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## Troubleshooting Statistics

I recently had some personal computer trouble that involved a lot of in depth troubleshooting. Actually, I still don't know if the problem is resolved because it was (or is) intermittent. This frustrating experience got me thinking about sawmill troubleshooting and how it differs. After all, troubleshooting is troubleshooting and it often involves the process of elimination. The basic principles apply, no matter what the field.

With the computer troubleshooting you're likely to experience on the phone with a remote technician, you start with a "level one tech" tech. Level one techs don't know much. They are trained to ask you if the computer is plugged in and switched on, before suggesting that you reboot. When that doesn't solve the problem your case will be promoted to a "level two" technician. The "level two" techs act like they really know something, as they proceed to delete all of your useless temp files. If you are really lucky, that level two tech might even try to correct your problem by messing with your registry, which may or may work.

When it comes to troubleshooting sawmills, your "level one" person might be a local old timer or even an equipment salesman. Then you might decide to push ahead to "level two" by calling an actual sawmill troubleshooter.

What bothers me about computer troubleshooting in general is that it seems to be tied to statistics. I have even heard these people say things like, "it is rarely the modem that fails, but often it is the wireless router that fails." It doesn't matter to me what the statistics say. We have to find the actual cause of the problem. And that cause may be statistically common, or statistically rare. What's the difference? We still have to find and confirm it.

Now, I will admit that in the interest of finding your sawmill problem as efficiently as possible, I try to cover the most common or likely problems first. What do the bits look like? What shape are the collars in? But unlike computer troubleshooters, I don't let the statistical aspect get in the way of finding the real culprit. I only use statistics as a way

to try to get to the problem sooner instead of later.

It doesn't matter how probable the cause might be. It only matters that we find the initial cause and then make sure to find anything else that may also be contributing, or compensating for the problem.

Here is one that I heard on the phone from someone. He said, "I hope this doesn't find its way into The Northern Logger." We had a good laugh about that. I will withhold his identity.

He told me that when he first had his saw hammered 20 years ago he told his saw doctor that the bearing next to the saw was a bit warm. At that point a saw doctor has two choices. One is to tell the customer that he should correct that problem if he wants his freshly hammered saw to run properly.

The other choice that might be employed—especially if you think the customer is not liable to actually rectify the warm bearing problem properly—is to just hammer the saw for a lower RPM. That means running less tension in the saw as a way to compensate for the heat that will be coming from the bearing and traveling to the saw and stretching the area just outside of the collars. Of course it would be better to fix the bearing problem and be able to tension the saw properly, but life in a sawmill doesn't always work that way.

I have hammered saws for a mill that had a collar problem that they were not able to fix until they sawed and sold some more lumber. We determined that the collars were dishing the saw exactly .040" to the board side. So I hammered the saw to be dished exactly .040" to the log side so that when they tightened the nut on the collars the saw would move that same .040" towards the board side and be standing straight and flat on the log side. This sort of thing is only a temporary measure and should not be carried on into the future.

Anyway, getting back to the warm bearing. This sawmiller informed me that recently (20 years later) he was cleaning

out the sawdust pit and noticed a big hemlock knot that had apparently been jammed in behind the fast collar for the past 20 years. We had a great laugh about that one. And of course, he knew that no matter what he said, this story was definitely destined to find its way onto these pages. How could I resist?

Getting back to statistical troubleshooting: It is okay to get the most common causes out of the way early. Otherwise, statistics have no place in troubleshooting sawmills. It just doesn't matter how often we see the same problem, or how rare or obscure a particular problem is. I like to start it all out with a checklist that covers just about every possibility within reason. The order of that checklist is based on the efficiency of how you carry out the inspection process. For example, I use a dial indicator to check the lead. After checking the lead from each headblock, I have the dial indicator in my hands.

Now is a good time to check the collars by doing the tighten the nut trick. And as long as the dial indicator is set up against the rim of the saw, I might as well check how much the saw wobbles when turning it by hand. Next I would turn the saw 180 degrees on the arbor, tighten the nut and check the wobble again to see if changing its position on the collars, changes the amount and location of wobble.

So the order of my basic troubleshooting list is not based on trying to find the most likely cause first, but rather employing the most efficient order to check all of the possible causes in the least amount of time. The sooner you find the problem, the better, but don't get into such a hurry that as soon as you find one thing out of spec, you decide that is the cause, and you fix it and get back to sawing. A complete troubleshooting session generally involves checking the whole mill from top to bottom so that you can also find other things that might be compensating for the major problem or even slightly contributing to the major problem.

Don't get me wrong. If everything has been going fine with the mill and as soon as you sharpen the saw, all of a sudden your saw won't run properly, go ahead and look closely at and correct the sharpening and get back to producing good lumber. But if the obvious answer doesn't pan out, schedule some time as soon as possible where you can completely troubleshoot the entire mill.

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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.**

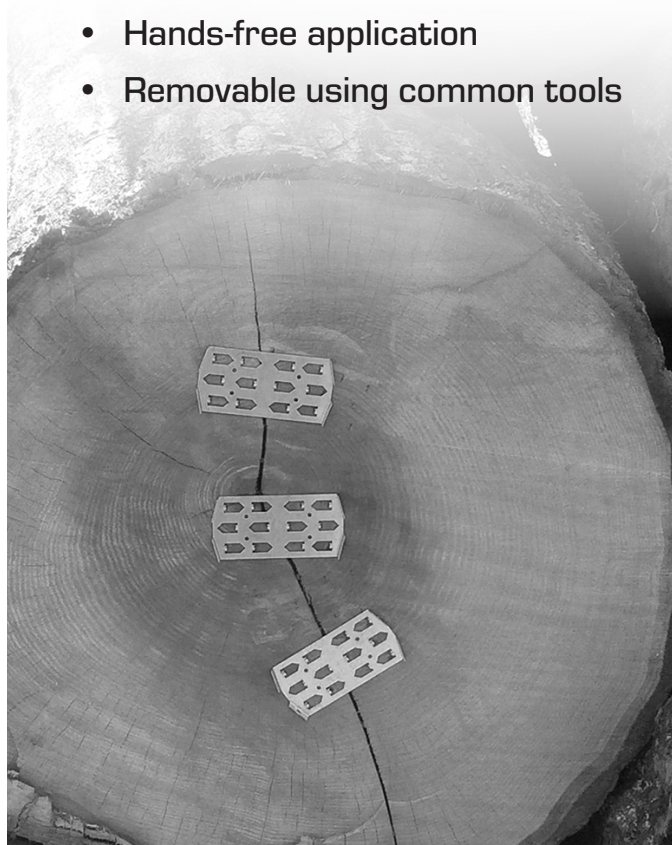
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