibilities.

PLAQUES

Plaques can be made from stone tiles as mentioned above or can also be made of glass. We have used cast glass tiles, some of which were commercially made and some that we cast ourselves, all depending on the requirements of the customer. On glass, it is advisable to use abrasive blasting since a laser has the tendency to stress the glass surface permanently, causing small glass splinters to break out of the surface on a continuous basis. Glass offers the option of diverse colors, which do not necessarily have to be of a solid color but can be swirled with other colors or lighter shades of the base color. Here in the Southwest,



Top: Bricks come in many qualities. The cheapest ones usually have gaps in the brick, creating problems in processing, like paint bleeding into porous surfaces and chunks breaking off the surface. The better the brick, the easier the processing. **Above:** River rocks are easy to obtain and unique to each customer. **Left:** Stone tile with a slightly irregular surface poses problems for stencil application.



you can also find plaques made from other metals with stone inlays to create images; these are usually engraved, since blasting does not do much to a metal surface.

All the above-mentioned items are usually found on the outside of the cemetery area. There are, of course, a whole variety of products that are meant for display on the inside of one's own home, or at the cemetery. The largest category of these items is urns.

URNES

This is a broad topic, and you will be able to find products for just about any processing style. Urns are made to house the cremated remains of a person and can be made from a variety of materials: metal, stone, wood, or glass. All of these can be blasted or engraved.

There are more and more products available that are pointing in the direction of a green burial, meaning the urns are made from materials that will disintegrate as they are either placed in the ground or are submerged in water (sea burial). Some of these green products are less usable in the engraving sense but could be decorated with sublimation or imprinting.



Wooden urns laser engraved with photo images are popular.

Top: Wooden urn with color added to the basic laser-engraved images. **Above:** Glass tiles are a wonderful addition when it comes to plaques. The colors certainly add interest to the product.



PHOTO FRAMES

We should not forget about the products of engraved/etched photo frames, which allow the customer to select a photo of their choice plus any commemorative text. That applies to humans as well as animals. We have also created images on glass pieces, which are then placed upright in an LED lighted base.

You see, there are many different products to select from if you wish to enter the memorial market. Many you could obtain yourself, while the heavy stones you may find it easier to get them from a funeral home that is already purchasing quarried stone. It is a lucrative business in which, sadly to say, there is no lack of customers. **GP**

A more traditional metal cast urn with engraved text. Metal lends itself better to rotary engraving since blasting only shows up as a slight matte image. Rotary engraving allows for depth of the text or image and stands out much more.

With over 40 years in the glass business, **RUTH DOBBINS** offers experience in all glass-etching techniques as well as in fused and cast glass. Ruth holds a master's degree in art and has been a partner in an art glass wholesale supply and studio company in Europe, which also placed great emphasis on a training program. You can reach Ruth by email at ruth@etchmaster.com, or by phone at 505-473-9203.



An upright piece of 3/8" glass with halftone image in a lighted base.



Photo frames are popular for both human and animal memorials.

Risks of Improper Air Filtration When Laser Engraving



***AVOID THESE RISKS BY USING
A FILTERING FUME EXTRACTOR***

BY CHAU VO

Professional filtering fume extractors are often bundled with laser engravers as “ready-to-run” packages or recommended as key accessories. It may seem obvious that you don’t want your room to fill up with smelly smoke, but it’s important to understand what real risks are present if you don’t use one.

HEALTH RISKS OF LASER ENGRAVING

A laser engraver uses a concentrated light beam to “burn” away material from the target. The interaction between the light and the target material results in a desirable visible mark and two undesirable and unavoidable byproducts: Inhalable dust and VOCs.



INHALABLE DUST

A large proportion of laser emitted dust is within the inhalable dust range, in particular, the PM2.5 range: fine inhalable particles, with diameters that are generally 2.5 microns and smaller.

What are the harmful effects of PM2.5? According to the EPA, PM2.5 poses the greatest risk to a person's health. These particles can embed themselves deep into your lungs, and some may even get into your bloodstream.

The HEPA filters installed in professional laser fume extractors have an efficiency rating of 99.999% at 0.3 microns. This means that it removes 99.999% of the most aerodynamically penetrating particles, known to be 0.3 microns, while smaller and larger

particles are even more effectively captured, resulting in extremely clean air free of respirable dust. Without this type of filter, your lungs will be completely exposed to these deep penetrating particles.

VOCS

Volatile organic compounds (VOCs) are compounds that have a high vapor pressure and low water solubility. VOCs are emitted as gas molecules from certain solids, liquids, or when a laser burns the target material. Some of these VOCs may have a wide range of short-term and long-term adverse health effects.

Depending on the target material, a laser can generate relatively low VOCs and sometimes very high concentrations of it.

In either case, the EPA's Total Exposure Assessment Methodology (TEAM) studies have found that elevated concentrations can persist in the indoor air long after the activity is completed. It is understood that these VOCs can accumulate in a room without proper gas phase filtration.

Proper laser fume extractors have gas filters that contain substantial amounts (15-80 lbs.) of activated carbon blends to adsorb and treat the VOCs in the air-stream.

PREMATURE LASER WEAR & SHORTER MAINTENANCE INTERVALS

Every laser engraving system requires cleaning and maintenance. However, if the fumes



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(particulates and VOC contaminants) are not properly evacuated, the bearings and optics of the system can get fouled up quite quickly. This puts a strain on moving parts, motors, electronics, and can even permanently damage the sensitive lenses and mirrors. Proper fume extraction quickly evacu-

ates the contaminants so that they are less likely to settle on these components.

UNHAPPY EMPLOYEES

Aside from the scary possibility of unhappy employees unexpectedly quitting, an extensive study into happiness and

productivity has found that workers are 13% more productive when happy. The research was conducted by Jan-Emmanuel De Neve (Saïd Business School University of Oxford), George Ward (MIT), and Clement Bellet (Erasmus University Rotterdam). It's easy to see how employees

Relative Size of Laser Dust Particles vs. Common Particulate Contaminants in the Air

0.0001	0.001	0.01	0.1	1	10	100	1000
Pollen							
Mold Spores							
Dust Mite Allergens							
Laser Generated Dust <i>Penetrates deeper into the lungs</i>							

Above: Avoid harmful particles embedding themselves deep into your lungs. (Image courtesy PAT Technology Systems)

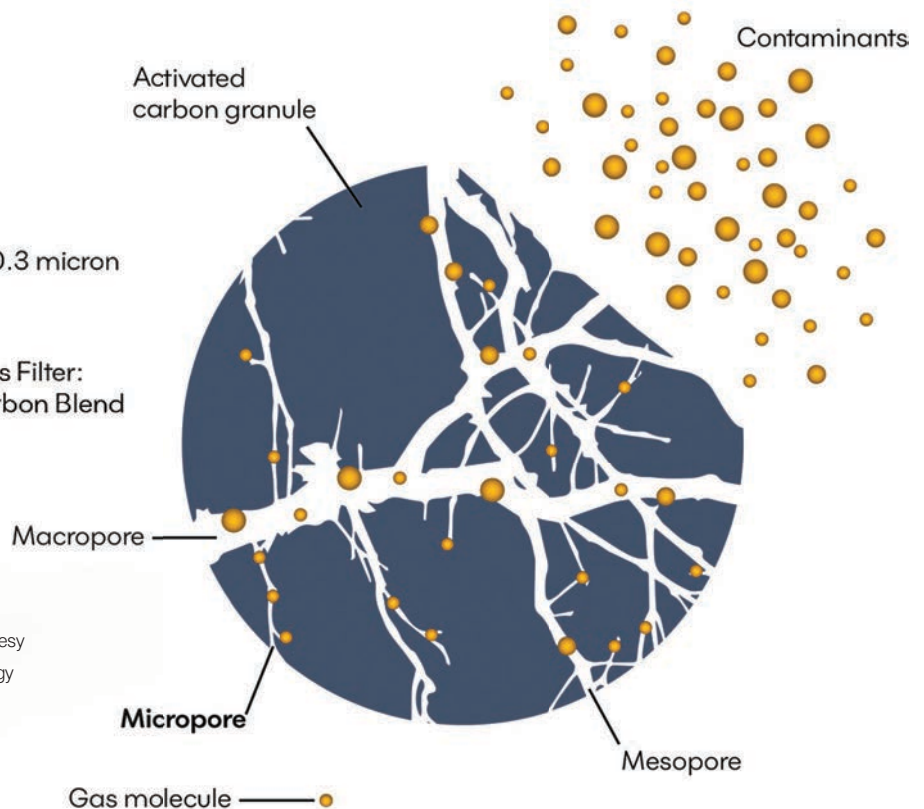


HEPA Filter:
99.999% @0.3 micron

Molecular Gas Filter:
Activated Carbon Blend

(Images courtesy
PAT Technology
Systems)

Internal Structure of Activated Carbon



could become unhappy working in an environment with poor air quality and greater health risks. Installing fume extractors with proper air filtration can easily make the workplace safer and more pleasant.

Caring about the work environment and beyond is an opportunity to engage your employees and make them part of the big picture. One of the best benefits you can provide to your employees is the opportunity to make a difference in the world while working. Make the fight against air pollution part of the company culture. Using laser fume extractors with recirculating air filtration eliminates the laser process's contribution to indoor and outdoor air pollution. Your team can feel good working in a safe environment while feeling like they are doing their part in improving the environment for others.

POOR COMMUNITY CITIZENSHIP

Your community may be within the building you share with other tenants or the neighborhood in which your company is situated. Without appropriate filtering fume extractors, the contaminants from lasers can diffuse or get entrained in the ventilation ducts into other facilities within the building. Alternatively, if you are pumping the contaminates straight outside without filtration, the toxic air can also reach a neighbor's fresh air intakes or open windows.

Not respecting the comfort, health, or property of others in the community can lead to a negative reputation. Worse still, personal conflicts with members of the community can suck precious energy and time from your business and can even escalate to legal actions.

Be a respected and responsible citizen and avoid these risks by proactively capturing the contaminants at the source with a filtering laser fume extractor. It will be an investment in your health and success. **GP**

CHAU THIEN VO is an inventor, industrial designer, and is the vice president of engineering and operations for PAT Technology Systems. Chau brings 20 years of extensive experience in designing air purification and fume extraction systems, having worked in both North America and Europe. He blends design, engineering, product marketing, and creative thinking strategies in leading PAT's technical team to consistently output innovations that clean air.

Maintenance for Your Laser Machine

EFFICIENCY AND PRODUCTIVITY DEPEND LARGELY ON HOW WELL YOUR MACHINE IS MAINTAINED



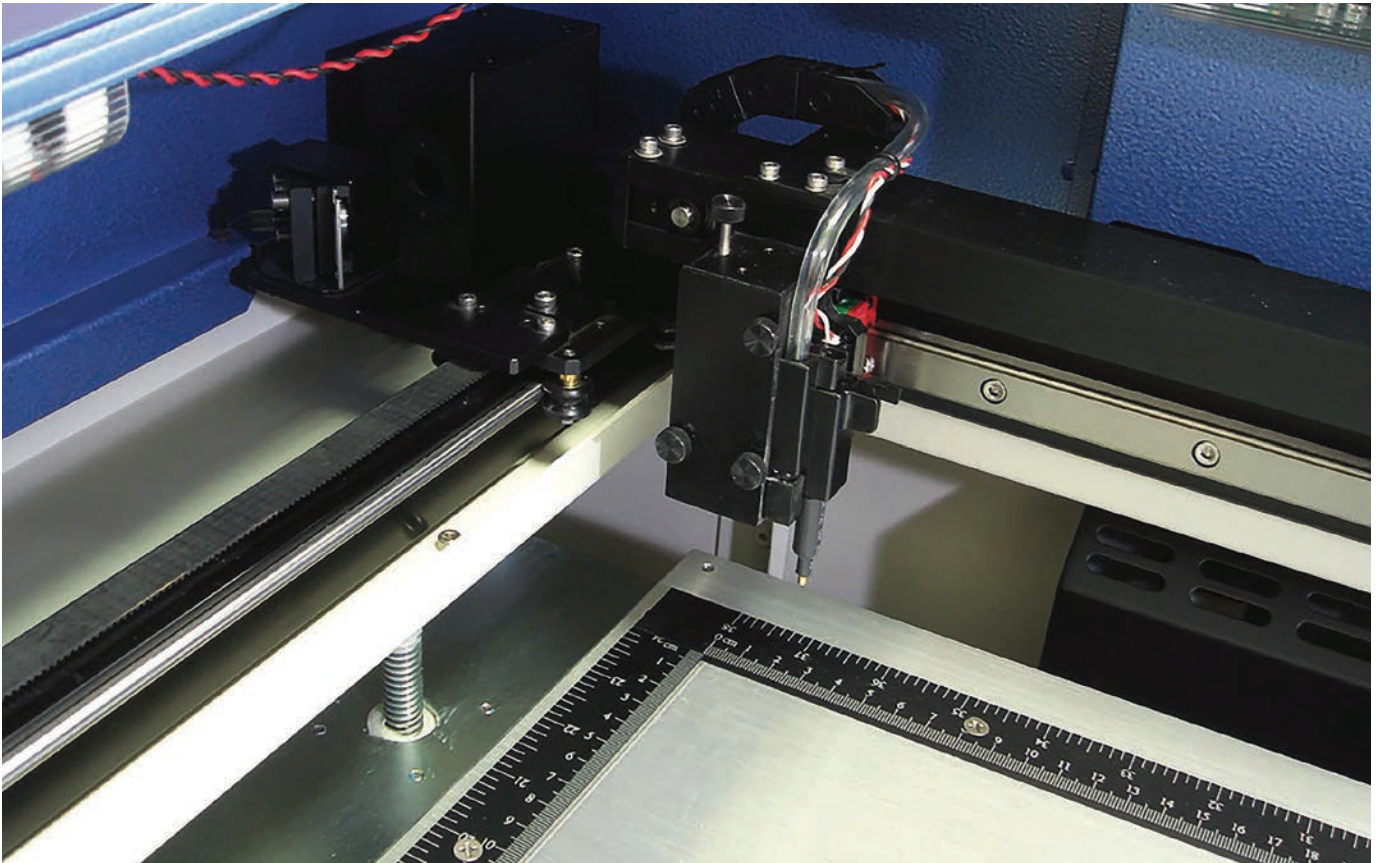
BY DEVIN HUANG

Your laser engraving/cutting machine's efficiency and productivity depend mainly on how well it is maintained. Smoke, dust, or residue buildup inside the laser system or the mechanical components can cause several otherwise avoidable issues.

If you examine your machine only when it has started malfunctioning, you will lose the time and efforts it takes to troubleshoot and fix the problem. Therefore, it's always good to regularly follow the maintenance manuals and make sure you use quality machine parts.



All images courtesy GCC



Never pour or spray oil, alcohol, or acetone directly on the worktable.

Here are some basic maintenance suggestions for your laser machine to ensure quality output, consistent reliability, and extended product life.

CLEANING THE WORKTABLE AND MOTION SYSTEM

1. Turn the power off and unplug the laser machine.
2. Use a vacuum cleaner with a flexible nozzle to remove dust and debris from the worktable and motion system.
3. Dampen a paper towel or cotton towel with a small amount of all-purpose cleaner, alcohol, or acetone to clean the worktable and the motion system's rails.
4. Wait for all cleaning residue to dry completely before plugging in and operating your laser machine.

Pro tip: Never pour or spray oil, alcohol, or acetone directly on the worktable, as this may lead to fires or soot buildup if improperly used.

LUBRICATION OF THE X/Y RAIL SYSTEM

1. Clean and lubricate the X linear rail of the laser machine with grease using a syringe every two weeks to maintain the motion system properly.
2. Always clean and lubricate the X and Y rails after working with materials that produce a lot of debris like wood.

Pro tip: Too much oil or NSK PS2 grease applied to the Y rails accelerates the debris building up.

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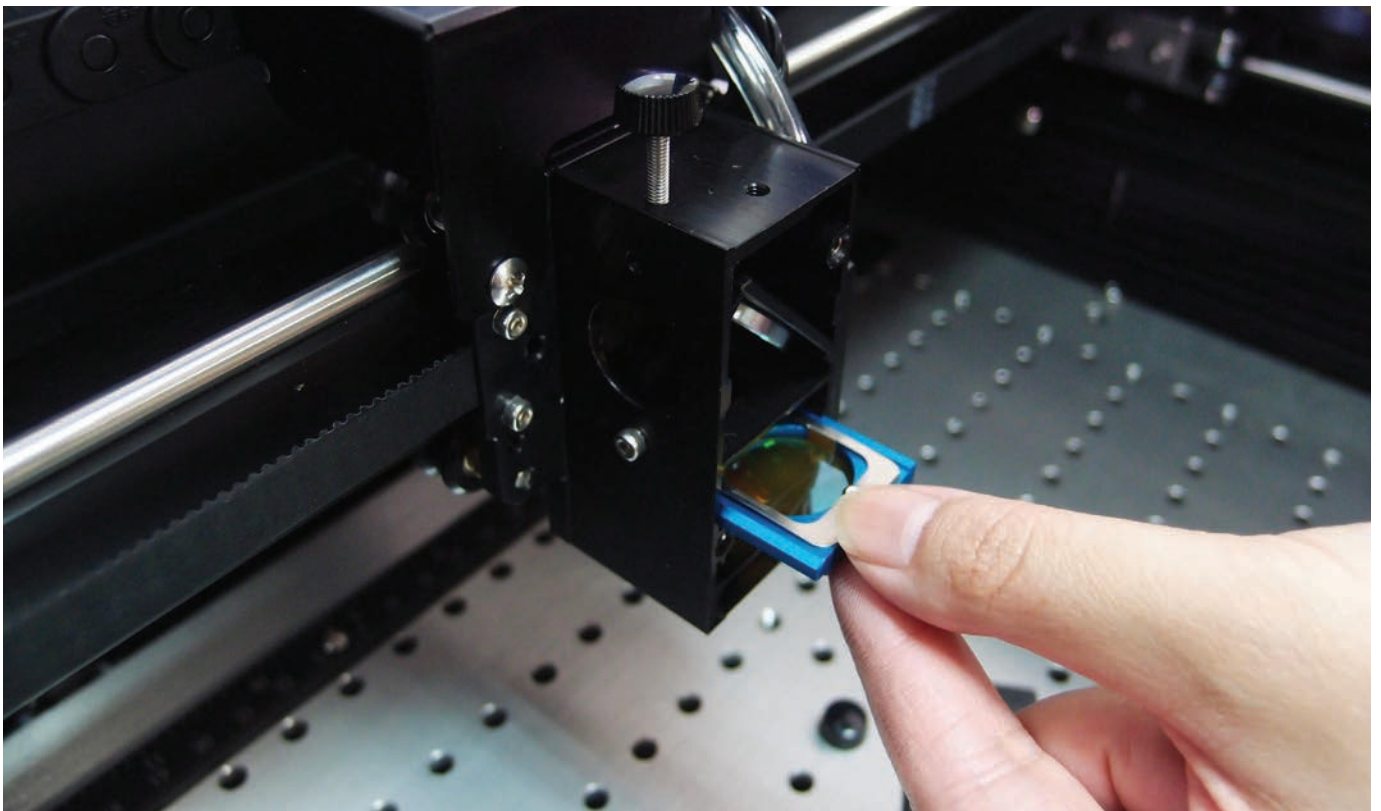
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Too much oil or NSK PS2 grease applied to the Y rails accelerates debris buildup.



When cleaning the focal lens, do not apply any finger pressure or other cleaning solutions to the lens surface.

CLEANING THE MIRRORS

After you have removed each mirror, you will want to inspect each mirror for scratches, soot, or debris.

1. Hold the mirror with the reflective side up without touching the reflective side. Do not apply any finger pressure or any other cleaning solutions to the mirror surface.
2. Drape a new sheet of lens tissue over the mirror.
3. Apply a few drops of lens cleaner on the tissue covering the mirror. Apply enough so that the tissue absorbs just enough solution to cover the mirror surface.
4. Pull the tissue across the mirror in only one direction.
5. Make sure the mirror is completely dry before reinstalling it.



Maintain your machine's ventilation efficiency by cleaning the exhaust duct regularly.

CLEANING THE FOCAL LENS

The recommended lens cleaner is Eclipse Cleaning System Solution from Photographic Solutions or HPLC grade methanol.

1. Clean the focal lens with a cotton swab and lens cleaner solution. Be sure to clean both sides of the focal lens.
2. After cleaning, use a cotton swab to dry the focal lens and lens cover gently.

Pro tip: Do not apply any finger pressure or other cleaning solutions to the lens surface.

CLEANING THE EXHAUST DUCT

Efficient exhaust ventilation is crucial to laser cutting quality. I suggest cleaning the exhaust duct of accumulated dust regularly, as it helps maintain your laser machine's ventilation efficiency. **GP**

DEVIN HUANG is the deputy manager of the laser product line from GCC and an application engineer that handles the GCC LaserPro Application Lab. He releases laser product showcases and application sharing at www.gccworld.com.

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The Magic and Meaning of Laser Engraving

There is no question that my husband and I love personalization and customization — we have truly found our gift. The purpose has shown itself in many forms. The original version of our customization business (like it is for so many folks), was only part-time, and did not involve laser engraving. We started in hydro dipping. It was very decorative in nature, but very personal to each individual. Through the many days of colorful films and logos, we journeyed into powder coating as a base, and then powder coating turned into tumblers. And after we first saw a laser engraver engraving a logo on one of those

BY DEANNA RAMM

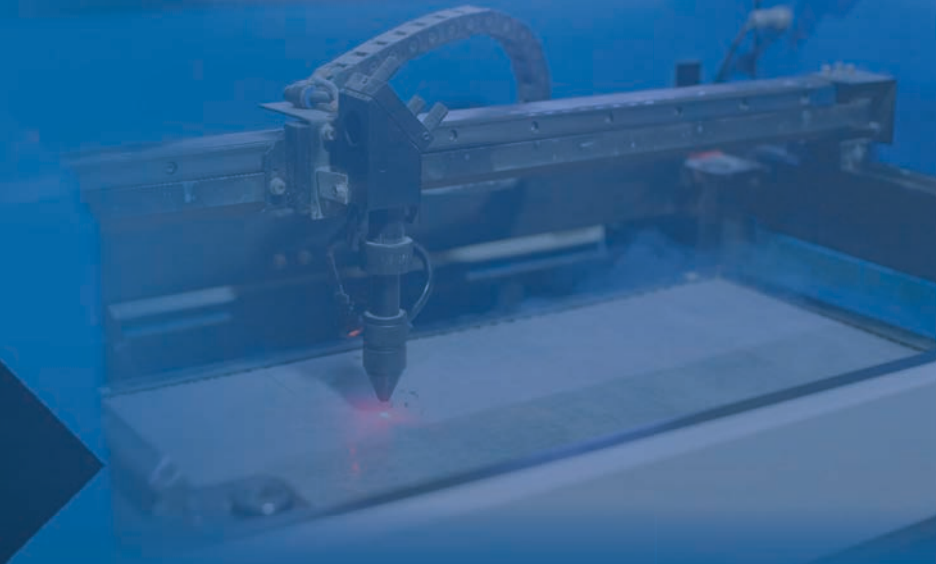


tumblers, our direction seemed clear. This is the magic; that was our gift.

First, we needed to plan and research. Then research and plan some more. Most of our research went straight out the window. When looking into the market, you quickly realize there are almost as



Images courtesy Deanna Ramm.



many brands, models, and sizes of lasers as there are grains of sand on earth.

You talk to those who have a laser, those like-minded people that will one day soon become your peers. You ask them about all the ins and outs of how they decided which machine to buy. You ask them all the questions about how they use it every day, the ups and downs of the personalization industry, business and marketing plans for laser engraving, and ask them to provide you with information that you can likely only find from someone that engraves daily or regularly.

After all of the conversations, reading all of the marketing materials and reviews, watching all of the videos, cautiously tiptoeing into a few online forums, doing a deep dive on the most intricate details and how they may or may not coordinate with the direction you have finally chosen to go, it's time to make a decision.

THE MAGIC

With all that information in hand, all the planning and a bit of faith, you take the leap. The day comes when the laser engraver arrives, and you start to feel the magic. It is almost permeating through the packaging. Then comes more research — so much learning.

Nothing has ever seemed as big as pressing that small, green “Go” button for the first time.

But then you do, and you are hooked. The magic takes hold.

Thanks to your research, you fully understand how it works, the pieces and parts that make up the machine, but that really could never fully encompass the feelings it invokes as it works. You have absolute fascination watching the machine perform.

And even when all you aspire to seems certain, it can be very easy to get lost in the everything — and the nothing. It will almost immediately change what you had planned for the who, what, when, where, why, and how of your personalization business.

I have been called an information “junkie,” and that pertains to all the parts of my life. Knowing the details,

the hows and whys, fuels so much of what I do and who I am, but sometimes (especially in the beginning), that can turn into jumping into the rabbit hole.

Laser engraving as a part of the personalization industry has been around for many years, and we entered the arena when tumblers started to be all the rage.

And immediately, it was a whirlwind. And as you would expect, while the magic was still with us every day, we were more than a little overwhelmed.

That was not the first time we took a step back to reassess, but it would also not be the last.

Plans and research, all those hows and whys will always be a key part of the equation, but those assessments (big and small) are vital. They are crucial for the growth you are looking to achieve, and ultimately, for your success.

No one begins as an expert. Remember to be patient but honest with yourself as you move through the intricacies of this remarkable and extraordinary industry.

As our company has progressed, we have been presented with some amazing opportunities to share what we have learned, and we were honored recently to sit on a panel and answer questions

from our peers. Toward the end of the discussion, one of the other panel members said, “After all of this time (almost 30 years), I can walk by a laser and I am still fascinated by it!”

It was a statement made by the teacher in one of the first engraving classes I took that really spoke to what we all do (and will always stay with me). She said, “We are in a feel-good industry. Everything we do, no matter how big or small, makes the people giving and the people receiving feel good.”

And we could not agree more. This is the magic! **GP**

**“THE MEANING OF
LIFE IS TO FIND
YOUR GIFT. THE
PURPOSE IS TO
GIVE IT AWAY.”**

— PABLO PICASSO

DEANNA RAMM and her husband Jason, own & operate CenTex Laser Engraving & Embroidery in Hutto, Texas. Having grown their business throughout the last six years, they remain dedicated to providing customers with a full customization experience.

A Solid Base of Work

FLATBED PRINTING REMAINS STRONG THROUGH PANDEMIC

BY PAULA AVEN GLADYCH

The pandemic hit many industries very hard, but flatbed printing managed to hold its own, in large part because of all the new markets that opened up in response to COVID-19, including pandemic and ADA signage, floor graphics, and face shields.

HIGH DEMAND

“Demand for UV printers has been incredibly strong,” says Jay Roberts, Roland DGA’s product manager, UV printers. “At first, the sheer amount of pandemic signage

needed was driving demand. The ease and speed of printing directly on rigid substrates when compared with printing, laminating, and mounting other printers’ output made UV printers very attractive. Many customers sought out UV print capability to keep up with the massive demand for signage from local, state, and federal government offices, as well as from grocery stores, medical centers, and other essential facilities.” Demand was so high that Mimaki sold out of its larger flatbeds.



Many shops were making a killing on outdoor menu boards and Lexan shields with business logos on them. A lot of print shop owners who always wanted a flatbed printer but couldn’t afford one used the demand for pandemic signage as an excuse to finally make the investment, says Ernie Contreras, print solutions supervisor for Mimaki.

Because restaurants couldn’t serve customers indoors, many opened outdoor dining areas during the pandemic. “People



“We’re also seeing demand from light industrial companies that want to customize manufactured items with a logo or other information,” says StratoJet’s Sohil Singh. (Image courtesy StratoJet)

are still doing outdoor dining, a new thing but I don't think that will go away," Contreras says. Demand is high for simple floor graphics, outdoor menus and menu boards.

INKS & APPLICATIONS

Flatbed printers come in many sizes, from small models measuring 24" X 20" to presses as large as 8' X 17'. The average shop invests in a 4' X 8' model because they can fit into smaller spaces but are fairly versatile when it comes to the types of substrates they can print on, from woods and metals to acrylics, phone cases and

faux leather for upholstery. These printers are gaining in popularity because UV inks dry instantly when exposed to UV light, meaning print shops don't have to wait for the ink to outgas. Any products printed on a UV flatbed are ready to use immediately, says Mark Rugen, director of education for Mutoh America.

The inks will "pretty much stick to anything. It is pretty rare that you need some kind of special preparation for the ink to stick," he notes.

Most UV printers have adjustable print heads so they can print on thicker materi-

als, up to 6" in height. That means that print shops can print on a variety of materials, including doors, cabinets, and ceramic tiles for backsplashes.

Graphic Resource Systems, Flora's distributor in the United States, printed a photo of an outhouse in Pennsylvania on the door to their showroom's bathroom, which has become a major conversation starter when clients come in to see what the Flora flatbed printers can do.

Dave Philipps, co-owner and director of technical services at Graphic Resource Systems, says that he is amazed by how much

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Left: StratoJet's customers have influenced how the company makes its flatbed printers. (Image courtesy StratoJet) **Below:** Now that the pandemic has started to recede, Mutoh says companies are getting into printing ADA and political signage. (Image courtesy Mutoh)



Left: During the pandemic, many shops were making a killing on outdoor menu boards and Lexan shields with business logos on them. (Image courtesy Roland DGA)



Most UV printers have adjustable print heads so they can print on thicker materials, up to 6" in height. Flatbed printers come in many sizes, from small models measuring 24" X 20" to presses as large as 8' X 17'. (Images courtesy Mutoh)



printing technology has advanced over the years, joking that he's been in the industry since B.C., Before Computers.

"I would say that the technology is unbelievable where it has gotten. The floor printer we have in our showroom, the quality of prints, the speed, it is an awesome piece of equipment. We're very happy with them. They are working very nicely with us," he says.

Flatbed printers can be used to print on plexiglass for backlit signs, Coroplast or aluminum composite material. One thing Graphic Resource Systems has seen since the pandemic began is commercial printers crossing over into the sign market. Many of its larger corporate clients needed some of the same signage as smaller businesses so they expanded their offerings to include pandemic signage, buying UV flatbed inkjet printers for their speed, ease of use and wide color gamut, he says.

When the company first got the Flora flatbed, Philipps says, "We were ecstatic. We could print on anything, including bricks and paving stones."



Flatbed printers can be used to print on plexiglass for backlit signs, Coroplast, or aluminum composite material. (Image courtesy Roland DGA)

One of Graphic Resource Systems' clients in New York state stayed in business during the pandemic printing banners to hang in front of the homes of graduating high school students who could not have graduation ceremonies. The shop used their UV flatbed printer to print the signs and ended up purchasing a lot of ink as well.

"That was one direct result of the pandemic," says Philipps. "They wouldn't have had that business without the pandemic."

Mutoh's Rugen says that when the pandemic started, the company saw an immediate impact on its smaller flatbed UV printers, the ones that measure 24" X 20".

"I think it was because people were turning to online sales and we actually had a few customers set it up so they could literally transport it to their house from the

shop during the pandemic for at least a while," he says.

Once these shops started selling items online, they expanded into specialty items such as pens, coasters, and keychains. Now that the pandemic has started to recede, Mutoh says those same companies are now getting into printing ADA and political signage.

In the past, political banners and yard signs were probably screen printed because that is the easiest way to do hundreds of thousands of prints at a time. But if somebody needs shorter runs, quickly, flatbed printers are the way to go.

"We also are noticing a lot more sustainable medias coming to the market," Rugen

continued on page 94




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SUMMER CAMP SIGNS TO LAST A LIFETIME

RECOGNIZING CAMP DEER RUN DONORS

All images courtesy Rick Williams

Here in Northeast Texas, there are a numerous summer camps or church camps scattered around. Over the years, we've made signs for several of them.

CAMP DEER RUN PROJECT

Camp Deer Run is located back in the country, about a 45-minute drive from the shop, and my kids and grandkids have been campers there. A little while back the camp director asked me about

making some more signs for several new or recently refurbished cabins, each of which has a sponsor that paid most or all the expenses. Sometimes these are financed in memory of a loved one, or in honor of a church congregation, and the sponsor's name will go on that cabin's sign. These signs were a final expense on each cabin, and it was imperative that each cabin and their cabin signs last a very long time. In previous years, and on other cabins, we've made signs of treated

lumber with powder-coated aluminum letters, elements, and trim — materials that really last.

The only problem we had was keeping them from warping or the boards separating over time. Usually, we are making one or two signs, this time they needed six. It is very likely that these signs will still be in place when this old sign guy will have gone to the big campground in the sky, and one extra construction step would help ensure they would.

Camp Deer Run 1221 Cabin Number-Sponsor Signs



Our summer camp client gave us an order for six custom, super-durable signs for numbering their new or newly refurbished cabins.



Pressure treated lumber these days is not great quality, but our local vendor let me pick through the 2" X 6" inventory.



Back at the shop, cutting around flaws and problems, we finally had six groups of three boards.



The cut lumber was organized in groups of three — similar grained and colored.

THE DESIGN

The design for these signs is simple enough: a powder-coated oval at the top, metal letters for the text, and metal trim at each end, which appears to hold the three 2" thick treated boards together but is decorative only.

Finding good quality treated lumber these days is not easy, so it took a personal trip to the lumber yard whose staff does not mind if I search for the best pieces of wood. I was sure to buy

more than I needed since I would be trimming out bad sections or areas that were especially knotty. In the end, I turned half my treated lumber into scrap and used the other to make the six signs.

Each three-board sign had to have similarly colored and similarly grained boards, so after the lumber was culled and then cut to the exact right length, the boards were grouped into matching sets.

A set of three boards needed to join together, never warp independently, and

last virtually forever. If the boards were not securely made into one unit, any random warping could be very damaging. An important added step would guarantee each sign's integrity, and that was through drilling the boards on their edges and running three pieces of 3/8" diameter threaded rod through the holes as clamps and steel reinforcement, adding permanent tension and dimensional stability.



To facilitate permanent threaded rod internal clamps, all boards were drilled on their edges.



After drill press drilling, holes were reamed out by hand with a slightly larger and longer bit.

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SHOP TALK



A nut was welded on one end of each rod, and a nut on the other end would be tightened to clamp board joints permanently and prevent warping.



The nuts on each rod were well recessed.



A heavy coat of Thompson's WaterSeal was our only coating. It was allowed to soak in a day or two.



Many .125" thick aluminum parts were waterjet cut, but many were tabbed together to keep them from dropping to the bottom of the tank and being lost.



Above: To help hang these many small parts for powder coating, several items would be daisy chained together with electric fence wire. **Right:** Before sending parts to the powder coating shop, more than 300 stainless steel screws were put in a holder so they could be coated to match.



All metal parts were drilled and countersunk and buffed clean for powder coating.



THE BUILD

With three steel rods holding the signs together, little opportunity for warping is possible and no gaps between the boards would exist. I made a drilling template of 1/8" steel plate plus a small but very accurate square that could be screwed to the wooded table of our old drill press. It was very important that the drilling was accurately placed and totally perpendicular so that each board would align with the others.

On the drill press, each hole was drilled just a bit past halfway through the lumber, then the drill template was moved to the opposite edge of a board, and it was drilled

again. Finally, the boards were drilled all the way through with a longer and slightly larger bit, just over 3/8" diameter.

I had all the lettering waterjet cut from .125 bare aluminum, and I configured the cut file so small letters were not lost to the bottom of a waterjet tank. Letters were connected to other letters by thin lines which would be trimmed off later. No letters were lost by cutting them this way, and there were many, many letters which were required to apply the text to five different signs plus one duplication.

First, I clipped off the connecting tabs, and buzzed the burrs off each letter with a small hand grinder. Then, they were all

drilled with mounting holes and each hole was countersunk. Then, each item was prepped for powder coating by etching each surface with fiber disk with the same small grinder. But there were many, many items, and most of them quite small.

To facilitate coating, multiple items were daisy chained together with electric fence wire, and these "chains" of pieces were temporarily tacked to panels of corrugated plastic so they would not get tangled together. A beautiful dark green powder by Cardinal Powders was applied at the powder coating shop.

Very importantly, we powder coated all the small #6 X 1" stainless steel screws that

SHOP TALK



After coating and curing in an oven, all our deep green parts were ready to be installed.



This looks like quite a puzzle — many small powder-coated parts were ready to be put in place.



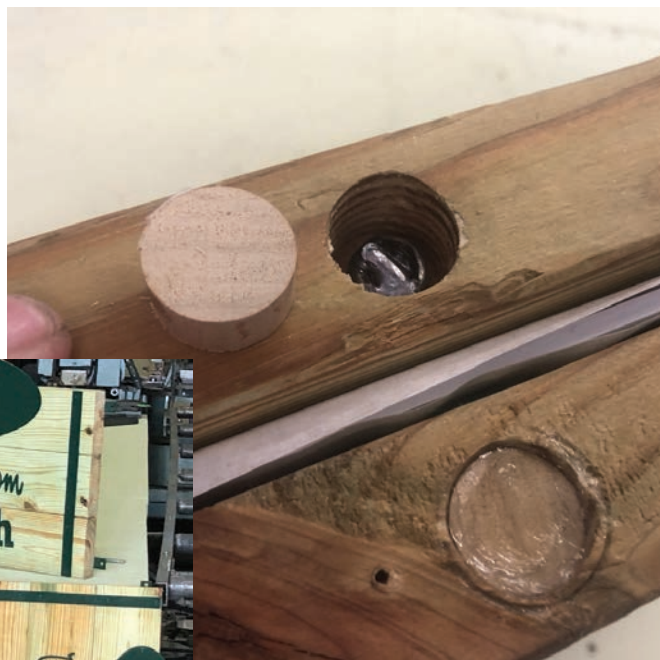
The flat bar metal trim at the end is merely decorative, as internal threaded rods actually hold the boards together.



Perfect install patterns were cut on our laser and secured in place with push pins.



Matching powder-coated screws were recessed into countersunk holes in all our metal parts.



Above: Finally, we plugged our metal rod recessed, filling each hole with silicone, and totally covering the plug. **Left:** These six signs should last as long as the cabins.



would secure each part in place, over 300 screws that would match perfectly.

Not wanting to stain or paint the wood, before putting the metal graphics in place, each sign unit was coated with traditional Thompson's WaterSeal. We let this soak in for a couple of days.

To facilitate very accurate placement of each item on six signs, perfect patterns were cut on our laser from thin poster board. These patterns were merely put in place with "push-pins," and it was easy to set each piece in place accurately. A very small drill bit was used to pilot hole each screw, and our matching powder-coated, stainless-steel screws (no rusting ever) were used to secure parts on all six signs, though

the oval and the strap pieces at the ends of the signs were secured with larger flathead screws, all countersunk.

To complete the signs, wood plugs were made from 3/4" dowel rod, and each plug was about 3/8" thick. The holes the rod ends were recessed into were filled with clear silicone, a dowel plug was put in place, and silicone completely covered over each plug making a watertight seal.

On previous signs we'd made for this camp, imitation gold (yellow) vinyl numbers were used, and I used matching vinyl on these signs for the number only, but that of course was the weak link, lifetime-wise. Thankfully none of these signs are in direct sunlight, as the cabin area is shaded

most of the time by a large canopy of tall trees, so UV will not be much of an issue. However, another layer of powder-coated metal would have been a better choice.

But these signs are likely going to last about as long as those cabins will themselves and honor those who donated money to make each cabin possible, which was exactly what our customer wanted. **GP**

RICK WILLIAMS owns Rick's Sign Company, a commercial sign shop in Longview, Texas. He has been in the sign industry since 1973 and has been a contributing editor to *Sign Business* and *Sign & Digital Graphics* since 1986. Contact Rick via email at ricksignco@aol.com.



Wrap Installation WORKFLOW

EFFICIENCY MAKES THE DIFFERENCE FOR PROFITABLE PROJECTS

BY CHARITY
JACKSON



In my last article, I talked about how having a solid workflow system from sales through production can make your shop efficient and profitable. Although we run a small crew, we can turn over a large volume of work because of our efficiency.

This extends into our installs as well. Half of our business sales are vehicle graphics – from spot graphics through full wraps. This means that installation is also a significant portion of our business, and if we're not efficient in this area as well, it will cut into our profits.

SCHEDULING

Once graphics go through production, we move the job box to installation on our Toodledo tracking system, and we move the job folder to an installation wall rack.

The install board is a custom dry erase board that lists all jobs waiting for installation. Sometimes they're scheduled, and we note the date; sometimes, we've called, and we're waiting to hear back from the customer. Either way, this board helps ensure that we don't overlook a job that needs to be installed.

We try to schedule jobs into our Google Calendar when the customer approves the artwork proof. By scheduling it ahead of time, we can move them through quicker because they get a slot on the calendar before it fills up. Instead of waiting until the graphics are ready to call them and then try to squeeze them in, they've already been scheduled days ahead of time.

We have a dry erase board next to the install board that has our current production work noted. Next to it is a section for that week's installs. We fill it out Friday afternoon for the following week or Monday morning. This gives us the current week's installs at a glance to make sure the graphics are completed and organized the day before.

PLANNING

Before the vehicle arrives, pre-planning can speed up the installation. Having a clean vehicle arrive is an important one. We ask that customers wash the vehicle the day before installation, clarifying that they can't wash it the day of the installation if we're doing a full wrap. Water can get trapped behind plastic molding, door han-

dles, and other parts and will leak out behind the graphics when heated.

Consider charging a washing fee if a vehicle arrives dirty. This is tricky because you don't want to make your customer mad, but you must also consider the time wasted washing down a filthy vehicle before you can even start the installation. If you point it out ahead of time, this situation can usually be avoided.

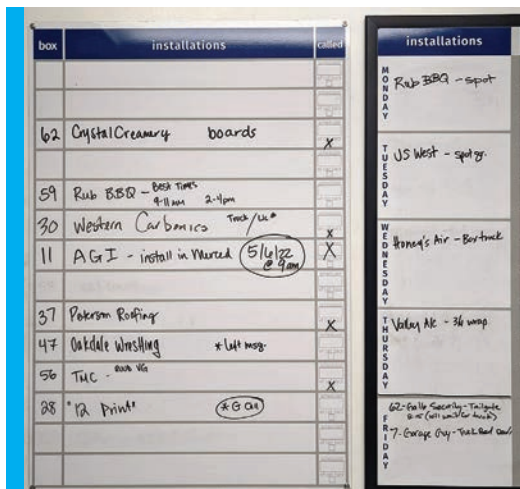
We also review any removals with the customer ahead of time, considering this when estimating the installation time. Removals include old graphics, adhesive, emblems, silicone, or any obstacles that are in the way of the installation.

If your installation is of signs outside the shop, run through the install step-by-step to ensure you have what you need. Looking for a hardware store on-site because you forgot to grab the correct screws is a considerable waste of time.

CLEAN & STOCKED

If you do a lot of installs, you know how much a disorganized install area can slow you down. The alcohol bottle is low – you have to stop and fill it. Don't have clean lint-free cloths or your propane bottles are empty? You have to run to the store for more. Running out of masking tape? All the snap blades were used on the last install? Squeegees look like they were run over by the last few installs? Install stools won't roll, magnets are missing, or all your air release tools are dull?

It sounds silly, but any or all the above items can result in a frustrating and inefficient installation. It's important that after



Dry erase install boards help track upcoming installs at a glance and make it easy to see which projects need to be scheduled. (All images courtesy Charity Jackson)



each install, you take note of things that need to be replaced, refilled, or repaired.

PROPER TOOLS

Having proper tools is an extension of being prepared by having your workspace cleaned and stocked. Having the right tools for the job includes the obvious ones like squeegees, snap knives, air release tools, heat sources, install gloves, scissors, tape, and cleaning products.

It's also important to have ladders, step ladders, scaffolding, and install platforms that allow you to do larger installs safely. If you do



This is not how we like vehicles to come in, but occasionally, this is what we get. Talk with the customer and be sure you cover the extra labor that comes with cleaning.

a lot of installs, you've probably added these items as you go, but be sure to think through an install ahead of time to ensure you'll have everything you need.

Consider those specialty tools too. Rolling tools for concave areas, rivet brushes, small plastic tucking tools, and tools for removing emblems and parts are specialized items, but they can make a big difference in the efficiency of the installation.

I'm primarily focusing on vehicle installs but installing window graphics or signs outside of the shop involves the same scheduling, planning, preparation, and tools. We have a window trimming tool from Yellow Tools that we use for our

on-site window perf installs. It's a quick and easy way to get clean edges, especially along flexible rubber window seals.

INSTALL DAY

If we're going out on an install, we typically confirm the install either the day before or just before we go out. Our graphics or signs are ready to go, and we have a stocked install kit. We check in with the customer if they'll be on-site during the install, and then make sure we leave the site cleaned and wiped down.

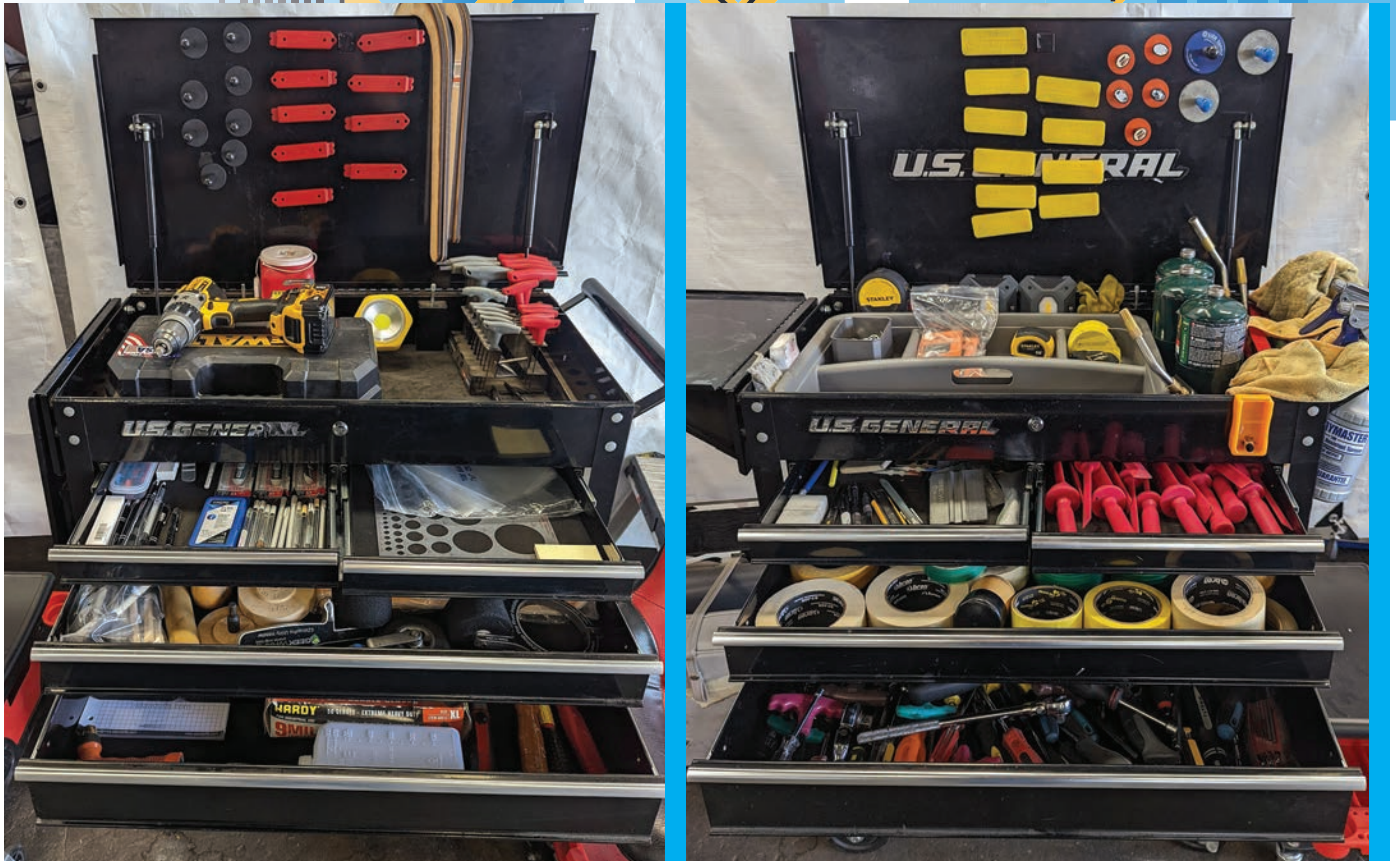
If the installation is at our shop, which usually means it's a vehicle, we have planned steps that we go through to ensure it's a smooth, efficient process. If a customer is waiting for the vehicle because it's a simple spot graphic job, they usually wait in our lobby or walk up the street to a nearby sandwich shop.





After an installation, most tools are left in the rolling chairs, and tools, paperwork, and leftover vinyl are left out. Reorganized and stocked tools and cleaners will make your next install more efficient.





Having the right tools for the job and knowing right where they are will speed your install.

If the vehicle is being dropped off, we take down the name and phone number of the contact person to call when it's ready. We grab a post-it pad, jot down the name and number, and then it's stuck to the dry erase wall hook we set up, keeping the keys and contact info in one spot.

At this point, the paperwork is usually in a job folder in the production area, so it's an extra step to grab the folder to confirm a name and phone number. The person dropping off and picking up the vehicle may not be the same person in the paperwork anyway.

Our shop entrance faces the street, while the roll-up door for our install area is at the back of our building, so someone has to drive the vehicle around to the back. For quick installs, we hang on to the keys in the install area; for longer installs, the keys are placed on the hook up front to avoid getting lost.

Graphics are always checked the day before, and an installation proof is in the customer's job box. These are all grabbed and brought back to the installation space.

Once the vehicle is thoroughly cleaned, the graphics are applied, and all finish work is completed. For larger wraps, we may have the vehicle for multiple days. In this case, we always double-check our workspace and ensure that we didn't go through anything that we'll need to replace before the next day.

WRAPPING UP

Once an install is completed, we continue working through our pre-planned processes to wrap up the installation. The install is checked against the proof to ensure nothing was overlooked, and any removed parts are re-installed.

For wrap jobs, we do a final check looking for areas that aren't laying down prop-

erly or any areas that weren't trimmed neatly. Sometimes you can get a little tunnel vision while installing, so it's good to step back and do an additional once over to ensure nothing was missed. We follow this with a good post-heating and wipe down any smudges or handprints.

It's important to have this system in place so that everyone knows the steps ahead of time and nothing is overlooked. It quickly becomes a habit as we walk the customer through the process of installation, maximizing our efficiency. **GP**

CHARITY JACKSON is co-owner of Visual Horizons Custom Signs based in Modesto, California. She has been in business since 1995 and has worked in the sign industry for nearly 30 years. You can visit her website at www.vhsigns.com.



SIGN DESIGN AND GRAPHIC DESIGN

THE CORE DIFFERENCES BETWEEN THE TWO AND WHY THOSE DIFFERENCES MATTER

Graphics have been around since the days of early man, when cave walls were used as the canvas in which to document the events that were important in their lives. The cave wall was their newspaper — their iPad — and it was everywhere. Put away the red pen, history professor, and bear with me a moment.

These cave walls were the places where thoughts were pondered, and creative cave dwellers transformed their ideas into artistic depictions of the thought that needed to be communicated. Over time, as languages formed, these cave drawings began to include information that could more easily be described in words along with drawings, rather than with drawings alone. As time went on, ideas that needed to be communicated were getting deeper,

and more complex, and a lighter-weight cave wall was needed — one that could be carried around from cave to cave (like an iPad, newspaper, or magazine).

Ta-da! The book was created, but not right away because paper hadn't been invented yet. So, for thousands of years the process of figuring out “what paper was” brought lots of other lightweight substrates (one can only presume) to the forefront. They were likely tried and experimented with, like tree bark or dried animal hides and papyrus scrolls, as a more transportable “cave wall,” to keep track of important details relating to food or melting glaciers.

Making the substrate out of something lightweight had a lot of advantages. It could be easily transported to another

cave to inform them of the location of the herds migration route so they could help with the hunt. The point is that ideas were being written down onto hand-held items, which were much easier and practical to move from cave to cave than moving the actual cave wall.

Then there's stone tablets, which you could think of as the first-generation full-size iPad. They were only used for really important, long-lasting messages that never changed, and which needed to be communicated forever; for all of time.

Wow... I think I see the beginnings of the graphic design industry, and the birth of the sign industry.

The tree bark material was so much easier to pass around at those cave night-clubs that it no doubt led to the development of the first business card. Along with that came slightly larger pieces of tree bark worn by cave dwellers who walked up and down the game trail advertising the new animal hide removal service now available at “Groggo's Big Cave” on the hill. Groggo needed a sign to do a specific job, and that job was to “persuade” the hunter to take his animal to HIS cave for processing. After the hunter got to the cave, Groggo needed a poster to inform the hunter of which line to stand in, what the charges would be, how long it would take and most importantly to go to town to give Groggo's Hide Service a 5-Rock review on the big stone wall in town.

Are you starting to see the differences between signage and graphic design and identifying



Stone tablets were just one of the earliest forms of mobile communication; however, it wasn't very user friendly. It pretty much is what it is. (All images courtesy Matt Charboneau)

how easily well-meaning graphic designers can so easily fall prey to using graphic design skills for sign design?

So, yeah, if you are currently a graphic artist, or you manage or employ graphic artists at your company, there are some differences in the core design disciplines that must be acknowledged for the design piece to be effective in its mission, purpose, or role.

And you may find (or you have already learned the hard way) that when those core differences are ignored, great graphic

design ends up failing in the most professionally obvious ways, yet most of the time the customer has no idea why because the designer doesn't either.

THE BEAUTY PAGEANT

Client: "That logo design is beautiful! It's the nicest logo I've ever seen! So ornate and so much fine detailing. It's eye-catching for sure. Yes, some people say that when driving by in a car, the words are too hard to read, and I get a lot of calls from folks who can't find my shop, even though the

logo on the sign is big, and it's right out front. But I think it's beautiful, and so does my designer, so I guess people are just not paying attention."

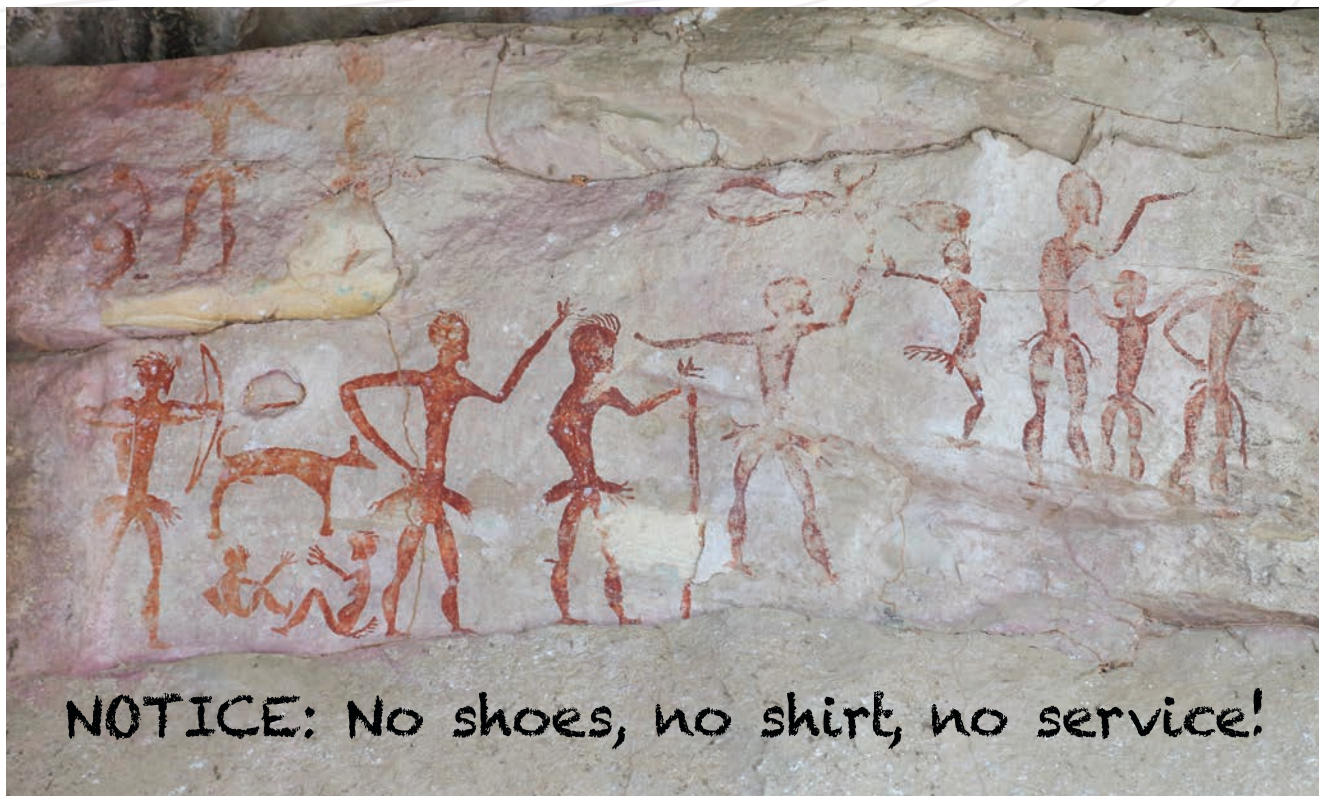
Have you heard anything like this from any sign customer before? That's where the core difference between sign design and graphic design matter.

SIGN DESIGN OR GRAPHIC DESIGN?

A sign is defined by the fact it has a message to convey in three seconds or less at two feet or more away, and it is what



Graphics tell us something, but what? If only cave dwellers back then had a language to fall back on, this might have been a sign, rather than just a design.



Again, we see a design, a drawing. And if this had a job to perform, the words for this might be as shown. I wonder if this would be a wayfinding sign or an informational sign?

we define as the “role of the sign.” If it doesn’t have a job to do, it’s most likely just a graphic.

Question it for yourself: Does the design’s content have the job to inform, restrict, direct, instruct, protect, define, explain, warn, advise, suggest, imply, convince, motivate, slow down, speed up, line up, go here, go there, or otherwise tell you where, when, how or why to do whatever? And it all must be conveyed in three seconds or less. Well then, if any of those apply, it’s a sign.

Graphic design (as a skill set) has the one luxury that sets it apart from signage, and that relates to the distance it’s viewed from and the amount of time the viewer has to study it, explore it and absorb all of the facts and emotions that it’s supposed to translate.

For example, a magazine ad that the graphic designer has to design where a lot of information and key details need to be conveyed to the reader or viewer.

The graphic artist must work to fit all the shapes, logos, ideas, and bodies of text into a smooth, flowing, visually-pleasing-to-the-eye presentation, which will be absorbed from a device that is held at arm’s length, or viewed from only a couple of feet away.

The luxury of time and the fairly consistent viewing distances is what separates graphic design theory from sign design theory. It may contain sign-worthy information, and it may also have a job to do, but if it’s viewed while it’s being held, or looked at from a distance less than 18” away, it’s most likely falls into the graphic design barrel.

Graphic design has its own set of core design disciplines and its own set of rules to follow for flow and contrast so that the message is conveyed to the viewer (who is usually doing more reading than viewing). Why is that? Because not only are we considering the distance from which it is viewed, we are also analyzing the

time in which the viewer has to read all of the information, view the graphics, watch for cars, dogs and stray cats, kids in the back screaming all the while you must find, read and absorb the message that’s posted on that sign you just passed.

Phew, that’s a lot to get across to a viewer, and that is why great graphic design is so vital and such an important skill set to implement for those items viewed at arm’s length for longer than three seconds.

THE THREE-SECOND RULE OF OUTDOOR ADVERTISING

How well an idea is condensed into the fewest words possible is the secret to outdoor advertising — add in graphics that convey the mood, feeling and intangible benefits of owning, having, driving or eating that succulent lobster tail with hot drawn butter. When you have successfully placed your viewer in your restaurant, sitting in front of that

lobster tail, or behind the wheel of that automobile in three seconds or less, that is an example of how creative sign design approaches the job that the sign must perform from the mindset that there are only three seconds to plant that seed in the mind of the customer who is returning home from a long day at work.

THE FIVE-SECOND RULE OF RETAIL SIGNAGE

I say retail signage because let's face it, if money isn't somehow involved in the message, then it's nothing more than regulatory, safety or instructional signage (pool rules, no parking, etc.) Retail sign design means that you are "encouraging an emotion" within the viewer to do something that involves coming inside, looking at, trying on, sitting behind the wheel, etc.

Alternately, retail graphic design is typically never constrained to the five-second rule; it's usually open to how long the viewer chooses to stay on that page or look at that advertising. Grabbing and keep-

ing the viewers' attention in that scenario takes an entirely different skill set that the professional graphic artist must master to meet their clients' needs. In that case, the advertisement would also have a job to perform; however, comparing the two is a lot like comparing a pictograph to a full-page ad in a magazine.

This is the number one reason that graphic design skills do not transition to sign design, never ever, and vice-versa. Ignoring these differences is the reason why some logos that look great when viewed on your phone end up looking more like clown vomit when digitally printed onto a sign panel viewed at 250' away.

KNOW THE CORE DISCIPLINES

The core disciplines of sign design teach a graphic designer how to convey a thought or an idea quickly and succinctly within three seconds or less at distances typically greater than 24", versus graphic design for hand-held phone or tablet viewing, or close-range media such as a touchscreen

menu, or an annual report, which can provide all the details but requires a longer period of time to view, read, and absorb.

Yep, this happens in our industry daily. In fact, it's gotten so bad that I have been motivated to write this article. There is a false confidence that seems to be present in the work of some great graphic designers who are simply not aware of these differences until it's too late.

In fact, it seems like it's never considered until after thousands of hats have been printed, shirts embroidered, and stickers made before the idea of how "THAT LOGO" might look as a sign, when viewed from 400' away, at 40 mph is even considered. In most cases, this involves a redesign of the logo to make it readable at that distance, in three seconds or less, and a sign designer is usually the one who must perform this task and do it in such a way as to add to the readability of the logo in a favorable way. This also requires a customer flexible enough to understand and roll with this necessary adjustment.

A sign is much more than a pretty picture, graphic, or design. A design is a sign only if it has a job to do. Period. Without the task to perform, it's really the eye candy of our industry — that which can bring a smile to one's face, or tear to the eye.

Now, looking at graphic design from a functional standpoint provides you several options on which types of design disciplines you choose to hang your hat on. How will you incorporate your existing skill sets to expand your understanding of how outdoor signage can help the customer (if it's done correctly)? **GP**




Just symbols alone can push, direct, inform, or alert. Symbols alone can also have double meanings. Words clarify everything, and certain words can save lives.

MATT CHARBONEAU started his career in the sign industry in 1985 as Charboneau Signs, later changing it to Storm Mountain Signs. In 2017, he published the Pre-Sale Sign Survey Field Guide, and provides sign design training at his site: LearnSignDesign.com. Contact him at Matt@stormmountainsigns.com; www.learnsigndesign.com; and 970-481-4151.

The Growth of Women-Owned Businesses

NUMBERS SHOW GROWTH, BUT PARITY IS STILL LACKING



When you look at the statistics regarding woman-owned businesses, it may appear, based solely on the numbers, that women have made progress in this area. In 1972, according to the National Association of Women Business Owners, there were 402,000 businesses owned by women. In 2020, that number was 12.3 million. The Women's Business Enterprise National Council points out that four out of every 10 businesses based in the United States are woman owned. If you measured the number of female entrepreneurs today versus the number of female entrepreneurs 20 years ago, you would see a 114% increase. So, the numbers look positive and as if they're all trending in the right direction. If you're looking solely at the numbers, the question on which this article is based, why aren't more women starting

businesses? Seems like it's moot. Women are starting businesses; we can see that from the numbers. I mean, can't we? Well, some of the numbers are a bit misleading when you dig a bit deeper.

WOMEN IN BUSINESS

First, let's look at that statistic from the Women's Business Enterprise National Council — four out of 10 businesses in the United States are female owned. That equates to about 40% of all businesses, which sounds great until you realize that this ratio isn't in proportion to the gender breakdown of the population of the United States in its entirety. Estimates of the gender breakdown in America put males at 48.9% and females at 51.1%. Given that breakdown, the percentage of businesses owned by men and women should be rough-

BY KRISTINE
SHREVE



ly 50/50, or even weighted a little bit toward women-owned businesses. So, while, 40% is a step up from what it was 50 years ago, we still haven't reached parity.

We should also give some consideration to the statistic that shows that the rise in business ownership from 1972 to 2020. Yes, the contrast in the numbers seems extensive. From less than 500,000 to over 12 million sounds like a pretty big jump. And it is a jump in the sense that women had to overcome a lot of hurdles to get to this point. It took until 1974 before women could have a credit card in her own name or apply for credit on her own. Women had to wait until 1988 before they could get a business loan without a male cosigner. It's still difficult today, in comparison to male startups, for women to get loans or access to venture capital. So, again, while it looks like a major jump, just think how much larger the number of women-owned businesses might be today if women in the past had been allowed easy access to credit, and women today were able to get loans and venture capital as easily as men can get those things.

WHY DON'T MORE WOMEN START BUSINESSES?

OUR READERS SHARE THEIR THOUGHTS:

"Lack of emotional support from family and friends.

Not enough cheerleaders to let them know they are capable and doing great."

— **JANE SWANZY**, *Swan Marketing*

"Lack of time. If you are the chief cook, bottle washer, calendar organizer, chauffeur, laundry maid, broken thing fixer and Jill of all things, you rarely have more than five or 10 minutes to yourself. There is always some minor or major catastrophe to be managed, leaving you without time (and energy) to focus on a new project or business."

— **PATRICIA GORSKY**, *Auntie Pat's Crafts*

"I agree with the above comments. But! If you are talking starting a business as opposed to working in a "male" corporate job, those are different. If you have a dream, go for it! If you are the type of person that doesn't have to have the cheerleaders or the support from your family and friends — you are a go getter and will be on top. Maybe it's just my location in the U.S., but I just don't see women not being promoted or unable to advance. Whether it's corporate or business owner. You are what you make yourself and your business. To address the issues of being the chief of your household and children, yes, it's not easy. I can say that from experience, I am a mother of nine children. Time will pass quickly, and you want to enjoy your children. That's when you learn to say no and set your boundaries, business and home. Your determination will get you to the top."

— **CINDY KING**, *A King's Image*

"All of the above and then for me — fear. Fear of it not being perfect, what will people think, time to get it right and all the things. I didn't enter being a business owner on my own — Jay and I always did it together. Now, I find the fear has been counterproductive and now that I am moving through and shutting that feeling down, I see success and if something fails, it truly isn't a failure if I tried, was able to learn something from it, and was able to handle the situation."

— **TANYA DOYSCHER**, *The Visual Identity Vault and Gracie B. Doodle*



ACCESS TO FUNDING

When it comes to venture capital, the times haven't changed as much as we'd like to think they have. A 2014 Babson College report found that only 3% of companies funded by venture capital had a female as chief executive officer. Venture capitalists tend to invest in companies run by people like them, and since most venture capital firms tend to be run by men, that means that women may have an uphill battle when sourcing funding. Although there are currently some women-led venture capital firms and more options for women-led funding are developing, the process is slow to develop. To address this issue, we need to have more women investing in other women, which means more women controlling capital and in a position to extend funds to other women.

SOCIETAL EXPECTATIONS

Lack of access to credit and funding is just one of the hurdles a woman who wants to start a business may

face. Another hurdle is societal expectations. While this is slowly changing, women often still do most of the heavy lifting when it comes to childcare, home upkeep, and family maintenance chores. Schools are still more likely to call mom than dad when a child is sick or needs something. Women are more likely to be expected to stay home if a child is sick or has a day off from school. Women are also more likely to become the caretakers for elderly family members who need assistance, whether it's helping with things like transport to doctor visits or managing care for a family member living with them. This, naturally, cuts into the time that a woman can spend on creating and growing a business. There can also be societal backlash for women who elect to devote themselves to a business and elect not to pursue relationships or have children. While men will often be praised for working long hours or being devoted to nurturing a growing business, women will be criticized for the exact same behavior.



**WONDERING HOW YOU CAN SUPPORT WOMEN IN BUSINESS?
VISIT <https://gpro.link/womeninbiz> FOR A LESSON ON UNCONSCIOUS BIAS AND WAYS TO UPLIFT WOMEN.**

EARNINGS GAP

Another issue women starting businesses may face is the perception of what their work is worth and a reluctance to challenge that supposition or to stand firm when their idea of what their work and knowledge are worth is challenged. In 2020, women, in general, earned 84% of what men did. For female-owned businesses, the gap in earnings persisted, with businesses owned by women earning, on average, 28% less than businesses owned by men. In a study done by Freshbooks and cited in Inc. Magazine, it was shown that discrimination in the workplace also extends to female business owners. One fifth of respondents to the survey said they had to charge less than their male counterparts to attract customers. Women still face discrimination and must fight to be taken seriously even when they're the ones running the show.

Another reason for women making less money is that they may be expected to be the "office mom" and do housekeeping or other tasks unpaid. Many women, socialized to be nurturers and to caretaker others, may give away information or do tasks for which they should be compensated because they feel they "should" do those things. Other women may be reluctant to promote their own skills or successes. Female business owners are much more likely to say "we" than they are to say "I" when discussing their accomplishments. Praise and recognition will be directed to the team. This sort of behavior makes it more difficult to make a case for higher prices or the value of a woman's unique and specific knowledge or skill set.

MENTORS & THE BACKLASH EFFECT

Lack of role models can also be a barrier for women who are looking to start a business. This can especially be an issue for women of color. As we know, seeing someone who is like you doing whatever it is you want to do can be a great motivator and reinforce your belief that what you want to do is possible. While there are, and have been, female business owners for a long

time, they often weren't visible and other women who were looking for models to emulate may not have known they existed. This is, to be sure, changing, as more and more women start businesses and become visible, and as the culture starts to change and values female entrepreneurship more. Young women looking to start businesses in 2022 have more role models and more patterns for business types to emulate than any previous generation and it's likely this trend will continue.

Lastly, we should look at the idea that more women don't start businesses because they don't have confidence in themselves. Referred to as the "confidence gap" this is the idea that women are more reluctant to promote themselves and that they're, in general, less confident in their abilities than men, and thus less

continued on page 94

RESOURCES FOR FEMALE BUSINESS OWNERS

NATIONAL ASSOCIATION OF WOMEN BUSINESS OWNERS:

<https://www.nawbo.org/>

WOMEN IMPACTING PUBLIC POLICY:

<https://www.wipp.org/>

SBA WOMEN'S BUSINESS CENTERS:

<https://www.sba.gov/local-assistance/resource-partners/womens-business-centers>

PROMOKITCHEN MENTORSHIP PROGRAM:

<https://www.promokitchen.org/mentorship-1>

WOMEN IN GARMENT DECORATION:

<https://www.facebook.com/groups/WomeninGarmentDecoration>

THE AMBER GRANT:

<https://ambergrantsforwomen.com/>

LADIES WHO LAUNCH:

<https://www.ladieswholaunch.org/>





ALTERNATIVES TO ONLINE ADVERTISEMENTS

Let me start by asking you a question first. Do you have an unlimited marketing budget? If so, you can probably skip on to the next article in *GRAPHICS PRO*. We need to get more creative and look for some alternatives to the increasingly expensive paid online ads for the rest of us. After the iOS 14 changes started rolling out on Jan. 19, 2021, Facebook Ads became less and less effective as their targeting and tracking were severely limited. Google Ads costs continue to rise. What used to be a wide-open playing field for small businesses where they could maximize their limited marketing budget has now become a minefield of crazy strategies, excessive gurus with overpriced, and overhyped promises. Forcing many companies to look at significant investments where the return is not as easy to see as it once was.

Online and social media ad spending can still fit your overall marketing strategy. Still, we must be more aware of the costs and look to niche and personalized locations for online ads. You should also bolster those marketing strategies with some alternatives that may have gotten lost following the latest 10X guru or funnel god from on high. Each of us can and should do more to promote our businesses. We don't share it enough, and we don't share it proudly with anyone who will listen.

If your business is a passion, you should have no problem sharing it. Many people hide their passion because they don't want to be 'salesy' or bragging. By sharing your business, you are doing a favor for the people that get to hear about it. You allow them to be part of something, get products they need, and connect with someone who has a passion for what they do. Think about all the times you left a conversation with someone passionate about what they were doing. How did you feel? You felt energized and excited most likely. If you didn't, it was because you were jealous, and you are not living in your zone of greatness. If you don't share, they won't have that opportunity to experience that energy.

Here is a list of four alternatives you can start using today to share your business and passion with more people.

- 1. Guest Posting on Blog:** Blogging is one of the best ways to grow your organic reach, meaning when people search for your products online, you come up at the top of the search, and you didn't pay a thing. Sharing valuable content that people read, share, and click on will help bring people to your corner of the internet. First, you must start by having a blog on your web page where people can also buy your products, connect to get quotes or get information for





coming into your location. But what happens to many people is they start writing their blogs and all that valuable information stays stuck in their corner of the internet. You must get out of your corner and reach out to other blogs and sites to see if they will accept guest posts. Google websites related to your niche and ask them if they need content. Once you find some people looking for content, take some of your more popular posts, and rewrite them to match their audience. It doesn't have to be a complete overhaul. Just personalize it for them. Those sites like guest posts because they don't have to create content that week for their blog, and it is good for

you as it should drive traffic to your site. Win-Win!

2. Get Your Products and Services

Reviewed: This requires finding an influencer, and it doesn't have to be someone with millions of viewers or fans. The influencer for you only needs a passionate fan base and is in the space where your ideal customers are located. They often look for content ideas, so a review of your products is an excellent way for them to create content. You send them a product or give them your services for free, and in turn, they will share their experience with their audience. Try to think outside of the box when finding an influencer. It doesn't need to

be someone who puts themselves out there as an influencer. It could just be someone with a loyal following. Maybe a local organization doing something for the community. Perhaps a business that is adjacent to what you do. For example, if you create business promotional goods, what about partnering with a service provider like a social media manager, payroll services, or other related companies supporting small businesses. Bonus: You could also set up an affiliate program for them, which will help them push your products even more. Just make sure to price your product accordingly to cover the stuff you give away and any affiliate commission.



3. Press Releases: People who share the news are always looking for content. I have a podcast that we have been hosting for the industry for 10 years called 2 Regular Guys. We have a section at the beginning of each weekly show where we share news and notes from the industry. We beg people to share their news with us, but rarely has anyone reached out. Our audience might not be your ideal customers, but we reach a passionate 1,000-plus fan base weekly. *GRAPHICS PRO* has a fantastic email called “The Daily” where they share industry news items. There are many places to share more about what you do. Just get creative. It could be your local news. It could be a podcast related to your niche or magazines or online blogs

that have a news section. Learn how to write a press release and make announcements of new products, services, hires, partnerships you form, or causes you support. Try to share at least one press release a month. As a bonus, that press release can also become content for your blog.

4. Get Customer Reviews: Reviews are today’s version of asking your neighbor who they use for a product or service. Ninety-seven percent of people read reviews of local businesses, and 90% of buyers read online reviews to decide on a product’s purchase.¹ Google is one of the best ways to get reviews through Google Business

¹ From Latest Online Reviews Statistics in 2022 – The Impact on Business



Profile Manager. After completing your profile, there will be a section on the dashboard that says, “Get More Reviews.” You should come up with a way to get this in front of all your customers shortly after they receive a product from you. You can even ask past customers to support you with a review. Once you get reviews, copy them, and make sure to use them on social media. Share them on Facebook, thank them in a live video, and tag them. Share, share, share. Be proud of your company. It’s not bragging. It is sharing your passion.

To close out, the name of the game is getting your passion in front of as many people as possible with the limited budget

and time you have. Another helpful tip isn’t about sharing your business but giving your customers an easy way to share. I know many product decorators include a business card, ‘be back’ discount code card, sticker, or other information about their company in each shipment or product delivery. Including that is a great idea but take it a step further. Put two or more in the delivery so the customer can keep one for themselves as a reminder and share one with a friend. This extra is a sign to them that you want them to share, and while not everyone will, you only need a few to get the word out. You can even add a post-it note to the second information card saying, “If you loved our products and services, please share this with a friend.”

Any way you can get in front of potential customers is good, and it doesn’t always have to be spending all your hard-earned money on paid online advertising. **GP**

AARON MONTGOMERY is certified by New York Times best-selling author Jack Canfield as a Success Principles Trainer and is the co-founder of OurSuccessGroup.com. Aaron has over 25 years of experience with personalized products and small business development and is the co-creator of the “5 Keys of Business Success.” You can also find Aaron co-hosting the decorator’s industry podcast 2 Regular Guys Podcast (www.2regularguys.com). Also, check him out on his podcast channel called Small Business Saturdays (smallbusinessaturdayspodcast.com).



EXPANDING WHILE MAKING MOVES

GETTING THE MOST MILEAGE FROM EVERY SQUARE FOOT OF SPACE

All images courtesy Howard Potter

As business owners, our goals are to grow our sales, reduce errors, streamline production, and so much more. By the time we do all that, things like not having enough space sneak up on us quicker. Over the years, our company has done a great job of re-inventing the space we already have to make sure we are maximizing its use. Now, we are in a new situation where we have to reinvent the space, but we also have to put a new building up next to us to expand, so all of our processes have room to grow.

REINVENTING A SPACE

The first thing we must do is look at our data analytics on QuickBooks and see the growth in production numbers for each process over the past few years. You can create projections for the next several years by knowing these numbers. This allows you to anticipate your company growth, space needed, and how many more staff members you may need.

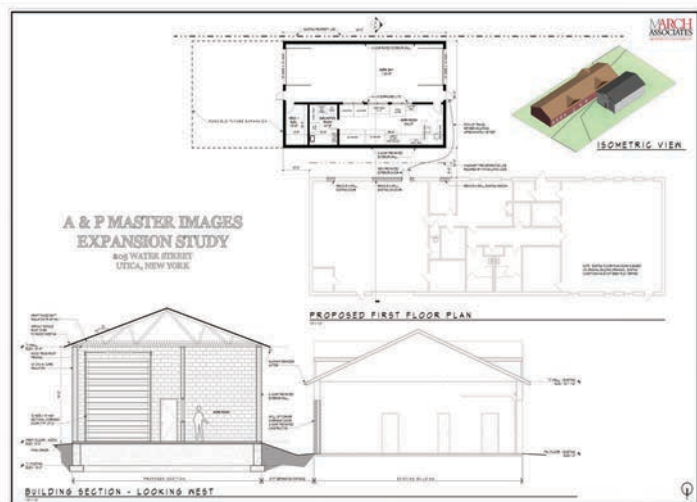
My wife and I then work together to walk our existing building to see what still needs to be cleaned up, reorganized, or simply what can be improved in the current space. Once we do that, then we try to picture some of the space blank, like a clean slate. In our case, our sublimation and vinyl graphics areas are two rooms somewhat joined together, and we know we need them in a better-controlled environment with more space to grow since every time we work on larger projects, the space is very hard to work in. Our showroom is next to the vinyl graphics room on the other side of the wall. Two years ago, we branched out into offering first responder uniforms and quickly learned we needed more space to showcase that line of work. We decided to take the vinyl graphic space and add a wall to frame it in and fill in the opening to the joining room. The second room will become another showroom dedicated to first responder uniforms with a dressing room.

The room with the opening joining the vinyl room will be filled in, and we'll move all the sublimation equipment out and move over all our 2D/3D laser engraving equipment in, along with two of our sewing machines for altering first responder uniforms. Both processes need more space, and the processes move very quickly. This space will give the much-needed room to grow over the next five years and, in a 14' X 14' space, can hold up to four employees working together safely.

Since the laser engraving equipment will move from out back, which frees up at least a 12' X 6' space, we will invest in another automated screen-printing press later this year or by next year. This will take the space of our six-color manual press and allow us to go from a minimum of 40 perfectly printed shirts in an hour to a minimum of 100 shirts printed in an hour. This one machine alone can help improve the profit margin to help cover the monthly payment for all the upgrades



With all the duties that come with the business owner title, issues surrounding space and space utilization can sneak up on you.



We're in a situation now where we have to reinvent our current space but also build a new space next to us to expand.

JOHNSON PLASTICS
PLUS

Sublimation,

THE EASIEST WAY TO ADD PROFIT!

Expand into new markets by offering your customers **FULL COLOR** sublimated signage and personalized gifts. Our **FREE** expert installation for **Epson and Sawgrass** sublimation printers will get you up and running and turning a profit in no time!



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EQUIPMENT



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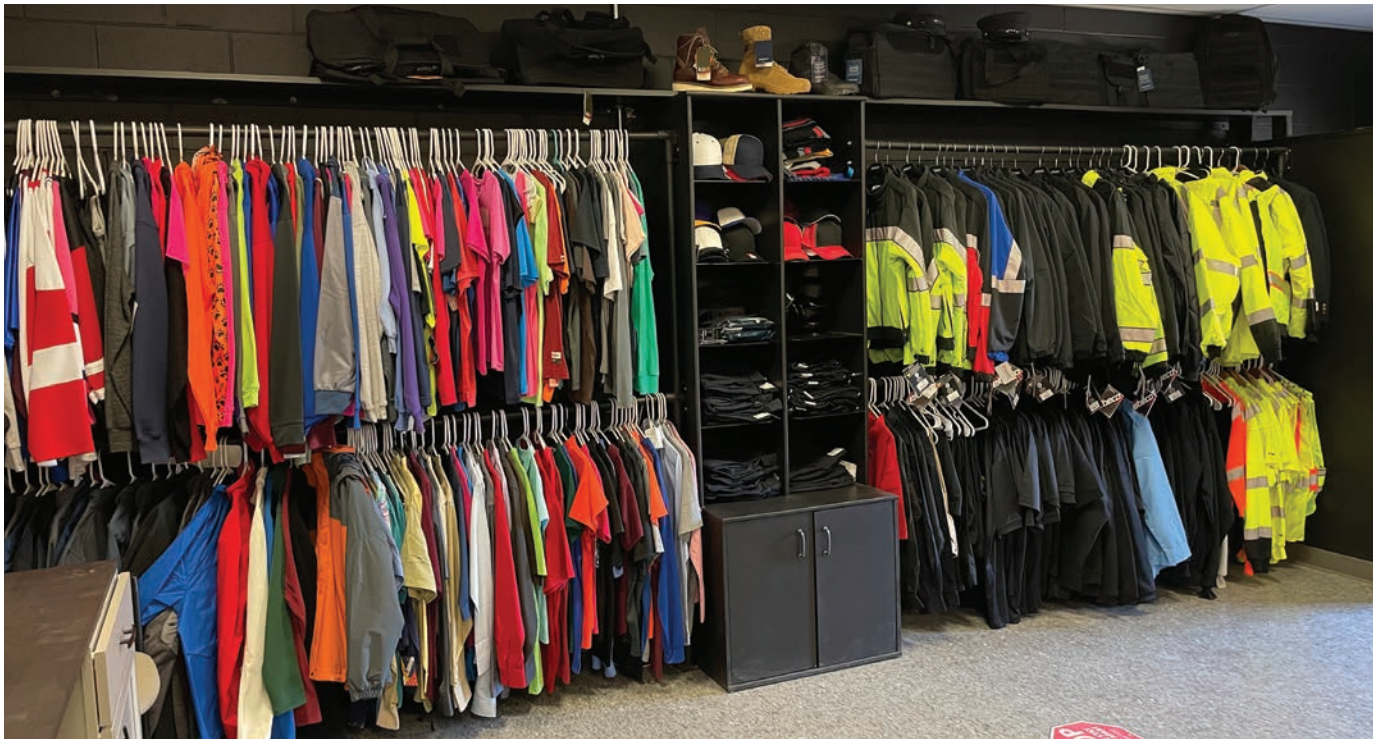
MAKING SUBLIMATION MOVES



First, we had to look at our data in QuickBooks and look at the growth in production numbers for each process over the past few years.



With this data, we can anticipate our company growth, space needed, and how many more staff members we might need.



After offering responder uniforms for a couple of years, we knew we needed more space to showcase that line of work.



needed to expand. That is another important number to factor in — your projections on your next profit are a must!

In the same room where we screen print, we also handle folding and boxing orders and shipping and receiving, so we can reconfigure any space we gain back here to handle a larger volume of orders in and out.

Since we are moving at least two of our sewing machines out of our embroidery room, my wife and I had to sit back and think about what would make more sense to fill the open space with. More equipment or more storage space for orders? We have one six-head, one two-head, and two single-heads, and we would still have two sewing machines left in the room. So, we realized putting more storage racks out there would help keep the floor space

open and safer for moving around. Simply keeping a workspace open and cleaner can make it much less stressful to work in when the larger orders come in.

WORKING WITH A NEW SPACE

The next major space we had to figure out was a new building. Since it is a brand-new space, you would think it would be cut and dry to figure out, but not so much. How much space do you need and for what? We already knew we were moving at least our vinyl graphics equipment and our sublimation equipment to the new building. The first thing my wife and I did was measure both spaces and the designer's office to know exactly what square footage we were working with and how much more we could use to handle more growth, etc. After we gathered all the measurements,

we had a meeting with our team members who work in there daily. They expressed that simply having some more preproduction space to finish working in and more space for supplies would be helpful.

So, my wife and I worked with a local architect on plans. We came up with a 36' wide X 62' long building. This would give us around 2,200 more square feet to work in. We designed the main office space to hold the designer and all the vinyl printers, laminators, and sublimation printer in a controlled heated/cooled environment with controlled humidity and less area for dust. So, picture a double desk for two designers when you walk into the office and along the same wall, all the printers, and on the opposite wall, the laminators. This allows the designer to keep a close eye on the printing. Another thought we had for

MAKING SUBLIMATION MOVES



How much space do you need and for what? Talk with your teams to get an idea of what would be most functional in a new or rearranged space. More equipment? More storage?



Look at your existing space and maximize the usage to increase your profitability before expanding.

the office was using the space above it for storage. With the controlled environment, we could use the space on top of the office for storage of supplies. This would help us maintain cost or drive down pricing in some cases and improve the profit margins.

At the end of the room will be a 10' X 13' room just for sublimation. Sublimation tends to put off some heat when pressing for long periods of time when baking coffee mugs. We can also throw in an exhaust fan to reduce any heat or smell from products as needed in this controlled space.

An open 24' X 60' install workspace will

be on the outside of the office wall. This open space will allow the team to handle any size project. Right now, when we get into larger vehicle installs, we must take the installs off-site. Now, no matter how large a vehicle is, we can fit it since we will have a 12' wide X 14' high garage door at each end of the workspace. This building will be a huge game-changer for our company. It helps two processes and frees up space for every department to expand.

So, remember, look at your existing space first to maximize the usage to increase your profitability before expanding.

This will help you for years to come if done correctly. **GP**

HOWARD POTTER has worked in the promotional industry for 17 years, from designing to building brands and a family-owned business. He is the co-owner and CEO of A&P Master Images LLC with his wife, Amanda. Their company offers graphic design, screen printing, embroidery, sublimation, vinyl graphics, and promotional items. Howard, his family, and the business reside in Utica, New York. For more information, please visit masteryourimage.com.



IMAGE FORMATS

CONFIGURING IMAGE DATA FOR PRINTING AND DISPLAY

Graphic formats! What are they? What's the difference between them? How do you know which one to choose when saving an image? Understandably these questions deserve an answer owing to the importance of producing a quality image. Choosing the proper format is critical for configuring data to efficiently print or publish an image.

KNOW WHERE TO GO

When choosing the correct format, it's essential to know what your product will be used for. Will it be printed to a large-format printer or on a printing press? Perhaps it will be published on online. Or maybe you're just going to close it and work on it at another time.

EXTENSIONS

The three-letter extension that is attached to the end of file name is the signature

of a format. PDF, PSD, JPG, GIF, TIFF, PNG, EPS are some common extensions that represent how a digital image is encoded. Technically, image files are composed of the same information as text files. At the core level they are binary data — zeros and ones. Physically they are negative and positive charges stored on a piece of magnetic media. Image files can be quite large compared to text files because they contain more data in the form of pixel, color, or vector information. Encoding a file in a specific format can help store data more efficiently resulting in smaller file sizes.

COMPRESSION

Compression is the term that describes how data is consolidated when saved. Compression schemes found in each format offer key features that affect the efficiency of a file and sometimes even how an image appears.

In some compression schemes, recurring data patterns are abbreviated in the code and data that has little or no value might be discarded to reduce a file's size. For example, if several areas of sky are the same RGB value of blue, the value is recorded once and saved with the location of the other pixels of identical color.

LOSSLESS

There are two types of compression schemes: lossless and lossy.

Lossless compression algorithms preserve all the binary information. When the image is saved and then reopened, there is no loss of image quality. Although lossless compression sounds ideal, it produces larger file sizes. The most common lossless format is TIFF (Tagged Image File Format) which includes a choice of compression schemes in its dialog box. (Fig. 1)

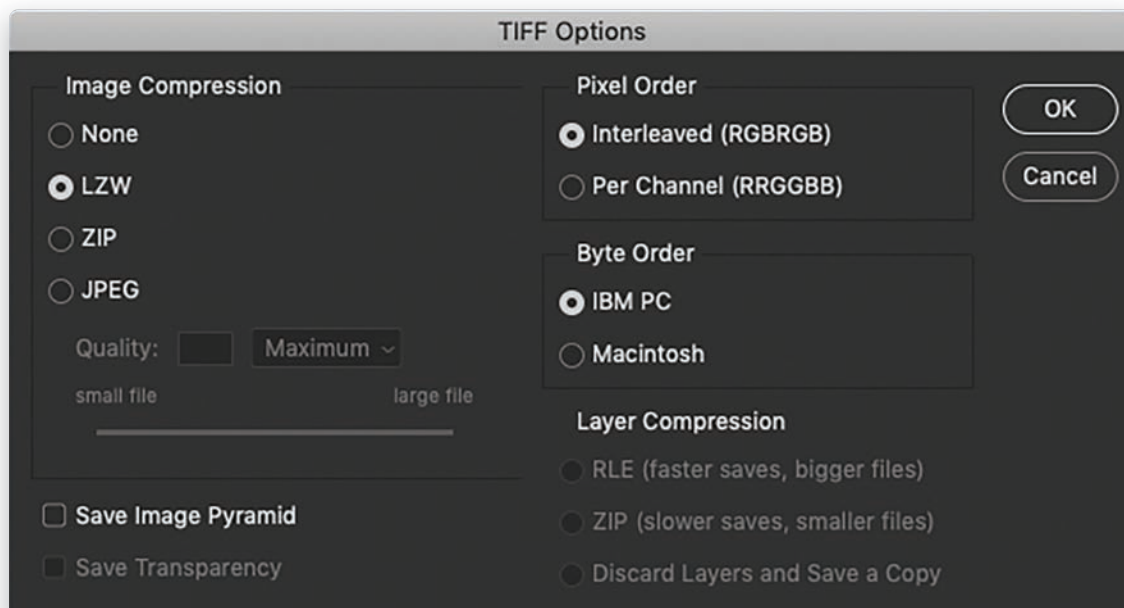


Fig. 1: The TIFF Options dialog box in Photoshop offers a choice of image compression options. (All images courtesy Stephen Romaniello)

LOSSY

Lossy compression algorithms, while efficiently reducing file size, may compromise image quality. For example, let's say that there are four pixels of the same color in the upper right-hand corner of an image. A lossy algorithm might compress the four pixels into one to reduce the file data by three quarters. JPEG format is the most common of the lossy compression schemes. Most of the software that saves JPEGs offers a choice of quality levels. (Fig. 2) Lossy compression can dramatically reduce file sizes. Unfortunately, the more compression that is applied, the more degraded the image becomes. For example, the image on the right of Fig. 3 is a highest quality JPEG set to 12 and the color transitions are smooth. The image on the left is a low-quality JPEG set to 0, that produces pixel clusters and artifacts.

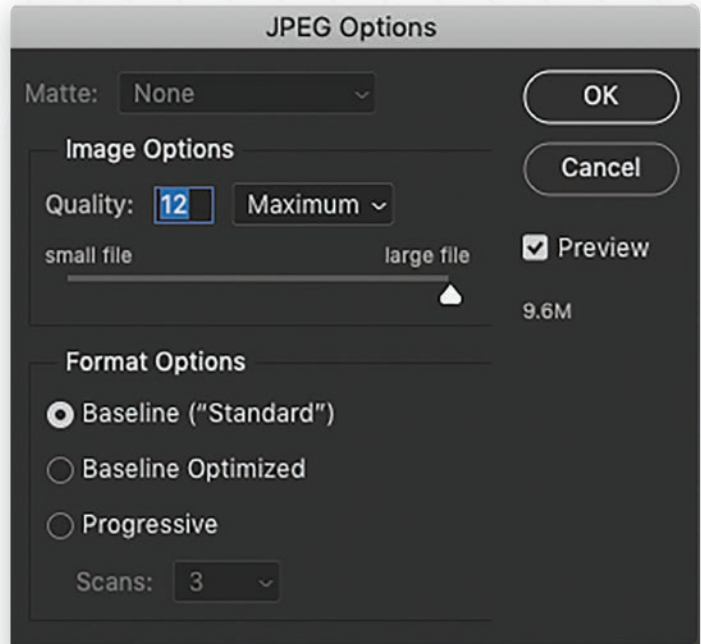


Fig. 2: The JPEG Options dialog box in Photoshop enables a choice of 12 different quality settings.



Fig. 3: The image on the left is a low-quality JPEG set to 0 producing pixel clusters and artifacts. The image on the right is the highest quality JPEG set to 12 with clean, smooth color transitions.



Fig. 4: The image on the left has a bit depth of 16 producing a dull grainy image with a smaller file size. The image on the right has a bit depth of 256 with smooth transitions and brighter colors.

BIT DEPTH

Another common method of compressing files is to limit the number of colors that the image contains. The term used to refer to an image's color potential is bit depth.

By limiting the bit depth, the file size of an image can be reduced. Bit depth is commonly reduced when saving files to the web in GIF format so that download times are faster. Of course, the drawback is that the limited colors can produce a grainier image with dull color relation-

ships as in **Fig. 4**. Dithering controls that are found in the GIF interface can help reconfigure the position of colored pixels so that blending is smoother, and the graininess is mitigated to some degree.

HOW?

Choosing a graphic format depends on how the image will be used. To import an image file into another application, certain programs require specific formats. Some of the older versions of desktop

publishing programs support only TIFF, EPS, or PICT for placed images. Later versions are more universal and support many additional formats. Adobe Illustrator will open TIFF, PICT, or PSD formats as placed images but vector files must be saved in the native (AI) format or as Illustrator EPS to be reopened with the preserved vector data.

Most vendors who supply large-format prints prefer flattened TIFFs or PDFs. Flattened images are smaller files compared to images with layers intact, so

processing time is reduced. Furthermore, TIFF and PDF files are universal and can be opened or placed in any graphic software application.

Images destined for web are usually saved as JPEGs (for photographic images) or GIFs for graphics with limited color and small animations and PNG 24, which has similar features of both JPEG and GIFF.

COMMON FORMATS

Here are breakdowns of the most common image formats that you are likely to consider when saving a file.

TIFF (Tagged Image File Format)

This universal format can be lossless or lossy (see Fig. 1) A choice of image storage algorithms can be specified when saving an image. Usually, TIFFs are saved either without compression or in a lossless scheme that applies limited compression called LZW (Lempel, Ziv, Welsch after the scientists who invented the format).

TIFF is among the best quality output from digital cameras and for large-format prints. TIFF can also be used as a work-in-progress storage format because it supports most of image editing features including layers, alpha channels annotations, and color profiles. TIFF images are not compatible with web browsers.

EPS (Encapsulated Postscript) and DCS (Desktop Color Separations)

These files are more or less self-contained PostScript documents that describe an image or drawing and can be placed within another document generated by a postscript compatible program like Adobe Illustrator, Adobe InDesign, or CorelDRAW.

At minimum, an EPS file contains a bounding box that contains the image described by the EPS encoding. A common use for EPS files is as clipping paths that



Fig. 5: The original file was defined by Bezier curves, saved as an EPS file, and placed in a desktop publishing program as a clipping path.

knocks out a portion of an image defined by Bezier curves as in Fig. 5.

Another type of EPS document is the DCS format that contains a five channel EPS, including a channel for each CMYK color and a composite channel. DCS was invented by Quark Inc. and is used for creating color separations for offset lithography.

PDF (Portable Document Format)

PDF is a universal format for document exchange. Created by Adobe Systems in 1993, PDF is used to represent the appearance of documents independent of the software in which they were created regardless of platform. A PDF file renders a complete description of a fixed-layout, flattened document, including the text, fonts, graphics, pictures, and other information needed to display it. It also contains CMYK information that can be used to create color separations.

JPEG (Joint Photographic Experts Group)

Photographs and similar continuous tone-looking images that contain a large gamut of colors can be saved in JPEG format. JPEGs efficiently compress images while allowing a choice of quality. JPEG can be expressed as either a four-letter extension or the three-letter JPG, depending on the platform.

JPEG stores information as 24-bit color. At its highest quality it produces no compression, however the degree of compression is adjustable. At higher compression levels it's difficult for the eye to discern any difference from the original. Lower settings produce pixel clusters and artifacts that erode detail.

JPEGs are useful for archiving flattened images to read-only media. When they are opened, altered, and saved, however they can deteriorate with each saved version. They are also useful for saving images to

the web but not for work-in-progress because JPEG does not support layers, alpha channels, or any other embedded editing features.

JPEGs are also commonly used as attachments to emails due to their very efficient compression scheme that produces images of smaller size that download and open quickly.

GIF (Graphics Interchange Format)

GIF images use a color look up table (CLUT) to distill the 16,777,216 colors of the original image into an image containing a maximum of 256 colors. Several graphics programs have capabilities that can create a specific palette with a pre-

cise number of colors. (Fig. 6) Sometimes GIF applies the closest color in the CLUT to represent each pixel, and sometimes it uses dithering to adjust color of adjacent pixels to better simulate blended colors.

GIF compresses by diminishing bit depth, and by replacing commonly occurring patterns in large areas of solid color with an abbreviation. For example, let's say an area of 9 pixels is white; GIF will encode it as 9/255.

GIFF format also supports animation. An image with a sequence of layers can be converted to GIF to produce a simple animation for web publications.

PNG (Portable Network Graphic)

PNG format is lossless and maintains quality with limited compression. PNG finds recurring patterns in an image that it can use to compress file size. It uses a lossless two-stage compression scheme known as deflate. PNG was originally created to improve upon and replace GIF as an image-file format not requiring a patent license. The PNG (pronounced "ping") acronym unofficially stands for PNG's Not GIF.

PNG supports palette-based images with palettes of 24-bit or 32-bit RGB colors and grayscale images. PNG is used as a web format or a screen capture format and not for professional-quality print graphics, as it does not support non-RGB color spaces such as CMYK.

CRW (Camera Raw) and DNG (Digital Negative)

CRW files contain all the image data captured by a digital camera's sensor. Images can be exported to a computer and opened in the Camera Raw interface which offers a wide variety of non-

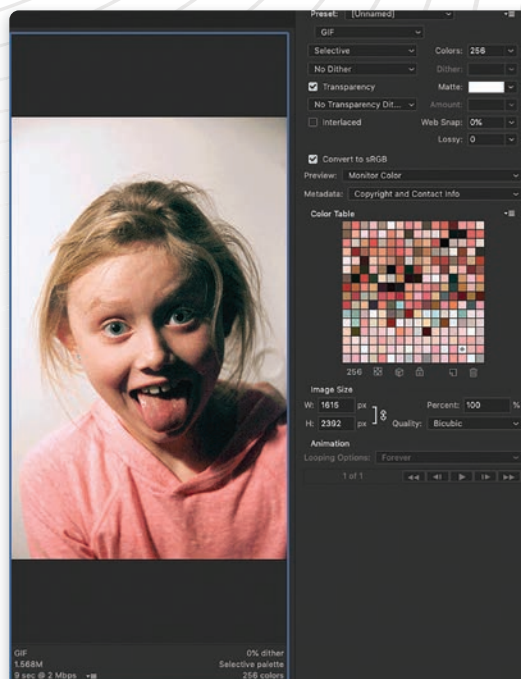


Fig. 6: GIF images use a CLUT (color look up table) to distill the 16,777,216 colors of the original image into an image containing anywhere from 2 to 256 colors.

destructive editing options. Camera Raw provides enhanced control over exposure, white balance, and several other settings.

Depending on the camera from which the file was shot, the raw setting can produce a second JPEG file or an XMP (Extensible Metadata Platform) file that contains the camera's data. XMP is a labeling technology that embeds data about a file, known as metadata, into the file itself.

DNG is a publicly defined and open access raw format developed by Adobe. When a Camera Raw image is saved from the Photoshop Camera Raw interface it is saved as a DNG.

PSD (Photoshop Document) and PSP (Paint Shop Pro)

PSD and PSP are the proprietary native format of Adobe Photoshop (PSD) and Corel PaintShop Pro (PSP), both mainstream image editing programs. These are preferred work-in-progress formats because they retain all the editing features of the applications.

PSB (Large Format Document)

Sometimes referred to as Photoshop Big,

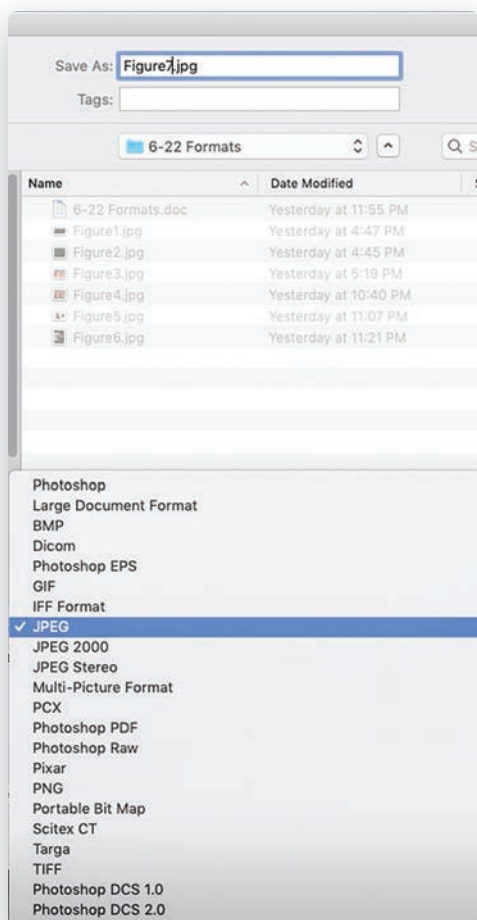


Fig. 7: That three-letter extension at the end of a file name makes a big difference in the results of your final output.

this format extends the capability of Photoshop to produce documents that are 300,000 X 300,000 pixels instead of the standard 30,000 X 30,000-pixel capability of PSD format. PSB format is primarily used for the creation of documents destined for large-format printers.

COUNTLESS FORMATS

Needles to say, there are countless formats for every conceivable purpose. Hundreds of formats are available for saving sound files, motion graphics, 3D rendering, word processing, mathematics, data exchange, spreadsheets, scientific information, etc. The list seems endless and new ones are being created all of the time! This DigitalEye article has presented the most common formats that assure efficiency and quality when saving image files. Believe it or not, that three-letter extension at the end of a file name makes a big difference in the results of your final output so keep a sharp eye when you save an image to be sure you pick the right one. (Fig. 7) GP

STEPHEN ROMANIELLO is an artist and educator who has taught computer graphics since 1990. He is Professor Emeritus and the founder of the Digital Arts program at Pima Community College in Tucson, Arizona. Stephen is a certified instructor in Adobe Photoshop, Adobe Illustrator and Adobe Premier and the author of numerous books, articles, and media on the creative use of graphics software. Stephen is the founder and CEO of GlobalEye systems, a company that offers training and consulting in graphics software and creative imaging.



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- ★ Indicates Featured Exhibitors 🍎 Indicates Training in the Classroom
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Classes are offered the day before the show starts, and throughout the show, in all-day and 90-minute sessions.

TRAINING SCHEDULE

WEDNESDAY, JULY 20

10 a.m. — 4 p.m.

- Hirsch Solutions Inc – Join the DTG Revolution!

THURSDAY, JULY 21

8-9:30 a.m.

- Epilog Laser - Finding Success in the Laser Engraving Industry: Application Ideas and Tips to Boost Production **START HERE**
- JDS Industries - Starting Sublimation: What Do I Need? **START HERE**
- STAHL'S - Printing Outside of the T-Shirt Box **START HERE**

11 a.m. — 12:30 p.m.

- HIX® Corporation - Learning the Sublimation Business

1:30-3 p.m.

- Transfer Express - Screen Print with Just a Heat Press **START HERE**
- Trotec Laser - Skills, Materials & Laser Hacks to Help you Succeed in a Changing Business Environment

THURSDAY, JULY 21 cont.

4-5:30 p.m.

- Advertising Specialty Institute - Sell More to Existing Customers **PRO**
- Corel Trainer - Everyone Can Learn CorelDRAW **START HERE**
- Transfer Express - Print More than T-Shirts **PRO**

FRIDAY, JULY 22

8-9:30 a.m.

- GRAPHICS PRO - Accelerating your Screen-Printed Apparel Decorating Techniques, with Lon Winters **PRO**
- GRAPHICS PRO - Pricing Strategies: Are you Getting Paid for your Time? with Matt Charboneau **PRO**
- GRAPHICS PRO - From the Gargantuan to the Itsy-Bitsy: A Pro's Guide to Holding & Engraving the Ridiculous, with Lori Champagne **PRO**

11 a.m. — 12:30 p.m.

- GRAPHICS PRO - Managing the Details of the Sign Creation Process, with Matt Charboneau **PRO**
- GRAPHICS PRO - Making the Most of your Production Time and Energy in Small Business, with Lori Champagne **PRO**



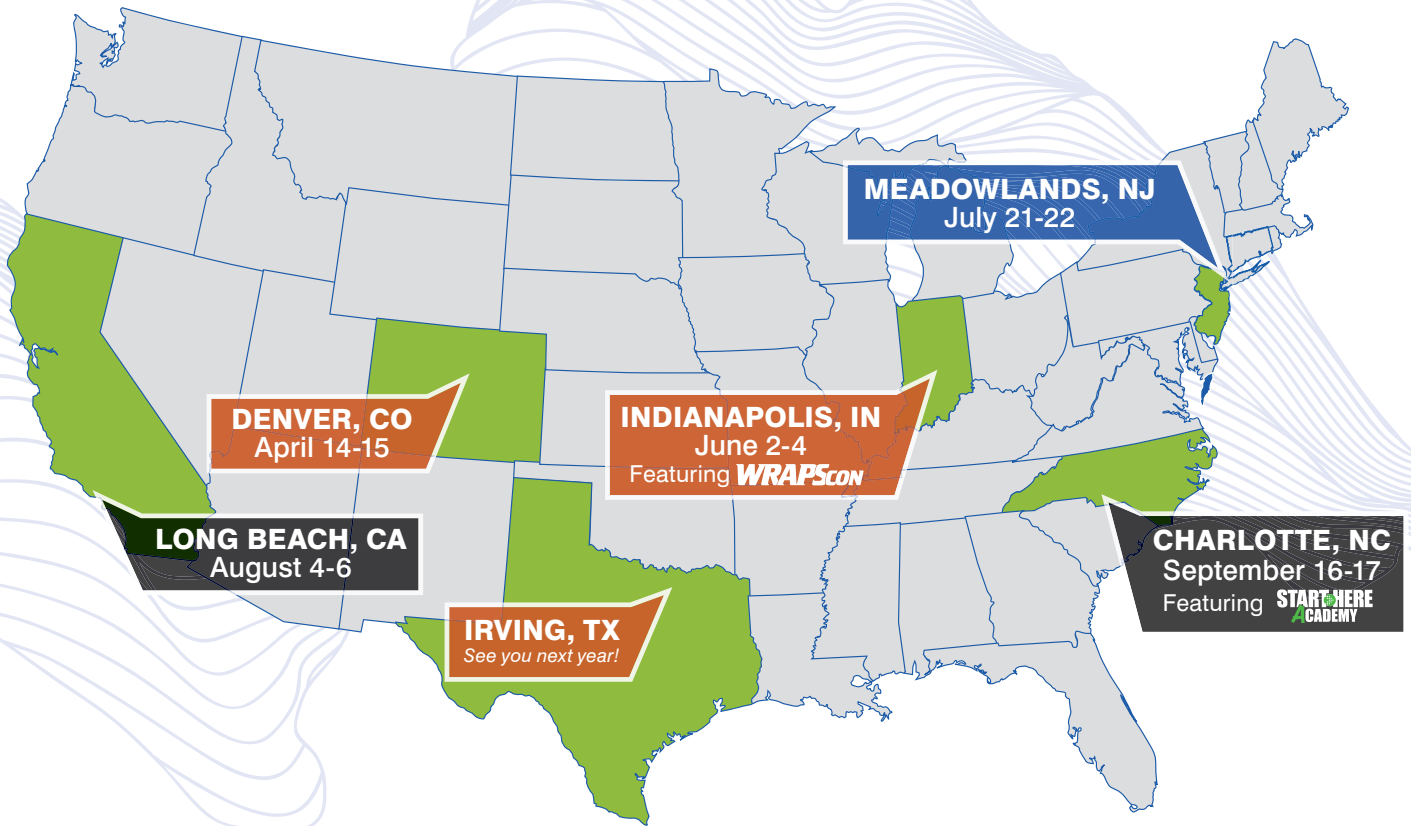
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BOOTH #203



EpilogLaser

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A promotional graphic for HIX CORPORATION's New EVO Series heat presses. It features the HIX logo, the text 'New EVO Series', and an image of the heat press machine. Below the image, it says 'Register for our class: Learning the Sublimation Business' and 'GPX Meadowlands, NJ • Booth # 211'. At the bottom, it provides the website 'hixcorp.com' and the phone number '800.835.0606'.

A promotional graphic for JDS SUBLIMATION SPECIALISTS. It features the JDS logo, the text 'SUBLIMATION SPECIALISTS', and 'INDUSTRY-LEADING FREE TECH SUPPORT'. Below this, there is a photo of a woman named Stacy, a photo of a dog, and a photo of a sign that says 'We Love You Mom!'. At the bottom, it says 'VISIT US AT BOOTH #403' and provides the website 'jdsindustries.com'.

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FLATBED PRINTING

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says. So rather than printing those types of signs on plastic materials, like Coroplast, they can now be printed on corrugated paper products and other plastic substitutes.

Flatbed printers can also print on fabrics, not for apparel but for tablecloths, plastics, acrylics, and metals.

Because of the style of ink used in these printers, maintenance is a lot lower than it would be with eco-solvent or other types of printers on the market. The only problem for UV inks is UV — exposure to light. If the ink stays in its container and doesn't get any UV exposure, it's fine.

Sohil Singh, vice president of StratoJet USA, says that demand for flatbed printers did not stop during the pandemic because there were a lot of requirements for ADA and medical signs, acrylic signage, and indoor signage.

ADA signage is much easier and quicker to produce on a UV printer because the Braille beads are printed onto the signs in layers that will not scrape off. UV is perfect for adding textures to signs, like beautiful woodgrain, canvas, sand, rock, or faux brick, Contreras says.

For signage, flatbeds can add spot UV or a matte finish.

"With clear varnish in all of our machines, we can do spot gloss on a company's logo to bring that out, make it stand out," Contreras says. "It adds a little something to that logo. When combining all new substrates, hologram materials, put flat and gloss together it creates something really cool."

Demand for UV-printed projects is high, including in retail outlets and POP manufacturers.

"We're also seeing demand from light industrial companies that want to customize manufactured items with a logo or other information. And, of course, there's strong demand for more traditional signage applications such as directional signage, yard signs, and other types of indoor and outdoor signs," Roberts says.

Several specialty markets have emerged that deal with personalization and customization.

"We've had requests from companies interested in printing on plastic tubing, or on finished products like power strips and cameras, as well as from those who need to print on metal surfaces for aircraft, dishwashers, and even RV units," Roberts adds. "We've also had customers who use UV print to create interior decor, as well as those who print directly on toys or other wooden objects for sale at retail outlets."

SUPPLY CHAIN

Like many industries around the world, printing manufacturers have been hit hard by supply chain issues and chip shortages.

"Every company in America that produces flatbed printers is going through a chip shortage, but there is more demand than supply at the moment," says Singh.

The applications produced during the pandemic are now part of the norm.

"The creativity people created during the pandemic has paid off and they are now starting to use it in production, which increases the need for flatbed printers," Singh says.

Some of StratoJet's customers have influenced how the company makes its flatbed printers. One customer wanted to print on seat covers and on the plastic seats people bring to sports stadiums.

"Now, because customers are asking these questions, we are designing units that can print six inches or seven inches," he says.

As the market matures and pricing gets more aggressive, the industry will see flatbed printers covering a larger chunk of the rigid printing market. **GP**

PAULA AVEN GLADYCH is a writer based in Denver, Colorado, who has been covering the graphics industry since 2014. She can be reached at pgladych@gmail.com.

WOMEN IN BUSINESS

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likely to feel capable of starting and running a business. The problem with that theory is that it is being proven wrong. One study, conducted by researchers at three business schools in Europe, found that women needed to moderate their confidence and assertiveness with traits like altruism and empathy which are considered more typically feminine if they wanted to get along. Women must appear confident and modest in order to be acceptable. Women who appear too confident and sure of their skills can experience the "backlash effect" being perceived as less likeable and less appealing as a business associate. Because women know of this "backlash effect" they are, in general, less likely to promote themselves and their skills. In this case, it appears that the way to fix this issue is not for women to find more confidence, but for workplaces and the business world to understand and accept women who promote themselves and their work, and to help women be confident that they won't experience backlash when they do.

It's easy, when the picture is looked at superficially, to think women have made great strides as business owners, and to blame the fact that there aren't more women starting businesses on the women themselves. When you look a little deeper, however, you find that things aren't as clear cut as it might seem. Women have made strides, but we still have a long way to go, and it will take effort from everyone, men and women, to achieve parity in years to come. **GP**

KRISTINE SHREVE is the founder and CEO of Kristine Shreve Consulting, which offers writing, marketing, and business development services. The company can be found at www.kristineshreve.com. Kristine is also the creator and host of the Business + Women podcast and is also the Director of Marketing and Outreach for Applique Getaway. Kristine was the Director of Marketing for Ensign Emblem and EnMart from 2006 to April 2020.

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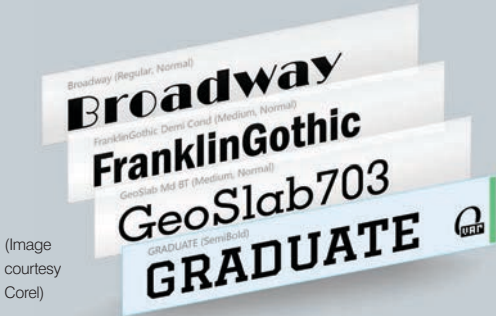
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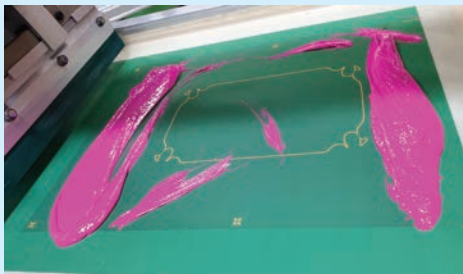
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