

Changing Gears

By Jim Burke

If your product mix is changing, maybe it's time to rethink your production system

Production slow-downs, quality problems, mental errors, and overall slow production performance can ruin your business. Sometimes there's a slowdown in one area of your production or perhaps it may be a deficiency in equipment used for a certain task. Even the wrong paperwork system can drag down your efficiency.

One production problem with hidden impact for many framing factories these days is that the type of production they're doing may have changed. Perhaps you've traditionally produced thousands of similar pieces in a standard run, with your buying, manufacturing, and shipping all geared to those types of numbers. If customer ordering has changed so that you're producing smaller quantities of each design, then your ordering system, internal tracking, and shipping can become sources of inefficiency if not altered to meet the new types of orders. Smaller, more diverse orders, for example, can require more internal tracking and more flexibility in the fitting and shipping departments. Smaller runs may also require a different system for processing individual components.

Changes can also accompany expansion into new



This fitting cell works is designed for producing quantities of framed art of similar sizes as well as for joining a variety of different framing products. Finished pieces are placed on carts for delivery to the shipping department.



In this in-line set-up, moulding is cut for frames and then placed on carts that travel only 10 feet to the joiner.

fields. Perhaps you have ventured into sports images, printing on canvas, or printing on new types of substrates to increase potential markets beyond your traditional clients. If there are enough of these specialized types of orders, your new ventures may require new production capabilities, equipment, and production methods.

Recognizing what's needed to change production to match the requirements of new products has become a regular part of the job of many production framing managers and owners. Change is difficult for some people, and usually it's even more difficult for a company. But a regular analysis and critique of each area of a company is essential if you want to operate at peak efficiency.

Mounting

So what kinds of changes would you face when converting from large production runs to smaller batch orders? For one thing, mounting art to a backing board in large production runs lends itself to in-line wet mounting with liquid glues and roller presses. If you're now doing more short runs of different images, substrates, or sizes, this type of mounting can be inefficient. A different sys-

tem is likely to be needed for smaller numbers of individual pieces, such as heat mounting with tissue in small batches. These batches must still be efficient to be profitable.

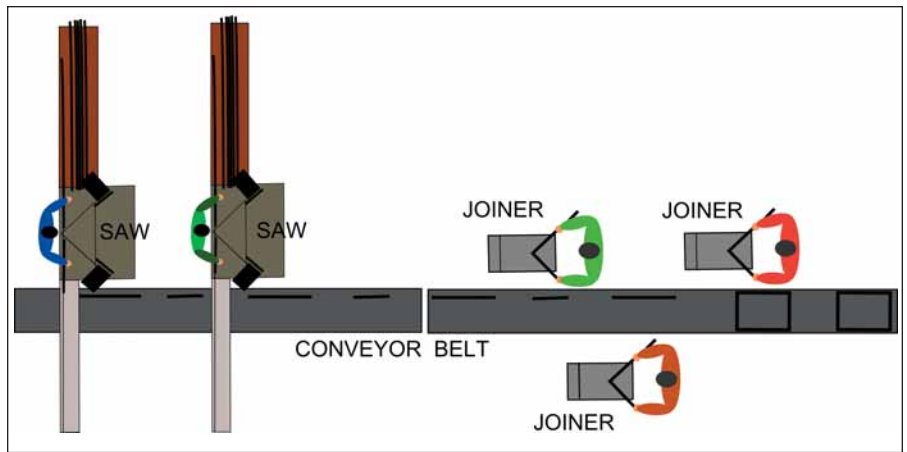
The same problem could plague another company in reverse, with orders going from many smaller and individualized job lots to fewer but longer runs of similar pieces. In that case, the mounting system will need to change to meet the requirement of larger production runs, which means the possibility of adding wet mounting and roller presses to make such larger runs profitable.

Cutting and Joining

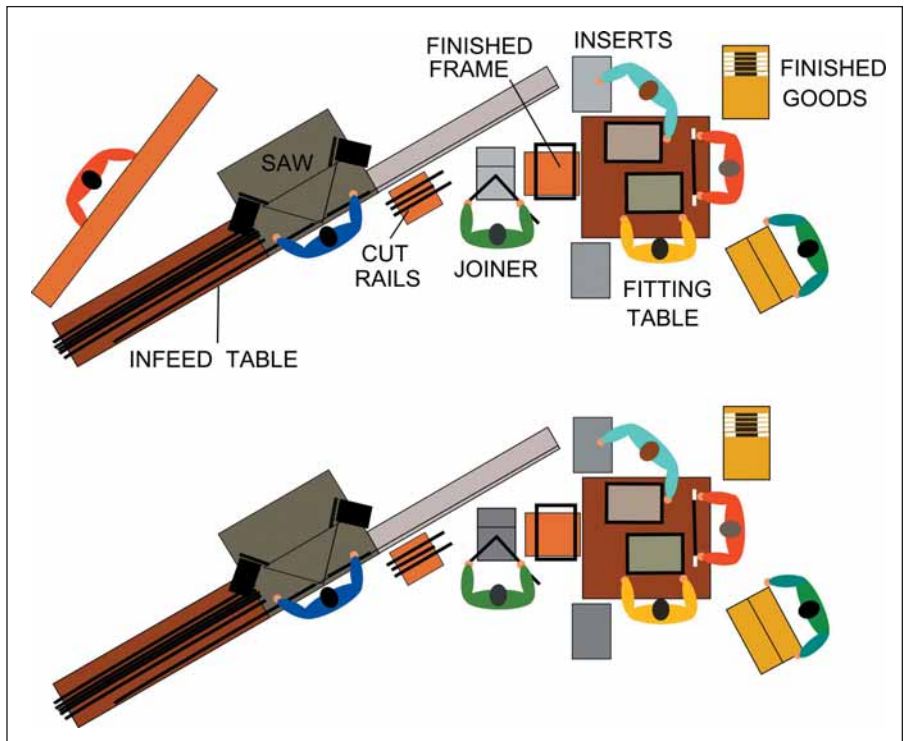
This same type of problem can arise in each area of production. Cutting and joining frames, for example, may only require a different tracking system or a more flexible batch system to create the final product. You might also need to look at your equipment arrangement and overall work flow. Large production runs that require cutting and joining thousands of frames a day may lend themselves to in-line processing using conveyor belts to create an uninterrupted flow. Such a system may also include inserting content and final boxing, as with photo frames. In contrast, small batch orders are unlikely to need conveyor belts or automation. In that case, switching to a cell production system would make sense because it would require less space for cutting and joining and would allow more fitting space.

Fitting

You might also have the mixed blessing of adding the opposite type of production to existing work and now must deal with both large and small quantity orders at the same time. While this would mean you have more business, you might still have to make adjustments to make both ends of the production spectrum profitable. Perhaps you might need to set up different fitting areas for small and for large batch orders. Flexibility is the key. If you can program your fitting for small batch orders within the overall framework of large batch fitting, then you can interrupt large orders for small orders whenever delivery requires it. If you



When production orders shift from larger quantities of similar pieces to smaller, more varied products, it can be beneficial to shift from in-line production (above) to cell production (below).



need totally separate areas for small and large batch fitting, you simply move your people from one fitting area to the other. Cell systems can handle both types of fitting quite well. It just depends on how many people and cells you have.

Storage

Another area affected by a change from large versus small batch production is materials storage. Incoming art materials may become a problem. Large production runs often have stacks of similar sized images in a single storage area for each job. Small batch images require a completely different system. Small batch orders can actually be more demanding in tracking production, and storage of raw materials can also be more cumbersome. If the nature of your orders has changed recently, a different ordering schedule might



For orders that arrive in smaller, varied batches, rolling vertical storage can be loaded and moved close to the production area (left). In comparison, for larger runs, centralized storage (right) can be located close to loading docks, with horizontal storage that includes moulding and mixed items like art or matboard.



be needed to maintain profitability. More colors of matboard may need to be stored and tracked as opposed to storing pallets of the same color for large production runs. Backing materials, moulding, and glass (whether precut or in bulk) all present a challenge when production styles change. The locations where materials are stored may need to change. You might be better off switching from centralized storage to nearby storage—or vice versa.

Shipping

Change can cause inefficiencies even in the shipping area. A new system might be needed to meet changed shipping requirements. Packing is typically handled differently for large orders compared to small batch orders. Large orders usually require pallets or large boxes with protected corners on framed pieces, for example. For smaller orders, more shipping materials of varied size may be required because each order will need to be packaged separately or shipped to different locations.



For longer runs, wet-mounting typically offers more efficiency in terms of speed and economy.

A Basic Checklist

A systematic evaluation of your facility and workflow is likely to uncover any areas that need changing. Creating a basic checklist can help you organize your analysis.

- Start at the points where orders enter the system, materials enter your building, and customers' artwork or information enter your company. Note any changes that might need to be made based on how well these items enter your facility now.
- Check the storage of vital materials, such as moulding, matboard, glass, shipping materials, and precut materials. These items need to move around your building in a logical way that matches your production. That movement might need to be different than it was two years or even a year ago. Do you need to move the storage of materials closer to the area where they're used, or do you need to centralize the storage more than it is now?
- A perfect floor plan five years ago can be outdated today based on the type of production you are doing. A work cell approach might make more sense than assembly line production. Check specific areas. For example, are you getting the most out of your fitting areas? Review your cutting area for clutter or inefficiency. Do the same for the joining area. Are your

When mounting smaller batches of artwork, a heated vacuum press on wheels can be moved into position. A laminator could also be wheeled into the same position for jobs that call for that kind of mounting.





Rolling carts can be used on in-line production of larger orders, as these are used to move quantities of cut moulding to a joining station.

shipping materials the right ones to fit your current production?

- If your production has changed, do you need to re-train your people accordingly? And do you need to cross-train people to handle more types of jobs within the company?
- After making a checklist of all work areas, make a list of changes you think are needed. Implement the changes you can do now as soon as possible, and work on the more difficult items after that.

Keep in mind that the right changes don't usually happen very quickly without some intervention by management. You have to be on top of all the changes affecting your production and make sure any needed alterations are made in a timely way. Department managers are often in a good position to make effective changes in their areas. Sometimes production line workers can also suggest good solutions, although these potentially might cause problems elsewhere because of a lack of company-wide perspective. Knowing what works and what doesn't work is part of your job. And if you can't rely on workers and department managers for the right information, you might have to go to outside experts to review your company's production.

The bottom line is that no production framing operation remains static, especially in these days of changing markets. When you analyze your operation on a periodic basis, you're more likely to keep your facility up-to-date so you can produce today's orders efficiently and profitably. ■



Other types of rolling carts containing frame content can be used for both small or large orders.



Joining operations can be supplied from rolling carts design for either small or large runs. In this case, the same operator cuts and joins a small batch order. The workflow is switched to an in-line set-up for longer production runs.



Smaller orders may require more hand cutting of glass instead of using pre-cut glass for larger orders.

Jim Burke owns Machines Etc., a sales and consulting company based in New Bedford, MA. He started in the picture framing industry with Arquati Moulding in Cleveland as general manager. For the past 25 years he has sold and serviced all types of machinery for cutting and joining frames and cutting mats. He has also sold web control machinery to paper mills, tire cord manufacturing, textiles, plastic film extrusion, and paper converting companies throughout the Midwest.