SPIEL ASSOCIATES, INC.

The On Demand Bindery

Many have tried to wrap their head around digital bindery, but the term can be misleading. While the digital is incorporated into many pieces of finishing equipment under the prefix, *Digi*, bookbinding is forever a mechanical process. Yes, digital setup can aid the on demand shop, but the bindery process is hardly a digital one. This is why most pieces of bindery equipment can last you for decades, long after your pre-press software has gone the way of the Dodo. Another upside to this, that many have found to ring true, is that the bindery is a good place to make money.

BRINGING THE BINDING PROCESS INHOUSE or FARMING IT OUT

We all know the ups and downs of sending out a job. Lost time, lack of control, ruined jobs etc. A newer problem that has emerged in recent years is that it has become more and more difficult to find someone to send a job to. Simply put, local binderies are struggling and many are going out of business. So, it may be prudent to become more self-reliant by taking a more active interest in what has always been considered the "stepchild of the printing industry."

When considering a purchase, be sure it is sensible to your needs. In most cases, there are printers that can justify a piece of bindery equipment but have failed to do so because businesses do not want to do the actual bindery work in-house. This trend has become less justified due to the ease of setup on the newest generation of bindery equipment. Often one operator can run two or three machines. Many of these machines are loaded, engaged, and the operator can move to another task in a matter of minutes.

NEAR LINE vs. OFF LINE

Everyone loves less handling. There is no doubt that when human hands are involved, the likelihood of error increases. The main goal that businesses strive for is to have the capability to complete a job with as little chance of error as possible. An easy rule of thumb here is: The less hands, the better.

All digital printers offer some in-line capabilities including stitching, punching, and perfect binding to name a few. But what if you have more than one print engine? What if the print engine with the in-line finishing device is down? You can devote your newest color machine to in-line capabilities, but what if you need a 1,000 run in black and white? Why pay click charges on your most expensive machine when a lesser machine will do? These are all reasons to finish your job off-line or near-line rather than in-line.

4 TOP BINDING METHODS YOU NEED TO KNOW

STITCHING is a rather easy process, which almost all printers are familiar. There are stitchers that run in-line with digital engines. Most of the time, a tower collator with a stitch-fold-trim section is utilized for off-line work. Often though, all of your work is already collated on the digital copier. All that's needed to accomplish this is an off-line stitch-fold-trim machine, which can be had for less than half the price of a tower collator. Although off-line booklet-makers do not offer automated setup, almost all tower collators do.

PUNCHING FOR MECHANICAL BINDING has become more and more necessary in-house. With the popularity of plastic coil and wire binding, almost every printer now has some sort of punching machine. A punch uses a reciprocating steel die with male pins and female holes to produce any shaped hole. You can only punch between a few sheets and 30 sheets per stroke, depending on the stock and the pattern.

But the real question is how many lifts can you punch in an hour? —Not "how many sheets you can punch in a lift?" If you have to punch five or ten thousand books, maximizing the amount of sheets you punch per stroke will slightly speed up the job, but wear down your punching die immensely.

If you have reached capacity of your table top punch you can still add modules on the front and back end to speed things up or even buy an automatic punch. A good automatic punch will punch between 30,000 and 125,000 sheets per hour. Some of the more advanced automatic punches come equipped with built in screens that allow for digital set up and a select few can be run unattended.

Many printers, however, opt for an in-line punch with their digital copier. You should know that there are some pros and cons to this choice. For example, if you only have one digital engine, it may pay to use an in-line punch. If you have multiple machines, a good off line punch should be able to handle the work from all of them. Furthermore, if you are depending on an in-line system and your printer goes down, you cannot punch. And if your punch goes down, you cannot print. Fortunately, an offline machine gives you some juggling room, which helps many avoid that domino effect. Also, there are many limitations with in-line punching as far as punching in a landscape format, specialty stocks (such as acetate), and punching something that you did not print, but plan to marry into the finished book. So even if you have an in-line punch, you will most likely need an off-line punch in order to punch specialty stock and thick covers.

MECHANICAL BINDING While there are a few types of mechanical binding, we will refer solely to plastic coil and double loop wire. Up until 1996 there was only one way to bind plastic coil books—By hand. First, an operator would have to spin in the first three loops of the coil by hand. Then a tabletop roller was used to spin in the rest. After that, pliers were used to cut and crimp the ends. Unfortunately, this is the way most printers still bind books with plastic coil. It is unlikely that an operator can bind more than 100 books per hour with this method; and that's after the books are already punched!

If you are binding over 20,000 books per year, you may want to consider automating your process by utilizing a more innovative form of mechanical binding. Today, there are automatic plastic coil binding machines capable of binding up to 700 books per hour up to 50mm (2") in diameter. There are even machines that can actually form the coil prior to insertion. The savings on the plastic elements are significant if you bind at least 100,000 books per year—Not to mention time, convenience, storage, and shipping costs.

Double loop wire binding is a little faster. You can purchase an entry-level wire binder for about $30,000. Depending on the thickness, this will bind between 400 and 1,000 books per hour. Still, further automation is possible: Firstly, you can acquire a wire binder that will automatically bind 4,000 books per hour and even add an in-line punch to further automate the process. There are no in-line mechanical binders for digital engines. A few wire binders have a digital screen to set up, but this is more of a bell or whistle as it only speeds up the set up by a few minutes.

PERFECT BINDING is much more varied. Many printers opt for an in-line perfect binder. However, in-line perfect binders are extraordinarily expensive, costing ten to fifteen times the price of an off-line model,

with no benefits other than the lack of handling. A good off-line perfect binder starts at $10,000 to $15,000, whereas the in-line will cost around $100,000 - $150,000. An offline machine can bind about 300 books per hour. This is where you should be mindful of bells and whistles.

For $40,000 to $50,000 you can purchase a machine with an automatic cover feeder. Contrary to popular belief, this will NOT speed up the binding process. It merely allows your operator to do less work while standing there. When your operator is waiting for the machine to finish cycling, there is more than enough time for him/her to lay down a cover rather than just wait for the machine to finish cycling.

The only way to produce more books per hour is to purchase a multi-clamp machine. Typically, these are three or four clamp machines that rotate in a cylindrical fashion so that books can be continuously loaded. Single and multi clamp machines need to finish their cycle before being reloaded. But with multi-clamp machines, there's another clamp waiting for you to load as soon as you have loaded the previous clamp. You can also buy 10 or 12 clamp machines with collating pockets. Just know that you could very well spend up to a million dollars on such a machine.

Price should absolutely be considered, but quality is more of an issue with the On Demand Printer. When doing your research you'll want to ask yourself: Will the book hold together? What about side gluing? Will it bind coated stock? In fact, there are very few machines that can bind coated stock for under $40,000. Why?

What the machine does to the book block PRIOR to gluing is the most important part of a perfect binder. Everything else is more or less bells and whistles. There are three types of book preparation prior to gluing: Milling, roughing, and notching. Milling uses a saw blade to cut off the backbone of the sheet or signature. Roughing uses a serrated blade to rough the entire backbone of the book. It should be noted that all machines that perform milling and roughing also notch. Then there are machines that only notch. A notching pin looks like a needle and is mounted on a circular disc that rotates the way a milling blade or a roughing blade does. It scuffs up part of the spine to allow for better glue seepage, but not as much as can be attained from milling or roughing. If a perfect binder only has one or two notching pins you will not be able to bind coated stock on it. Ideally what you need is a machine that mills, or a machine that roughs as well as notches.

Another feature to consider is whether or not the machine makes one or two passes to bind the book. Naturally, a machine that makes two passes is half the speed as a single pass machine. As far as having one or two glue rollers, two is better. You'll also want to know if the machine has a way to meter the glue after it's been applied by the use of a third roller or scraper and if the machine can side glue. Side gluing puts a thin line of glue just off the spine so that the bind is concealed under a crease in the front and back cover. This is probably the most important feature to be aware of other than the preparation of the book block by milling, roughing, or notching.

Many of the newest perfect binders are self-adjusting, meaning that the machines adjust for book thickness automatically. All you will need to do is make sure that the cover is the proper size and place it properly on the nipping table.

CASE BINDING is the most extravagant method, and also the most expensive and time-consuming method of binding. More often than not, if you pick up any fancy art book, it will be a hard cover book. First you must make a case/hard cover, which requires three strips of cardboard. This is to be encased in a cover sheet that is wrapped around the cardboard and glued. Then you have to take the book block (a perfect

bound or sewn book) and glue the first and last sheet to the case. This is called casing in. It can be accomplished by gluing the end sheets to the case or using adhesive end sheets, folded in half, to adhere to the case. Then the book needs to be nipped or squeezed. This is called building-in. This creates a hinge in the hard cover so that it opens easily.

Automatic case making and casing in lines are very expensive. Some include some set up automation. There are a few table top machines and a floor model lines that can be used manually to make cases and case in books. These machines can produce about 100 books per hour.

Such are the choices for on demand binding. Whether you can make money with these processes is up to you and your customer base. Whatever their needs, think about whether you can justify bringing this work in-house. If you spend enough sending the work out to pay for the machine on a three-year lease, or less—buy the machine.