

# SAWMILL FORUM

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Sometimes the most important question you can ask is “why?” If you are a sawmiller getting advice from another sawmiller or your local saw doctor, don’t just take that advice as gospel. Ask why that person thinks this is the right way to accomplish whatever it is you are trying to accomplish.

As a saw doctor, I often have to get information from sawmillers about some of the specifics about how their sawmill is set up, such as RPM, hand, feed rate, species sawn, etc. During that process, as soon as I hear a number that seems out of whack to me, I have to ask why they do it that way.

There is a real good chance that they have a good reason for doing whatever it is that they’re doing that way. If they can explain the “why” of what they are doing, I should be able to learn something new. But just hearing how they do it, without the context of why they do it that way, doesn’t do me much good. Having the data, along with a good context-based explanation, can make all the difference in the world.

Here is a non-sawmill related example. As a hobby I do some auto racing including racing high-powered go-karts. There are times when I might see that a competitor’s chassis is set up totally different from mine. If I am faster than him, that is enough context that I don’t need to ask more questions. But if he is faster than me, I will ask why he uses that particular set up. It may turn out that during the process of this data gathering and trying to establish context (why) I will find out that his kart is set up that way because he weighs 60 pounds less than me and if he used my set up on his chassis, it wouldn’t work at all.

A sawmill example would be a mill that swages its bits versus a mill that doesn’t swage. The answer to why do you swage is pretty straight forward. Swaging enables you to get more mileage (really board footage) out of your bits and thus saves you money by extending the life of the bits. Or does it?

In a low production operation, that statement should ring true as long as the bits are being swaged properly. Of course, even in a low production operation, if you swage the bits inaccurately,

swaging not only didn’t save you anything, it most likely cost you in miscut lumber and abuse to your saws.

In a higher production setting, it generally turns out that the savings gained from swaging the bits will end up as a net loss when you factor in the additional downtime it takes to swage the bits properly. Of course, if you had one of those rare mills where the circular head saws were sharpened and swaged in a filing room while the sawyer was making lumber with one of the other saws, it would change the whole picture relative to added downtime. If a saw is being sharpened while another saw is in operation, it isn’t considered downtime, although it does still cost you man hours.

In all of the years that I have been hammering saws and troubleshooting mills, I have always had to at least find out the basics about each individual mill to be able to hammer the saws to run properly on that mill.

Occasionally, the answers to those questions sound so far off-base that I immediately have to ask them why they do it that way. Unfortunately, the answer often comes down to something like, “we have always done it that way,” or “that’s the way my daddy did it.”

Whether doing it that way is right or wrong, you really should try to have some sort of valid reason for why you do, other than “my daddy did it that way.”

Maybe it was a great way to do things 40 years ago, but that doesn’t mean it is still valid today. And it may have been wrong then, but just happened to be the way his daddy did it. Being a good son, he didn’t ask questions. Tradition is great, but the business world has changed quite a bit through the years not to mention the changes in technology.

Sometimes there are things that were wrong that you could get away with 40 years ago, because given the business climate, it didn’t really matter. In today’s hyper-competitive world, those inefficiencies can cost you your family business.

I had a new customer recently tell me he was running his 52" saws at 900 RPM. That is over 12,000 SFPM. I of course asked him why, and you can guess what the answer was. At least he is sawing softwood instead of hardwood. But that speed is considered excessive even in softwoods. During the conversation he mentioned something about his top saw that I just filed away for future use.

Once his saws arrived for service I noticed they were the 2.5 pattern saws. Then I remembered that he also uses a top saw. If he uses a top saw, it is a safe assumption that his head saw is often buried or at least in what we would consider to be a large depth of cut for a 52" head saw.

Now I know he not only runs his saws at the wrong RPM, but he is also using the wrong pattern. 2.5 pattern saws are terrific in a small depth of cut, particularly in small knotty pine, but once you get them into a large depth of cut you quickly find out that their relatively small gullet capacity creates a situation where the minimum feed rate exceeds the recommended maximum feed rate. This only happens to that pattern in a large depth of cut. The minimum feed rate is what it takes to make a chip that is big enough that it won't spill out of the gullet. The maximum feed rate is just before you start to overload the gullet with chips. In a large depth of cut, each tooth takes a longer path in the wood than it would in a small depth of cut and therefore puts a lot more chips into the gullet area.

So in that situation the only way to saw is to saw below the minimum feed rate to make sure that you don't exceed the maximum feed rate. When you do that, you are prone to sawdust spillage, which will heat the saw and force it off line.

That is certainly not the ideal set up in today's world, and it wasn't right 40 years ago either, unless of course the mill only sawed small logs relative to the size of the saw 40 years ago. If so, that would change the context of having that pattern saw. And for all I know, that mill had 40" saws years ago which would legitimize the 900 RPM because that would equate to only 9420 SFPM, which isn't bad for softwoods.

So instead of the answer being "this is the way we have always done it," the answer might change to "we used to run smaller saws and small knotty pine logs." Now that the context has changed, it is time to change some of the data like the pattern and speed of the saws.

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**Questions about sawmills and their operation should be sent to Forum, The Northern Logger, P.O. Box 69, Old Forge, NY 13420, FAX #315-369-3736.**

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