This is the second part of a series designed to help you better understand the fundamental differences between your automated saw choices...at least tell you everything I know as an equipment manufacturer.

Your goal in reading this, I'm assuming, is to figure out the best kind of equipment to have in your cutting operation...the equipment that will produce the most accurately cut components at the lowest possible cost. And to have at least one arm and a leg left after you pay for it.

I'm focusing on wood roof truss operations for the purpose of this discussion. There are a lot of parallels to wall panel operations and other wood component manufacturing, but enough differences that it would unduly clutter the discussion to include them.

In the first part of this article, which appeared in the September/October issue, I laid out the basic differences between an automated component saw with its multiple cutting heads and laterally fed lumber, versus an automated linear-feed saw with its single cutting head and lineally fed lumber. I've summarized things in the “Performance Comparison” on the facing page. Rather than simply give you “this saw versus that saw” columns with a bunch of check marks, I've put it all together and drawn the conclusions for you. (My wife tells me I'm good at drawing conclusions for other people.) Stick it up near your phone and you'll have a handy reference when you start talking to saw manufacturers. (I use the linear-feed saw as the base to compare from just to keep things simple.)

Now I'll take into account the cost of labor.

As I alluded to in the first article, the labor cost per part is all-important and can be the deciding factor in your automated saw decision. I can't tell you how many times I've seen automated saw buyers make their decision without properly considering the labor cost factor. The following over-simplifies things a bit, but gets to the core quickly and the conclusions are correct.

At the high-end extreme, if you purchase a linear-feed that dispenses the called-for lumber and transports it to the saw via an automated feed system, you will only need 1-1½ operators, or an average of 1½.

1.25 operators x 8 hours = 10 labor hours x $15 per hour = $150 labor cost per shift

As the battle rages on, the author says there is one clear winner in his mind.
need to plug in skilled Sawyer rates. Now if your parts mix is such that the new linear-feed saw is capable of producing parts at a rate of even 240 parts per hour, you will have produced 1920 parts with those 1½ operators by the end of their shift (8 hrs x 240 parts = 1920 parts total). I’ll knock that down to 1800 to account for coffee breaks, if a bunch of lumber isn’t delivered in time, etc. So the labor cost per part is around $8 ($150 labor cost + 1800 parts cut = $0.08)

That same linear-feed saw without the automated feed system would take two or three operators, or an average of 2½. That would double your labor costs to produce the same 1800 parts. Your cost per part would then be about $16. If you produce even several average 40-truss jobs a day figuring ten webs and chords per truss, that $8 difference can very easily translate to $50,000 or more in added labor costs per year.

Next let’s look at the cost per part using a new automated saw system—about 1800 parts cut. To compute and will vary considerably from plant to plant. Simply figure the difference between your current drop-off percentage and what you’d experience with a linear-feed saw and good optimizing software (four percent conservatively). Whatever the difference is, multiply that by what you spent on lumber last year. It can translate to tens of thousands of dollars even for modest size plants. (I will cover lumber optimization thoroughly—and it’s a very deserving topic to consider—in a forthcoming article.)

Now, if you’ve followed me this far, the “hands down” winner of the best saw which I’ve been promising to step up to is the no-question-about-it, nothing-else-gets-even-close automated saw winner is…

A LINEAR-FEED AND A COMPONENT SAW WORKING TOGETHER AS A TEAM.

Partnering the two types of saws together is almost magical. By directing part types and runs to the saw that is most proficient at cutting them, you boost the efficiency of both saws dramatically. Short runs of identical parts and shorter parts go to the linear-feed—along with intricately cut parts, long scarfs and bevel cuts. Long runs of identical parts and longer parts are directed to the component saw. As a result, the linear-feed’s production rate goes up to its peak 300-plus per hour. The component saw’s production can increase by multiples, conservatively 50 percent. The combined result will be at least a 20 percent increase in cutting production over what you’d get if you had two of either type of saw working side by side.

A component manufacturer we know who has several automated component saws and several manual component saws recently brought in an automated linear-feed saw. He reported back that he’s now producing all of his parts with just one component saw and the new linear-feed. He was genuinely amazed.

Go with the component saw/linear-feed pair and you get all the benefits of both saws. You can produce literally any type part you need with far less labor cost, eliminate risky hand-cutting, get accurately cut parts consistently, have legible part markings for easy assembly, and reduce drop off…all at the same time.

Now for calculating payback.

I’d also look closely at the payback before I signed that check. That is, how long will that saw take to pay for itself—in hard dollars. I’ll go through how to calculate paybacks and the factors that impact them in a future article. I’ll also discuss lumber optimization which is one of those factors—a major one. I intend to use actual plant experiences as opposed to theoreticals.

In the meantime, if you have anything you’d like me to write about regarding automated equipment that I haven’t covered or haven’t written well enough, please let me know.

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Dear Reader:

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