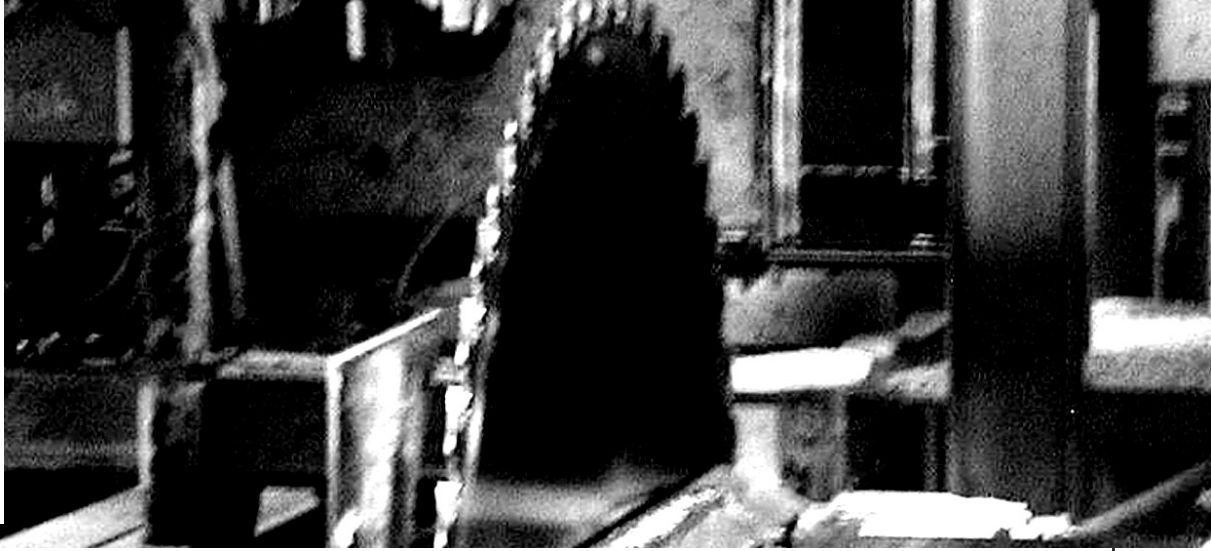


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The Power of Observation

Whether you are a saw doctor troubleshooting (diagnosing) a sawmill, or a medical doctor diagnosing (troubleshooting) a person, the power of observation plays a huge roll in the process.

Take this photograph that somebody sent me the other day, for example. I don't know which mill the picture is from so I don't know any more about the mill than what you and I can see in the picture. It may look like just another circular saw headrig to you, but here's how I look at it:

In looking at this picture, I can see plenty of clues about this right-handed mill. Keep in mind that looking at one picture of the head saw will never be a good substitution for doing a complete, onsite troubleshooting session. But it is fun to see just how much information you can glean from looking at one little picture.

The first thing that I think everyone will notice is how shiny the guideline of the saw is. What does that mean? Of course the sawyer has obviously been trying to hold the saw with the guides. It is safe to say that there is a problem there. Notice that it is the log side of the saw that has the shiny guideline. That means that the sawyer must have a problem with the saw running into the cut (towards the log) and he is trying to hold the saw out enough to prevent it from running in.

I also noticed that the body of the saw is not very shiny. If the sawyer was holding the saw out far enough for it to run out of the log, the body of the saw would rub and get shiny. Since the body of the saw is not shiny I would conclude that the sawyer is only holding the saw with the guides enough to prevent it from running in, but not so much that it tries to run out.

Next we would want to know why the saw is running in. The fact that the body of the saw is not shiny tends to point to a saw that is dished towards the log side. Why is it dished? This is the part that gets hard to predict without closer examination, but here are a few choices.

Most of you know I always look at the teeth first because that seems to be the easiest thing to get wrong, which is probably why it's also the most common problem. If the teeth are sharpened high to the log side, the saw will run that way and eventually dish in that direction. I don't know who hammered that saw last, but there are still folks out there who think that a finished saw is supposed to be dished towards the log side. It's not.

That brings up another question. If it's wrong to hammer a saw so that it is dished towards the log side, how is it that those people keep doing it and the mills seem to be able to saw lumber and make a profit?

Simple answer: Since a saw that is dished towards the log side will tend to run in, it is fairly common for mills that have saws like that to try to hold them a little with the guides to keep them from running in.

Saws that run out will always heat in the body as the log rubs the log side of the saw. But saws that run in won't be so prone to heating so the sawyer thinks the saw is running okay, even if he has to compensate somewhere else to get the lumber to come out at the right size. That's not the right way to do things, but many mills have gotten by with that sort of routine.

Of course there is always the chance that a bad collar is dishing the saw towards the log side. It can happen but it is pretty rare as compared to a bad collar dishing the saw towards the board side. You see, when a collar wears, it usually loses its taper on the fast collar (board side) so that when you tighten the nut it forces the saw over the fast collar so that you now have a saw that is dished towards the board side. On the other hand, it is certainly possible that the collars were not machined properly or that someone replaced one of the collars without making sure that their outside diameters were an exact match. Just because you have two 8" collars, it doesn't mean that they measure exactly the same outside diameter. If one is just a few thousandths bigger than the other, the saw will be forced over the smaller collar when the nut is tightened.



You can't troubleshoot a sawmill from a photograph, but you can draw conclusions and make some educated guesses.

There is also the possibility that something happened to heat the board side of the saw to the point that it would dish the saw towards the log side and the sawyer just hasn't gotten around to getting the saw hammered recently. As shiny as that guideline is, it is a safe bet that it didn't just start happening yesterday.

What else can you tell from the picture? If you look close at the spreader you will see that the top, leading edge is also quite shiny while the rest of it is not. So we know that the spreader is not properly aligned with the face of the log. The spreader should be as close to the log as possible without touching it so that it can gently put a little pressure on the board to keep it away from the saw. Messing with the lead too much can easily leave you with a spreader that is misaligned with the saw, but that won't make it so that it is also vertically out of alignment like this one.

The other thing that I noticed was the pile of sawdust next to the guides on top of the husk. First I see that the sawdust is course enough so I am not worried about an underfeeding problem. But it does tell me that this mill operator does not pay as much attention as he or she should to keeping things as clean as possible. That can very often be indicative of the rest of their preventive maintenance program.

Just from one little picture I have now managed to insult the sawyer, the millwright, the manager, and their local saw doctor. Not bad from the comfort of my chair in front of my computer.

Of course, if I get the chance to actually see this mill in person, I might have to revise some of my assumptions because I would have enough other data to be able to create the entire picture, instead of just a snapshot.

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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