

Corrugated TODAY

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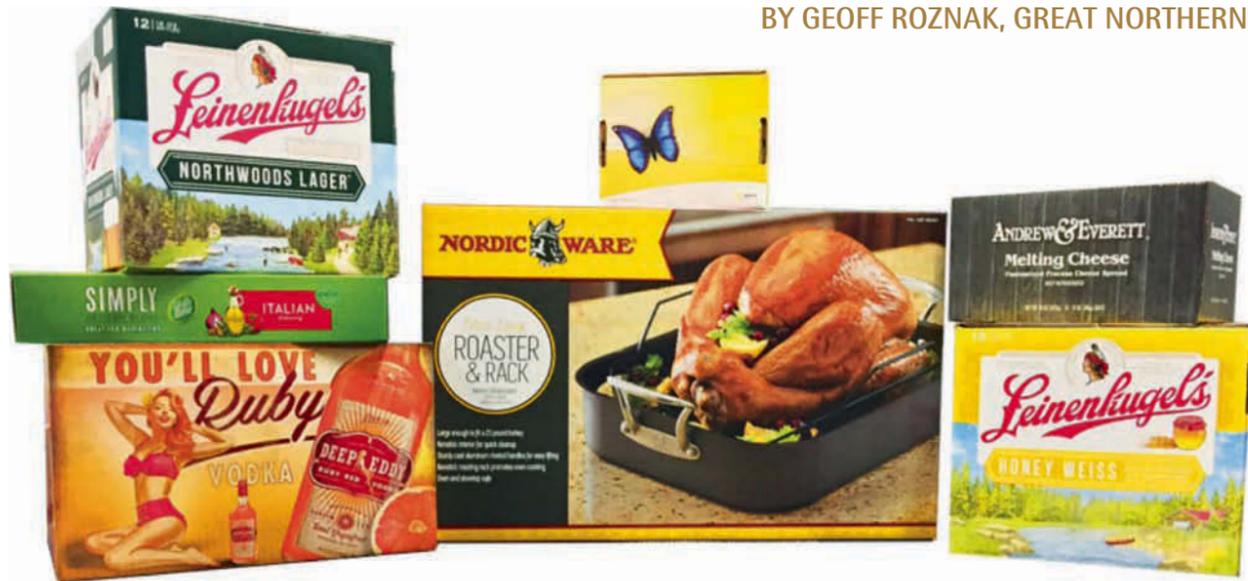


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RUNNING HIGH QUALITY FLEXO DIRECT PRINT

THIS CHECKLIST OF BEST PRACTICES OFFERS TRIED AND TESTED GUIDANCE.

BY GEOFF ROZNAK, GREAT NORTHERN



At Great Northern, we take a long-term perspective regarding productivity on our high graphic direct print corrugated presses. Since we started doing this type of printing in the mid 1990s, there has been ample time to develop that viewpoint.

We recognize that more than half the battle comes before we get on press. Productive press runs start before we run our first job with three important questions:

1. What do we *want* to do?
2. What *can* we do?
3. What do we *need* to do?

We will spend time on each question before we move to press.

What Do We Want To Do?

To answer this, we must address the following questions:

Where are our customers driving us? By considering this question, we can zero in on what capabilities we need in our facility to meet, or looking to the future, exceed our customer's needs. Our sales team is a key player in these discussions. Find out from them what customers are asking for, and just as important, what they are asking about.

What is our competition doing? This is another area where our sales team can assist by reporting what they are competing with in the market. A great

source is looking at packaging in the marketplace... do not underestimate the value of picking up competitors' packages in stores and looking hard at them. We may buy a competitor's package and share it with our team. The team can evaluate and consider the potential benefits of the competitor's technique.

What fits our business model? This is an easier question: what kind of business are we going to be running? Will we have long runs or short runs? All high-end print with images and illustrations, or a mixture: line art and solid overall print with reverse-out text and logos? Will kraft liners, mottled white and coated papers be in play?

What Can We Do?

Establishing our capabilities and determining how close we want to run to our limits is critical.



GNC FINGERPRINT PLATE

The first step is fingerprinting our press. Here are some basic guidelines:

1. We "test to failure." If we don't know what we can't do, we don't really know what we can do. This means we need line screens we believe will fail. We need type sizes, line weights, and barcodes in sizes we don't think will print. On several occasions, we have surprised ourselves.
2. We don't allow images. Images on a fingerprint cause crews to focus on making them look good, which drives us away from getting the best ink densities, impression and ink chemistry.
3. We need trapping targets, impression gauges, slur gauges, tint gauges, and gradient strips. We like to run rulers in each color through the press; this has led to some important discoveries.



TEST TO FAILURE: WE DON'T KNOW WHAT WE CAN DO UNTIL WE KNOW WHAT WE CANNOT DO.

4. We need the color grid; it will tell us what our process color gamut is, and will be invaluable for determining what customer colors we can print successfully.
5. We run 'our ink, our way' during the fingerprint. We don't allow vendors or outside influences to push our inks. It's critical that we work with the press crew here, forcing them into a condition that is difficult or impossible to achieve during production runs will kill productivity. It will also disappoint customers.

6. We need to run a few thousand sheets, at production speeds. Some issues don't show up in short runs or at slow speeds. This may seem expensive, but it will pay for itself with reduced setup times later and by being able to run what we have tested.

7. We need to run with all our coatings. This will ensure we can see, and measure the impact of the coatings over the printing.

8. We need to run all the substrates we will run in production, so that we can see and measure the impact of changing the color, porosity, and brightness of the paper we are printing on.

9. We need to swap in common colors used in modified process (like swapping red for magenta), so that we can know, see and measure the impact of those color swaps. For example, Great Northern runs a separate fingerprint with 'Leinie's Red' in place of magenta. We often have to swap it out, and with that fingerprint data, we already know the impact. We run a cutting die to establish print to cut registration.

When we are done with our fingerprint, we know what line weights, font sizes and line screens we can print. We know what color-to-color registration we can hold and how well our colors trap.

...And we will know what our color gamut is, and just as important, what it is not. Because many of our customers are accustomed to four-color process printing in lithography, they have an expectation based on that. Knowing what our color gamut is allows us to guide our customers to what colors must be converted to spot colors to achieve the look they want.

What we have, on one sheet tells us our limits, our maximums, our minimums and guides us to our sweet spot.

LITHO (LEFT) AND FLEXO PRINTED SAMPLES



We want to run in our sweet spot, not at our limits. Nothing runs well at its limits for very long. Keeping things in control maximizes run speeds, minimizes setups, and most importantly, keeps our customers happy.

Keeping Things in Control

We break this into two sub-categories, 'The Easy Stuff,' and 'The Not-So-Easy Stuff.' We will start with the 'Not-So-Easy Stuff.'

Customer Expectations

We like to use a simple illustration to show the range of Customer expectations:

- Experienced litho buyers have high expectations.
- 'Brown box' buyers have low expectations.
- Marketers and graphic artists see things the way they appear on their computer screens.

Therefore:

- Establish a 'Can-do' expectation.



- Be up-front about capability. Don't be afraid to go into detail.
- Tell customers what we 'Can do,' not what we cannot.
- Try to work with customers during art development.
- Be prepared to show results of any changes we are proposing.
- Have examples.

What Our Company is Selling

We define our capabilities – and what we want to sell – for our sales team. This is the key to getting the work we want to run on our press.

We use language our sales people understand and relate to, avoiding technical terms like dot gains and press curves and stochastic dots. Instead, we talk about how images, illustrations, lines, and solids will print for our customers. We also teach them to avoid getting into conversations about what line screens we run. This becomes a competition, and what we need to figure out is: "What does it need to be?"

We tell our sales team what we can do... but are clear about limitations.

We are prepared to show why changes are necessary, and should be fine with the customer. This allows our sales team to feel relaxed and confident when talking to the customer about the changes and how they will improve the quality of the final product.

We have examples.

WE TALK WITH OUR PRODUCTION TEAM IN THEIR LANGUAGE, JUST LIKE WE DID WITH THE SALES TEAM.

Production Needs/Goals

We ensure production understands customer needs. There are several ways to do this (factory tickets, written instructions, etc.) but the best way is to get out on the floor and engage the press crews when the art arrives. We discuss the job with them, and tell them what the customer will and will not compromise. They help us avoid a lot of problems.

We talk with our production team in their language, just like we did with the sales team. We avoid talk about margins, costs, and marketing. We frame the discussion around the things that are important to them: colors, process work, traps, registration...

We do everything we can to make production runs as easy as possible. The press crews are our team members (just like our sales and office staff) and often have more impact on productivity and profit. Get them involved. Listen to what they say. Make sure you really hear it...

Getting It Right The First Time

Make sure everyone understands realistic time lines. People involved in litho are going to think they can send art and see a proof the next day. That's not going to happen with direct print flexo. Plan and communicate that it can take a week – it is better to be a hero if we shorten that.

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THE PLATE MAKER NEEDS TO UNDERSTAND HOW WE PRINT, NOT HOW THEY THINK WE SHOULD PRINT.

Re-building images where process colors are swapped to spot colors takes days, not hours. Plan one day per color for making plates, once final approval is secured. Again, better to be a hero if we can shorten that.

Use the language of the people we are currently working with.

Keep everyone involved on track. Losing a day can derail a project.

'The Easy Stuff'

Next we will talk about 'The Easy Stuff' – the things we can control.

Build the team. This includes the following suppliers:

- **Paper** – Needs to be consistent, high quality and predictable
- **Ink** – Again, consistent, high quality and predictable is critical for success.
- **Print plates** – Our plates, and our plate maker, need to be up to the task. Plate maker capabilities need to match ours currently, and where we want to move to. The plate maker needs to understand how we print, not how they think we should print. If we find ourselves in the latter situation, we are in trouble. We have final responsibility for what goes on our press, not the plate maker, we need to own that.
- **Corrugator** – Quality leads the way. Flat board, good caliper, no washboarding. Our corrugator must understand what we are printing and

the impact the quality of the board has. Teach them, do not get frustrated when they "Just don't get it."

- **Pre-press** – Find problems with files – fast. Set up – or direct the setup – of press jobs the way we want to print them. As noted above: We are responsible for what goes on our press, not our customers, not our vendors.
- **Press crews** – Training and experience are critical. These are the team members that make the jobs happen. Teach them how to print; teach them the impact of ink chemistry, impression settings, and dryer settings have on what they are printing.
- **Sales** – Key contact with our customers. They must know how to not 'oversell.'

Things That We Control

We understand the limitations of our presses... and we stay away from minimums and maximums because nothing runs well at extremes.

Understanding our color gamut is important for efficient communication with the customer when we feel they will not be satisfied with a process image, illustration, or graphic element. We keep fingerprint sheets in the pre-press area for reference.

Based on our understanding of our color gamut, we can quickly make recommendations about what swaps might be made to meet customer needs. Our plate maker is a vital team member at Great Northern and is crucial to our success.

Remember the fingerprint we did earlier? We learned what we can do in terms of line weights, text sizes, etc. Now, just like above, stay away from extremes, because nothing performs well there. Do not let the fact that we successfully printed two-point, reverse-out text on a fingerprint convince us to run a live job that way.

Keep press speeds up! Presses run best at faster speeds, but don't try to max out speed: nothing works well at extremes.

An important concept to focus on: "Just because we can, doesn't mean we should."

If we do all the above, remember that our teams are essential for success, and work with our customers to achieve common goals, things tend to go well. ■

Geoff Roznak is the Color/Tech Manager at Great Northern Corp., Chippewa Falls, Wis. He has been involved in high-end, direct print flexography since the mid 1990s. He is on the board of the Flexographic Technical Association (FTA) and serves on the FTA's Judging Committee. He can be reached at GRoznak@greatnortherncorp.com



JUST BECAUSE WE CAN, DOESN'T MEAN WE SHOULD



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